

Recent Publications – Faculty of Science, Technology, Engineering and Mathematics

BY MEMBERS OF THE STAFF AND BY RESEARCH STUDENTS WORKING UNDER THEIR SUPERVISION

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School of Biochemistry and Immunology

BIOCHEMISTRY

Cunningham, Colm, 'EEG microstate quantifiers and state space descriptors during anaesthesia in patients with postoperative delirium: a descriptive analysis', *Brain Communications*, 5, 6 (2023), <http://dx.doi.org/10.1093/braincomms/fcad270> [B. Neuner, S. Wolter, W.J. McCarthy, C. Spies, C. Cunningham]

'International Delirium Pathophysiology and Electrophysiology Network for Data sharing (iDEPEND)', *BJA Open*, 11, 100304 (2024), <http://dx.doi.org/10.1016/j.bjao.2024.100304> [R.D. Sanders, L. Watne, S.W. Roberson, E.Y. Kimchi, A.J.C. Slooter]

'Susceptibility to acute cognitive dysfunction in aged mice is underpinned by reduced white matter integrity and microgliosis', *Communications Biology*, 7, 1 (2024), <http://dx.doi.org/10.1038/s42003-023-05662-9> [D. Healy, C. Murray, C. McAdams, R. Power, P-L. Hollier]

'Update of the European Society of Anaesthesiology and Intensive Care Medicine evidence-based and consensus-based guideline on postoperative delirium in adult patients', *European Journal of Anaesthesiology*, 41, 2 (2024), 81-108 [C. Aldecoa, G. Bettelli, F. Bilotta, C.D. Spies]

'Impaired glucose utilization in the brain of patients with delirium following hip fracture', *Brain*, 147, 1 (2024), 215-223 [I. Titlestad, L.O. Watne, G.A. Caplan, A. McCann, P.M. Ueland]

'Hyperthermia elevates brain temperature and improves behavioural signs in animal models of autism spectrum disorder', *Molecular Autism*, 14, 1 (2023), <http://dx.doi.org/10.1186/s13229-023-00569-y> [A.B. Lopez-Rodriguez, C.L. Murray, J. Kealy, C. Towns, A. Roche]

'Gamma-patterned sensory stimulation reverses synaptic plasticity deficits in rat models of early Alzheimer's disease', *European Journal of Neuroscience*, 58, 6 (2023), 3402-3411 [Y. Yang, T. Ondrejcek, N-W. Hu, S. Islam, E. O'Rourke]

Davey, Gavin, 'Exploring the regulation of cytochrome P450 in SH-SY5Y cells: implications for the onset of neurodegenerative diseases', *Int. J. Mol. Sci.*, 25(2024), 7439 [A. Pifferi, E. Chaiaino, J. Fernandez-Abascal, A.C. Bannon, G.P. Davey]

'SARM1 regulates pro-inflammatory cytokine expression in human monocytes by NADase-dependent and -independent mechanisms', *iScience*, 27, 6 (2024), 109940 [R. Sugisawa, K.A. Shanahan, G.M. Davis, G.P. Davey, A. Bowie]

'SARM1 regulates NAD⁺-linked metabolism and select immune genes in macrophages', *The Journal of Biological Chemistry*, 300, 2 (2024), 105620 [K.A. Shanahan, G.M. Davis, C.G. Doran, R. Sugisawa, G.P. Davey]

Finlay, David, 'Itaconate and dimethyl itaconate upregulate IL-6 production in the LPS-induced inflammation in mice', *Journal of Leukocyte Biology*, 116, 3 (2024), 611-620 [M. Nosenko, D. Anisov, E. Gubernatorova, E. Gorshkova, Y-R. Zeng]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'Fatty acids are crucial to fuel NK cells upon acute retrovirus infection', *Frontiers in Immunology*, 14, 1296355 (2023), <http://dx.doi.org/10.3389/fimmu.2023.1296355> [S. Schimmer, S.W. Meckelmann, D.K. Finlay, U. Dittmer, E. Littwitz-Salomon]
- 'Canagliflozin impairs T cell effector function via metabolic suppression in autoimmunity', *Cell Metabolism*, 35, 7 (2023), 1132-1146.e9 [B.J. Jenkins, J. Blagih, F.M. Ponce-Garcia, M. Canavan, N. Gudgeon]
- 'Metformin and feeding increase levels of the appetite-suppressing metabolite Lac-Phe in humans', *Nature Metabolism*, 6, 4 (2024), 651-658 [B. Scott, E.A. Day, K.L. O'Brien, J. Scanlan, G. Cromwell]
- 'Iron is critical for mucosal-associated invariant T cell metabolism and effector functions', *Journal of Immunology*, 212, 11 (2024), 1706-1713 [E.K. Ryan, C. Clutter, C. De Barra, B.J. Jenkins, S. O'Shaughnessy]
- 'QUAS-R: An SLC1A5-mediated glutamine uptake assay with single-cell resolution reveals metabolic heterogeneity with immune populations', *Cell Reports*, 42, 8 (2023), <http://dx.doi.org/10.1016/j.celrep.2023.112828> [L.R. Pelgrom, G.M. Davis, S. O'Shaughnessy, E.J.M. Wezenberg, S.I. Van Kasteren]
- Hankir, Mohammed**, 'Novel neural pathways targeted by GLP-1R agonists and bariatric surgery', *Pflugers Arch: European Journal of Physiology*, 477, 2 (2025), 171-185 [M. Hankir, T. Lutz]
- 'Central nervous system pathways targeted by amylin in the regulation of food intake', *Biochimie*, 229 (2025), 95-104 [M. Hankir, C. Le Foll]
- Kelly, Vincent**, 'Membrane-bound receptor for advanced glycation end products (RAGE) is a stable biomarker of low-quality sperm', *Human Reproduction Open*, 2024, 4 (2024), <http://dx.doi.org/10.1093/hropen/hoae064> [J. Browning, M. Ghanim, W. Jagoe, J. Cullinane, L.E. Glover]
- 'Impact of covid-19 vaccination on seminal and systemic inflammation in men', *Journal of Reproductive Immunology*, 164, 104287 (2024), <http://dx.doi.org/10.1016/j.jri.2024.104287> [L. Schaler, M. Ghanim, J. Guardiola, J. Kaulsay, A. Ibrahim]
- 'A new class of 7-deazaguanine agents targeting autoimmune diseases: dramatic reduction of synovial fibroblast IL-6 production from human rheumatoid arthritis patients and improved performance against murine experimental autoimmune encephalomyelitis', *RSC Medicinal Chemistry*, 15, 5 (2024), 1556-1564 [M. Cotter, S.M. Quinn, U. Fearon, S. Ansboro, T. Rakovic]
- Khan, Amir**, 'Simultaneous enhancement of multiple functional properties using evolution-informed protein design', *Nature Communications*, 15, 1 (2024), <http://dx.doi.org/10.1038/s41467-024-49119-x> [B. Fram, Y. Su, I. Truebridge, A.J. Riesselman, J.B. Ingraham]
- O'Neill, Luke**, 'Erratum: From periphery to center stage: 50 years of advancements in innate immunity (Cell (2024) 187 (9) (2030-2051), (S0092867424003520), (10.1016/j.cell.2024.03.036))', *Cell*, 187, 16 (2024), 4429-4430 [S. Carpenter, L.A.J. O'Neill]
- 'Fumarate hydratase as a metabolic regulator of immunity', *Trends in Cell Biology*, 34, 6 (2024), 442-450 [C.G. Peace, S.M. O'Carroll, L.A.J. O'Neill]
- 'C5aR2 regulates STING-mediated interferon beta production in human macrophages', *Cells*, 12, 23 (2023), <http://hdl.handle.net/2262/108660> [O. Wright, A. Harris, V.D. Nguyen, Y. Zhou, M. Durand]
- 'NLRP12 drives PANoptosis in response to heme', *Trends in Immunology*, 44, 8 (2023), 574-576 [F.D.R. Henkel, L.A.J. O'Neill]
- 'NLRP3, the inflammasome and covid-19 infection', *QJM: An International Journal of Medicine*, 116, 7 (2023), 502-507 [M. Yin, L. Marrone, C.G. Peace, L.A.J. O'Neill]
- '4-Octyl itaconate and dimethyl fumarate induce secretion of the anti-inflammatory protein annexin A1 via NRF2', *Journal of Immunology*, 211, 6 (2023), 1032-1041 [C. Diskin, E.A. Day, J.E. Toller-Kawahisa, L.A.J. O'Neill]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- '4-Octyl itaconate reduces influenza A replication by targeting the nuclear export protein CRM1', *Journal of Virology*, 97, 10 (2023), <http://hdl.handle.net/2262/108663> [H.J. Weiss, B. Susma, S. van Nieuwkoop, L. Persoons, Y. Zheng]
- 'Itaconate boosts malaria via induction of PD-L1', *Cell Metabolism*, 36, 3 (2024), 457-458 [Y. Min, L.A.J. O'Neill]
- 'Characterization and inhibition of inflammasome responses in severe and non-severe asthma', *Respiratory Research*, 24, 1 (2023), <http://hdl.handle.net/2262/108661> [J.C. Horvat, R.Y. Kim, N. Weaver, C. Augood, A.C. Brown]
- 'Metabolic regulation of type I interferon production', *Immunological Reviews*, 323, 1 (2024), 276-287 [S.M. O'Carroll, F.D.R. Henkel, L.A.J. O'Neill]
- 'From periphery to center stage: 50 years of advancements in innate immunity', *Cell*, 187, 9 (2024), 2030-2051 [S. Carpenter, L.A.J. O'Neill]
- 'An emerging role for type I interferons as critical regulators of blood coagulation', *Cells*, 12, 5 (2023), <http://hdl.handle.net/2262/108640> [T.A.J. Ryan, L.A.J. O'Neill]
- 'The metabolic function of pyruvate kinase M2 regulates reactive oxygen species production and microbial killing by neutrophils', *Nature Communications*, 14, 1 (2023), <http://hdl.handle.net/2262/108662> [J.E. Toller-Kawahisa, C.H. Hiroki, C.M.S. Silva, D.C. Nascimento, J.C. Alves-Filho]
- 'Unlocking potential: the role of the electron transport chain in immunometabolism', *Trends in Immunology*, 45, 4 (2024), 259-273 [A. Zotta, L.A.J. O'Neill, M. Yin]
- 'A break in mitochondrial endosymbiosis as a basis for inflammatory diseases', *Nature*, 626, 7998 (2024), 271-279 [M.P. Murphy, L.A.J. O'Neill]
- '4-Octyl itaconate alleviates airway eosinophilic inflammation by suppressing chemokines and eosinophil development', *Journal of Immunology (Baltimore, Md. : 1950)*, 212, 1 (2024), 13-23 [M. Yin, R. Wadhwa, J.E. Marshall, C.M. Gillis, R.Y. Kim]
- 'Publisher Correction: Dimethyl fumarate and 4-octyl itaconate are anticoagulants that suppress tissue factor in macrophages via inhibition of type i interferon (Nature Communications, (2023), 14, 1, (3513), 10.1038/s41467-023-39174-1)', *Nature Communications*, 14, 1 (2023), <http://hdl.handle.net/2262/103899> [T.A.J. Ryan, A. Hoofman, A.M. Rehill, M.D. Johansen, Z. Zaslon]
- 'Two for the price of one: itaconate and its derivatives as an anti-infective and anti-inflammatory immunometabolite.', *Current Opinion in Immunology*, 80 (2023), 102268 [A.F. McGettrick, L.A. O'Neill]
- Porter, Richard**, 'SLC25A48 influences plasma levels of choline and localizes to the inner mitochondrial membrane', *Molecular Genetics and Metabolism*, 143, 1-2 (2024), <http://dx.doi.org/10.1016/j.ymgme.2024.108518> [D.J. Bernard, F. Pangilinan, C. Mendina, T. Desporte, S.M. Wincovitch]
- Ryan, Tomas**, 'If engrams are the answer, what is the question?', *Engrams: a window into the memory trace* (2024), 273-302 [F.M. O'Sullivan, T.J. Ryan]
- 'Engram cell connectivity as a mechanism for information encoding and memory function', *Current Biology*, 33, 24 (2023), 5368-5380.e5 [C. Ortega-de San Luis, M. Pezzoli, E. Urrieta, T.J. Ryan]
- 'Natural forgetting is modulated by experience', *eLife* (2023), <https://doi.org/10.7554/eLife.92860.1> [J.D. O'Leary, R. Bruckner, L. Autore, T. Ryan]
- 'Amnesia after repeated head impact is caused by impaired synaptic plasticity in the memory engram.', *Journal of Neuroscience* (2024), e1560232024 [D.P. Chapman, S. Power, S. Vicini, T.J. Ryan, M.P. Burns]
- 'Adaptive expression of engrams by retroactive interference', *Cell Reports*, 42, 8 (2023), 112999 [L. Autore, J.D. O'Leary, C. Ortega-de San Luis, T.J. Ryan]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

Zisterer, Daniela, 'Probing the metalloproteome: an 8-mercaptoquinoline motif enriches minichromosome maintenance complex components as significant metalloprotein targets in live cells', *RSC Chemical Biology*, 5, 8 (2024), 776-786 [S.M. McKenna, B.I. Florea, D.M. Zisterer, S.I. van Kasteren, J.F. McGouran]

'Targeting inhibitor of apoptosis proteins (IAPs) enhances susceptibility of oral squamous carcinoma cells to cisplatin', *Experimental Cell Research*, 437, 1 (2024), <http://dx.doi.org/10.1016/j.yexcr.2024.113995> [T. Gao, S. Magnano, A. Rynne, L. O'Kane, P.H. Barroeta, D.M. Zisterer]

'The role of the Nrf2/GSH antioxidant system in cisplatin resistance in malignant rhabdoid tumours', *Journal of Cancer Research and Clinical Oncology*, 149, 11 (2023), 8379-8391 [P. Hannon Barroeta, M.J. O'Sullivan, D.M. Zisterer]

IMMUNOLOGY

Bowie, Andrew, 'Multi-omics characterization of the monkeypox virus infection', *Nature Communications*, 15, 1 (2024), <http://dx.doi.org/10.1038/s41467-024-51074-6> [Y. Huang, V. Bergant, V. Grass, A.G. Bowie, U. Protzer, A. Pichlmair]

'Human coronavirus 229E infection inactivates pyroptosis executioner gasdermin D but ultimately leads to lytic cell death partly mediated by gasdermin E', *Viruses*, 16, 6 (2024), <http://dx.doi.org/10.3390/v16060898> [J. Bloeme-ter Horst, R. Hutchinson, C. Guy, A.G. Bowie, M. Kikkert]

'Molluscum contagiosum virus protein MC089 inhibits interferon regulatory factor 3 activation', *Journal of General Virology*, 105, 8 (2024), <http://dx.doi.org/10.1099/jgv.0.002015> [M. Al Hamrashdi, C.S. Perez, D.A. Haas, J. Vishwakarma, A. Pichlmair]

'SARM1 regulates pro-inflammatory cytokine expression in human monocytes by NADase-dependent and -independent mechanisms', *iScience*, 27, 6 (2024), 109940 [R. Sugisawa, K.A. Shanahan, G.M. Davis, G.P. Davey, A. Bowie]

'Intratumoral delivery of the chitin-derived C100 adjuvant promotes robust STING, IFNAR, and CD8+ T cell-dependent anti-tumor immunity', *Cell Reports Medicine*, 5, 5 (2024), 101560 [J.L. Turley, R.W. Ward, J. Huete-Carrasco, N. Muñoz-Wolf, K. Roche]

'Regulation of type I and type III interferon induction in response to pathogen sensing', *Current Opinion in Immunology*, 87 (2024), 102424 [H. Gewaid, A.G. Bowie]

Canavan, Mary, 'Canagliflozin impairs T cell effector function via metabolic suppression in autoimmunity', *Cell Metabolism*, 35, 7 (2023), 1132-1146.e9 [B.J. Jenkins, J. Blagih, F.M. Ponce-Garcia, M. Canavan, N. Gudgeon]

Dunne, Aisling, 'Staphylococcus aureus suppresses the pentose phosphate pathway in human neutrophils via the adenosine receptor A2aR to enhance intracellular survival', *mBio*, 15, 1 (2024), <http://dx.doi.org/10.1128/mbio.02571-23> [E.G. Vozza, C.M. Daly, S.A. O'Rourke, H.K. Fitzgerald, A. Dunne]

'Type 1 interferons promote Staphylococcus aureus nasal colonization by inducing phagocyte apoptosis', *Cell Death Discovery*, 10, 1 (2024), <http://dx.doi.org/10.1038/s41420-024-02173-2> [E.G. Vozza, A.M. Kelly, C.M. Daly, S.A. O'Rourke, S.R. Carlile]

'Macrophage metabolic profile is altered by hydroxyapatite particle size', *Acta Biomaterialia* (2023), <http://dx.doi.org/10.1016/j.actbio.2023.01.058> [L.C. Shanley, O.R. Mahon, S.A. O'Rourke, N.G.B. Neto, M.G. Monaghan]

Fletcher, Jean, 'CD4⁺ T cell-associated cytokines induce a chronic pro-inflammatory phenotype in induced pluripotent stem cell-derived midbrain astrocytes', *Glia* (2024), <http://dx.doi.org/10.1002/glia.24601> [A.N. MacMahon Copas, S.F. McComish, A. Petrasca, R. McCormack, D. Ivers]

'Inflammasomes: emerging therapeutic targets in hidradenitis suppurativa?', *The British Journal of Dermatology* (2024), ljae262 [C. Campbell, J.M. Mayatra, A.J. Neve, J.M. Fletcher, D.G.W. Johnston]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'Effect of immunosuppression on the immune response to SARS-CoV-2 infection and vaccination', *International Journal of Molecular Sciences*, 25, 10 (2024), 5239 [E.J. Leacy, J.W. Teh, A.M. O'Rourke, G. Brady, S. Gargan]
- Gardiner, Clair, 'Reduced IFNL1 and/or IFNL2, but not IFNL3 is associated with worse outcome in patients with covid-19', *Clinical and Experimental Immunology*, 218 (2024), 300-307 [[E. Woods, A. Mena, S. Sierpinska, E. Carr, R. Hagan]
- Lavelle, Edward, 'The march of mucosal vaccines', *Current Opinion in Immunology*, 86, 102408 (2024), <http://dx.doi.org/10.1016/j.coi.2023.102408> [E.C. Lavelle, M. Genesco]
- 'Vaccine adjuvants: tailoring innate recognition to send the right message', *Immunity*, 57, 4 (2024), 772-789 [E.C. Lavelle, C.P. McEntee]
- 'Intratumoral delivery of the chitin-derived C100 adjuvant promotes robust STING, IFNAR, and CD8+ T cell-dependent anti-tumor immunity', *Cell Reports Medicine*, 5, 5 (2024), 101560 [J.L. Turley, R.W. Ward, J. Huete-Carrasco, N. Muñoz-Wolf, K. Roche, L. Jin]
- 'Bile acids induce IL-1- and drive NLRP3 inflammasome-independent production of IL-1 β in murine dendritic cells', *Frontiers in Immunology*, 14 (2023), 1285357 [E. Oleszycka, E.C. O'Brien, M. Freeley, E.C. Lavelle, A. Long]
- McEntee, Craig, 'Vaccine adjuvants: tailoring innate recognition to send the right message', *Immunity*, 57, 4 (2024), 772-789 [E.C. Lavelle, C.P. McEntee]
- McLoughlin, Rachel, 'Challenges and adaptations of model-based clustering for flow and mass cytometry', *WIREs Computational Statistics*, 17, 1 (2025), 1-15 [U.P. Doherty, R.M. McLoughlin, A. White]
- '*Staphylococcus aureus* induced trained immunity in macrophages confers heterologous protection against gram-negative bacterial infection', *iScience*, 27, 12 (2024), <http://dx.doi.org/10.1016/j.isci.2024.111284> [S.R. Carlile, S.C. Cahill, E.C. O'Brien, N.G.B. Neto, M.G. Monaghan]
- '*Staphylococcus aureus* suppresses the pentose phosphate pathway in human neutrophils via the adenosine receptor A2aR to enhance intracellular survival', *mBio*, 15, 1 (2024), <http://dx.doi.org/10.1128/mbio.02571-23> [E.G. Voza, C.M. Daly, S.A. O'Rourke, H.K. Fitzgerald, A. Dunne]
- 'Type 1 interferons promote *Staphylococcus aureus* nasal colonization by inducing phagocyte apoptosis', *Cell Death Discovery*, 10, 1 (2024), <http://dx.doi.org/10.1038/s41420-024-02173-2> [E.G. Voza, A.M. Kelly, C.M. Daly, S.A. O'Rourke, S.R. Carlile]
- 'gateTree: a user-informed tree algorithm for population identification in flow cytometry', *International workshop on statistical modelling 2024*, eds J. Einbeck, R. Drikvandi, G. Karagiannis, K. Perrakis, Q. Zhang, Durham, United Kingdom (2024), 108-113 [U.P. Doherty, R. McLoughlin, T. Claxton, A. White]
- 'VEO-IBD NOX1 variant highlights a structural region essential for NOX/DUOX catalytic activity', *Redox Biology*, 67 (2023), 102905 [J. Ward, S. Zhang, A. Sikora, R. Michalski, Y. Yin]
- 'Respiratory tract *Moraxella catarrhalis* and *Klebsiella pneumoniae* can promote pathogenicity of myelin-reactive Th17 cells', *Mucosal Immunology*, 16, 4 (2023), 399-407 [J.M. Mannion, B.M. Segal, R.M. McLoughlin, S.J. Lalor]
- 'Extensive remodelling of the cell wall during the development of *Staphylococcus aureus* bacteraemia', *eLife*, 12(2023), RP87026 [E.J.A. Douglas, N. Palk, T. Brignoli, D. Altwiley, M. Boura]
- '*Staphylococcus aureus* suppresses the pentose phosphate pathway in human neutrophils via the adenosine receptor A2aR to enhance intracellular survival', *mBio : Duplicate, Marked for Deletion*, 15, 1 (2024), e0257123 [E.G. Voza, C.M. Daly, S.A. O'Rourke, H.K. Fitzgerald, A. Dunne]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'IL-17 and IFN- γ -producing respiratory tissue resident memory CD4-T cells persist for decades in adults immunized as children with whole cell pertussis vaccines', *The Journal of Infectious Diseases* (2024), jiae034 [K.N. McCarthy, S. Hone, R.M. McLoughlin, K.H.G. Mills]
- 'IL-10 inhibition during immunization improves vaccine-induced protection against *Staphylococcus aureus* infection', *JCI insight*, 9, 13 (2024), e178216 [A.M. Kelly, K.N. McCarthy, T.J. Claxton, S.R. Carlile, E.C. O'Brien]
- 'Publisher Correction: Dimethyl fumarate and 4-octyl itaconate are anticoagulants that suppress tissue factor in macrophages via inhibition of type I interferon (Nature Communications, (2023), 14, 1, (3513), 10.1038/s41467-023-39174-1)', *Nature Communications*, 14, 1 (2023), <http://hdl.handle.net/2262/103899> [T.A.J. Ryan, A. Hooftman, A.M. Rehill, M.D. Johansen]
- 'Dimethyl fumarate and 4-octyl itaconate are anticoagulants that suppress tissue factor in macrophages via inhibition of type I interferon', *Nature Communications*, 14, 1 (2023), <http://hdl.handle.net/2262/103898> [T.A.J. Ryan, A. Hooftman, A.M. Rehill]
- 'PYHIN protein IFI207 regulates cytokine transcription and IRF7 and contributes to the establishment of *K. pneumoniae* infection', *Cell Reports*, 42, 4 (2023), <http://hdl.handle.net/2262/102614> [M. Baran, C. Feriotti, A. McGinley, S.R. Carlile, Z. Jiang]
- 'Bystander activation of *Bordetella pertussis*-induced nasal tissue-resident memory CD4 T cells confers heterologous immunity to *Klebsiella pneumoniae*', *European Journal of Immunology* (2023), <http://hdl.handle.net/2262/102619> [L.M. Curham, J.M. Mannion, C.M. Daly, M.M. Wilk, L. Borkner]
- Mills, Kingston**, 'A novel whole blood assay to quantify the release of T cell associated cytokines in response to *Bordetella pertussis* antigens', *Journal of Immunological Methods*, 534, 113758 (2024), <http://dx.doi.org/10.1016/j.jim.2024.113758> [M.V. Pinto, A-M. Barkoff, S. Bibi, R. de Groot]
- 'Rhythmic IL-17 production by $\gamma\delta$ T cells maintains adipose de novo lipogenesis', *Nature* (2024), <http://dx.doi.org/10.1038/s41586-024-08131-3> [A. Douglas, B. Stevens, M. Rendas, H. Kane, C.M. Metallo]
- 'PD-1 regulation of pathogenic IL-17-secreting $\gamma\delta$ T cells in experimental autoimmune encephalomyelitis', *European Journal of Immunology* (2024), <http://dx.doi.org/10.1002/eji.202451212> [C.M. Leane, C.E. Sutton, B. Moran, K.H.G. Mills]
- 'IL-17 and IFN- γ -producing respiratory tissue resident memory CD4-T cells persist for decades in adults immunized as children with whole cell pertussis vaccines', *The Journal of Infectious Diseases* (2024), jiae034 [K.N. McCarthy, S. Hone, R.M. McLoughlin, K.H.G. Mills]
- 'IL-10 inhibition during immunization improves vaccine-induced protection against *Staphylococcus aureus* infection', *JCI insight*, 9, 13 (2024), e178216 [A.M. Kelly, K.N. McCarthy, T.J. Claxton, S.R. Carlile, E.C. O'Brien]
- Mylod, Eimear**, 'Analysing the combined effects of radiotherapy and chemokine receptor 5 antagonism: complementary approaches to promote T cell function and migration in oesophageal adenocarcinoma', *Biomedicine* (2024), <http://hdl.handle.net/2262/108496> [M. Davern, C. O' Donovan, N.E. Donlon, E. Mylod, C. Gaughan]
- O'Farrelly, Cliona**, 'Impact of socioeconomic status on healthy immune responses in humans', *Immunology and Cell Biology* (2024), <http://dx.doi.org/10.1111/imcb.12789> [A. Bertrand, J. Sugrue, T. Lou, N.M. Bourke, C. O'Farrelly, D. Duffy]
- 'Integrated analysis of whole blood oxylipin and cytokine responses after bacterial, viral, and T cell stimulation reveals new immune networks', *iScience*, 26, 8 (2023), <http://dx.doi.org/10.1016/j.isci.2023.107422> [E. Villain, A. Chanson, M. Mainka, N. Kampschulte, P. Le Faouder]
- 'Innate antiviral immunity and immunometabolism in hepatocytes', *Current Opinion in Immunology*, 80 (2023), <http://dx.doi.org/10.1016/j.coi.2022.102267> [V.M. Sularea, J.A. Sugrue, C. O'Farrelly]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

'Protocol for the Tallaght University Hospital institute for memory and cognition-biobank for research in ageing and neurodegeneration', *BMJ Open* (2023), <https://doi.org/10.1136/bmjopen-2023-077772> [A.H. Dyer, H. Dolphin, A. O'Connor, L. Morrison, S. O'Dowd]

Sheedy, Frederick, 'Adiposity, immunity, and inflammation: interrelationships in health and disease: a report from 24th annual Harvard nutrition obesity symposium, June 2023', *American Journal of Clinical Nutrition*, 120, 1 (2024), 257-268 [M.F. Burak, T.L. Stanley, E.A. Lawson, S.L. Campbell, M.Y. Donath]

' β -glucans from *Agaricus bisporus* mushroom products drive trained immunity', *Frontiers in Nutrition*, 11, 1346706 (2024), <http://dx.doi.org/10.3389/fnut.2024.1346706> [S. Case, T. O'Brien, A.E. Ledwith, S. Chen, S.C. Corr]

'Negative regulation of innate immune signaling by components of the button mushroom *Agaricus bisporus*', *Molecular Nutrition and Food Research*, 67, 14 (2023), <http://dx.doi.org/10.1002/mnfr.202200845> [M. O'Sullivan, E. Dempsey, S. Case, E.E. Hackett, A.E. Ledwith]

'Recognition of yeast β -glucan particles triggers immunometabolic signaling required for trained immunity', *iScience*, 27, 3 (2024), <http://dx.doi.org/10.1016/j.isci.2024.109030> [C.J.H. Horneek Johnston, A.E. Ledwith, M.L.E. Lundahl, S.C. Corr, F.J. Sheedy]

Stevenson, Nigel, 'Respiratory syncytial virus NS1 inhibits anti-viral interferon- α -induced JAK/STAT signaling, by limiting the nuclear translocation of STAT1', *Frontiers in Immunology*, 15, 1395809 (2024), <http://dx.doi.org/10.3389/fimmu.2024.1395809> [C. Efstathiou, Y. Zhang, S. Kandwal, D. Fayne, E.J. Molloy, N.J. Stevenson]

'Humoral and innate immunological profile of paediatric recipients of Pfizer-BioNTech BNT162b2 mRNA vaccine', *Microorganisms*, 12, 7 (2024), <http://dx.doi.org/10.3390/microorganisms12071389> [S.S. Jeremiah, P. Das, M. Venkatesan, R. Albinzayed, A. Ahmed]

School of Chemistry

Boland, John, 'Thermo-electro-optical properties of seamless metallic nanowire networks for transparent conductor applications', *Nanoscale*, 15, 24 (2023), 10394-10411 [K. Esteki, D. Curic, H.G. Manning, E. Sheerin, M.S. Ferreira]

'Universal preference for low-energy core-shifted grain boundaries at the surfaces of fcc metals', *Physical Review Research*, 5, 1 (2023), <http://dx.doi.org/10.1103/PhysRevResearch.5.013223> [X. Zhang, J.J. Boland]

'Restructuring of emergent grain boundaries at free surfaces - an interplay between core stabilization and elastic stress generation', *Acta Materialia*, 242, 118432 (2023), <http://dx.doi.org/10.1016/j.actamat.2022.118432> [X. Zhang, M. Wang, H. Wang, M. Upmanyu, J.J. Boland]

'Wedge disclination description of emergent core-shifted grain boundaries at free surfaces', *Scripta Materialia*, 234, 115562 (2023), <http://hdl.handle.net/2262/108626> [X. Zhang, I. Demirel, J.J. Boland]

'Micro and nano plastics release from a single absorbable suture into simulated body fluid', *Journal of Hazardous Materials*, 466, 133559 (2024), <http://hdl.handle.net/2262/108625> [Y. Shi, D. Li, C. Hill, L. Yang, E.D. Sheerin]

'Core shift controls grain boundary energy scaling in Cu and Al', *Acta Materialia*, 265, 119606 (2024), <http://hdl.handle.net/2262/108618> [X. Zhang, J.J. Boland]

'Understanding how junction resistances impact the conduction mechanism in nano-networks', *Nature Communications*, 15, 1 (2024), <http://hdl.handle.net/2262/109848> [C. Gabbett, A.G. Kelly, E. Coleman, J.N. Coleman]

'High levels of microparticles release from biodegradable polylactic acid paper cups compared with polyethylene-lined cups', *Chemical Engineering Journal*, 468 (2023), 143620 [L. Yang, D. Li, Y. Shi, C. Hill, R. Pilliadugula, L. Page]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

Colavita, Paula, 'Single-entity electrochemistry of N-doped graphene oxide nanostructures for improved kinetics of vanadyl oxidation', *Small* (2024), <http://hdl.handle.net/2262/110421> [M.A. Costa de Oliveira, M. Brunet Cabré, C. Schröder, H. Nolan, F. Pota]

'Porous N-doped carbon-encapsulated iron as novel catalyst architecture for the electrocatalytic hydrogenation of benzaldehyde', *ChemSusChem* (2024), <http://hdl.handle.net/2262/110428> [F. Pota, M. Costa de Oliveira, C. Schröder, M. Brunet Cabré, H. Nolan]

'Functional organic adlayers for controlling the adhesion strength of electrolessly deposited copper on super-engineering plastics', *Applied Surface Science*, 682, 161700 (2025), <http://hdl.handle.net/2262/110708> [H. Nolan, F. Zen, A. Gençer, L. Henderson, M. Kelly]

'Carbon thin-film electrodes as high-performing substrates for correlative single entity electrochemistry', *Small Methods* (2024), <http://dx.doi.org/10.1002/smt.202400639> [M.B. Cabré, C. Schröder, F. Pota, M.A.C. de Oliveira, H. Nolan]

Costa de Oliveira, Maida, 'Single-entity electrochemistry of N-doped graphene oxide nanostructures for improved kinetics of vanadyl oxidation', *Small* (2024), <http://hdl.handle.net/2262/110421> [M.A. Costa de Oliveira, M. Brunet Cabré, C. Schröder, H. Nolan, F. Pota]

'Porous N-doped carbon-encapsulated iron as novel catalyst architecture for the electrocatalytic hydrogenation of benzaldehyde', *ChemSusChem* (2024), <http://hdl.handle.net/2262/110428> [F. Pota, M. Costa de Oliveira, C. Schröder, M. Brunet Cabré, H. Nolan]

'Effects of N-functional groups on the electron transfer kinetics of $\text{VO}^{2+}/\text{VO}^{2+}$ at carbon: decoupling morphology from chemical effects using model systems', *Electrochimica Acta*, 475, 143640 (2024), 11 [M. Costa de Oliveira, C. Schröder, M. Brunet-Cabré, H. Nolan, A. Forner-Cuenca]

Delaney, Colm, '35 challenges in materials science being tackled by PIs under 35(ish) in 2024', *Matter*, 7, 11 (2024), 3699-3706 [C.J.R. Wells, S.W. Cranford]

'Direct laser writing of silica nanoparticle nanocomposites: probing mechanical reinforcement and understanding structural color from design parameters', *Small* (2024), <http://dx.doi.org/10.1002/smll.202310058> [A. Augustine, J. Qian, T. Faraone, S. Kolagatla, N. Prochukhan]

Florea, Larisa, '35 challenges in materials science being tackled by PIs under 35(ish) in 2024', *Matter*, 7, 11 (2024), 3699-3706 [I.A. Lazaro, A. Anastasaki, C.J.R. Wells, S.W. Cranford]

'Direct laser writing of silica nanoparticle nanocomposites: probing mechanical reinforcement and understanding structural color from design parameters', *Small* (2024), <http://dx.doi.org/10.1002/smll.202310058> [A. Augustine, J. Qian, T. Faraone, S. Kolagatla, N. Prochukhan]

Garcia Melchor, Max, 'Identity of the silyl ligand in an iron silyl complex influences olefin hydrogenation: an experimental and computational study', *Inorganic Chemistry* (2024), <http://dx.doi.org/10.1021/acs.inorgchem.4c02533> [D.C. Najera, M. Garcia-Melchor, A.R. Fout]

'Alkene isomerisation catalysed by a superbasic sodium amide', *Angewandte Chemie - International Edition*, 63, 38 (2024), <http://dx.doi.org/10.1002/anie.202407262> [A. Tortajada, G.L. Righetti, A. McGinley, M. Mu, M. Garcia-Melchor]

'Manipulation of oxidation states on phase boundary via surface layer modification for enhanced alkaline hydrogen electrocatalysis', *Advanced Materials* (2024), <http://dx.doi.org/10.1002/adma.202405128> [H. Huang, L. Xu, S. Zuo, L. Song, C. Zou]

'Challenges in the computational modelling of bimetallic C-H activation processes', *Advances in Organometallic Chemistry*, 81 (2024), 329-348 [M. Mu, M. Garcia-Melchor]

'Sodium mediated deprotonative borylation of arenes using sterically demanding $\text{B}(\text{CH}_2\text{SiMe}_3)_3$: unlocking polybasic behaviour and competing lateral borane sodiation', *Chemical Science*, 14, 24 (2023), 6538-6545 [A. Tortajada, L.J. Bole, M. Mu, M. Stanford, M. Garcia-Melchor]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'FEFOS: a method to derive oxide formation energies from oxidation states', *Catalysis Science and Technology*, 13, 11 (2023), 3427-3435 [M.J. Craig, F. Kleuker, M. Bajdich, M. Garcia-Melchor]
- 'Interaction and energy decomposition analyses to predict stability of tetraaryl square planar cobalt complexes', *ChemCatChem*, 15, 19 (2023), <http://dx.doi.org/10.1002/cctc.202300769> [M. Mu, A. Logallo, E. Hevia, M. Garcia-Melchor]
- 'Redox-couple-assisted CO₂ capture on solid-electrolyte reactor', *Chem*, 9, 10 (2023), 2733-2735 [B. Chang, C. Feng, M. Garcia-Melchor, H. Zhang]
- 'The importance of surface coverages in the rational design of electrocatalysts', *Current Opinion in Electrochemistry*, 42, 101402 (2023), <http://dx.doi.org/10.1016/j.coelec.2023.101402> [A. Ciotti, M. Garcia-Melchor]
- 'Unlocking the metalation applications of TMP-powered Fe and Co(II) bis(amides): synthesis, structure and mechanistic insights', *Angewandte Chemie - International Edition*, 63, 24 (2024), <http://dx.doi.org/10.1002/anie.202402907> [A. Logallo, L.C.H. Maddock, M. Mu, L. Gravogl, N. Jin]
- 'Insights into the palladium(II)-catalyzed wacker-type oxidation of styrene with hydrogen peroxide and tert-butyl hydroperoxide', *ACS Catalysis*, 14, 3 (2024), 1567-1574 [M. Mu, K. Walker, R.M. Waymouth, C. Trujillo, M.J. Muldoon]
- 'Enabling heterogeneous catalysis to achieve carbon neutrality: directional catalytic conversion of CO₂ into carboxylic acids', *Carbon Energy*, 6, 3 (2024), <http://dx.doi.org/10.1002/cey2.362> [X. Zhang, W. Huang, L. Yu, M. Garcia-Melchor, D. Wang]
- 'Sustainable electrosynthesis of cyclohexanone oxime through nitrate reduction on a Zn-Cu alloy catalyst', *ACS Catalysis*, 14, 5 (2024), 3287-3297 [J. Sharp, A. Ciotti, H. Andrews, S.R. Udayasurian, M. Garcia-Melchor, T. Li]
- 'Efficient mapping of CO adsorption on Cu_{1-x}M_x bimetallic alloys via machine learning', *Journal of Materials Chemistry A*, 12, 23 (2024), 14148-14158 [M. Salomone, M. Re Fiorentin, F. Risplendi, F. Raffone, T. Sommer]
- 'Size-dependent activity of carbon dots for photocatalytic H₂ generation in combination with a molecular Ni cocatalyst', *Nanoscale*, 15, 38 (2023), 15775-15784 [C. Casadevall, A. Lage, M. Mu, H. Greer, D. Antón-García]
- 'Solvation effects in the electrochemical reduction of hydrogen cyanide for ambient ammonia production on a Ni cathode', *Catalysis Science and Technology*, 14, 4 (2024), 1043-1051 [K. Brennan, G.W. Watson, M. García-Melchor]
- Gounko, Iouri, 'Ligand induced chirality in In₂S₃ nanoparticles', *Nanoscale*, 15, 46 (2023), 18753-18761 [L. Branzi, O. Lavet, Y.K. Gounko]
- 'Expanding the horizons of machine learning in nanomaterials to chiral nanostructures', *Advanced Materials*, 36, 18 (2024), <http://dx.doi.org/10.1002/adma.202308912> [V. Kuznetsova, Y. Gromova, E.V. Ushakova, Y.K. Gounko]
- 'MnFe₂O₄@SiO₂@CeO₂ core-shell nanostructures for applications in water remediation', *RSC Advances*, 13, 16 (2023), 10513-10522 [G. Dee, H. Shayoub, H. McNeill, I.S. Lozano, A. Rafferty]
- 'Magnetically driven preparation of 1-D nano-necklaces capable of MRI relaxation enhancement', *Nanoscale Advances*, 5, 12 (2023), 3209-3213 [A.M. King, T. Insinna, C.J.R. Wells, I.A. Raby, Y.K. Gounko]
- 'Glycosylated quantum dots as fluorometric nanoprobe for trehalase', *Organic and Biomolecular Chemistry*, 21, 14 (2023), 2905-2909 [D.D. Barnes, V. Kuznetsova, A. Vishneratina, F. Purcell-Milton, M.A. Baranov]
- Gunnlaugsson, Thorfinnur, 'Nanoscale assembly of enantiomeric supramolecular gels driven by the nature of solvents', *Nanoscale*, 16, 18 (2024), 8922-8930 [T.A. Gudmundsson, G. Kuppaddakkath, D. Ghosh, M. Ruether, A. Seddon]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'Ligand chirality transfer from solution state to the crystalline self-assemblies in Circularly Polarized Luminescence (CPL) active lanthanide systems', *Advanced Science*, 11, 18 (2024), <http://dx.doi.org/10.1002/advs.202307448> [D.F. Caffrey, T. Gorai, B. Rawson, M. Martinez-Calvo, J.A. Kitchen]
- 'Tracking the cellular uptake and phototoxicity of Ru(II)-polypyridyl-1,8-naphthalimide Troger's base conjugates', *RSC Chemical Biology*, 5, 4 (2024), 344-359 [S.A. Bright, M. Erby, F.E. Poynton, D. Monteyne, T. Gunnlaugsson]
- 'Reactivity-based amino-1,8-naphthalimide fluorescent chemosensors for the detection and monitoring of phosgene', *Sensors and Diagnostics*, 3, 5 (2024), 783-798 [M.K. Noushija, A. Vamshi Krishna, T. Gunnlaugsson, S. Shanmugaraju]
- 'Fluorescent probes for disease diagnosis', *Chemical Reviews*, 124, 11 (2024), 7106-7164 [X. Wang, Q. Ding, R.R. Groleau, L. Wu, Y. Mao]
- Lyons, Michael**, 'Nonlinear reaction-diffusion and mediated electron transfer process at conducting polymer modified ultramicroelectrodes', *European Journal of Pure and Applied Mathematics*, 17, 2 (2024), 1265-1282 [G. Yokeswari, I.P. Jayasimman, M.E.G. Lyons, M. Abukhaled, L. Rajendran]
- McDonald, Aidan**, 'High-valent cobalt-difluoride in oxidative fluorination of saturated hydrocarbons', *Angewandte Chemie - International Edition* (2025), <http://hdl.handle.net/2262/111276> [A. Das, B. Twamley, O.R. Kelly, C. Panda, P. Richardson]
- 'A structural and functional mimic of P680+', *Angewandte Chemie - International Edition*, 64, 3 (2025), <http://dx.doi.org/10.1002/anie.202415688> [S. Biswas, O.R. Kelly, B. Twamley, A.R. McDonald]
- 'Platinum(II) complexes of aryl guanidine-like derivatives as potential anticancer agents: between coordination and cyclometallation', *RSC Advances*, 15, 5 (2025), 3427-3438 [P. O'Sullivan, V. Previtali, B. Twamley, C.J. Marmion, A.R. McDonald]
- 'Reduction of exfoliated MoS₂ nanosheets yields the semi-conducting 2H-polymorph rather than the metallic 1T-polymorph', *European Journal of Inorganic Chemistry* (2024), <http://hdl.handle.net/2262/111275> [A.M. Krajewska, A.E. Paiva, M. Morris, A.R. McDonald]
- 'Preparation and characterization of MnII/MnIII complexes with relevance to class Ib ribonucleotide reductases', *Journal of Inorganic Biochemistry*, 257, 112583 (2024), <http://hdl.handle.net/2262/111274> [L.M. Doyle, R.L.M. Bienenmann, R. Gericke, S. Xu, E.R. Farquhar]
- 'Aromatic and aliphatic hydrocarbon hydroxylation via a formally NiIV-O oxidant', *Dalton Transactions*, 52, 9 (2023), 2663-2671 [P. Heim, R. Gericke, G. Spedalotto, M. Lovisari, E.R. Farquhar]
- 'Hydrocarbon oxidation by a porphyrin- π -cation radical complex', *Angewandte Chemie International Edition*, 62, 31 (2023), <http://hdl.handle.net/2262/111270> [M. Lovisari, O.R. Kelly, A.R. McDonald]
- 'Synthesis, characterisation, and functionalisation of charged two-dimensional MoS₂', *Chemistry: A European Journal*, 29, 57 (2023), <http://hdl.handle.net/2262/111271> [A.M. Krajewska, A.E. Paiva, M. Morris, A.R. McDonald]
- 'Class Ib ribonucleotide reductases: activation of a peroxido-MnII/MnIII to generate a reactive Oxo-MnII/MnIV oxidant', *Inorganic Chemistry*, 63, 4 (2024), 2194-2203 [L. Doyle, A. Magherusan, S. Xu, K. Murphy, E.R. Farquhar]
- 'A CoII-hydroxide complex that converts directly to a coII-acetamide during catalytic nitrile hydration', *Inorganic Chemistry*, 63, 17 (2024), 7896-7902 [P. Heim, S. Biswas, H. Lopez, R. Gericke, B. Twamley, A.R. McDonald]
- 'Evidence for a high-valent iron-fluoride that mediates oxidative C(sp³)-H fluorination', *JACS Au*, 3, 3 (2023), 919-928 [C. Panda, O. Anny-Nzekwue, L.M. Doyle, R. Gericke, A.R. McDonald]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'Synthesis and characterization of a masked terminal nickel-oxide complex', *Chemistry* (2023), <http://hdl.handle.net/2262/111268> [P. Heim, G. Spedalotto, M. Lovisari, R. Gericke]
- McGouran, Joanna**, 'Rapid diazotransfer for selective lysine labelling', *Organic and Biomolecular Chemistry* (2024), <http://dx.doi.org/10.1039/d4ob01094a> [S.H. Calvert, T. Pawlak, G. Hessman, J.F. McGouran]
- 'Probing the metalloproteome: an 8-mercaptoquinoline motif enriches minichromosome maintenance complex components as significant metalloprotein targets in live cells', *RSC Chemical Biology*, 5, 8 (2024), 776-786 [S.M. McKenna, B.I. Florea, D.M. Zisterer, S.I. van Kasteren, J.F. McGouran]
- Nicolosi, Valeria**, 'Electrically insulating electromagnetic interference shielding materials: a perspective', *Advanced Functional Materials* (2024), <http://dx.doi.org/10.1002/adfm.202407439> [J. Liu, V. Nicolosi]
- 'Controlled fabrication of native ultra-thin amorphous gallium oxide from 2D gallium sulfide for emerging electronic applications', *Advanced Materials Interfaces* (2024), <http://dx.doi.org/10.1002/admi.202400481> [A. AlMutairi, A. Xhameni, X. Guo, V. Nicolosi, S. Hofmann, A. Lombardo]
- 'Surface modification improves spinel LiCoO₂ Li-ion battery cathode materials grown by low temperature solvothermal flow reaction', *Journal of the Electrochemical Society*, 171, 1 (2024), <http://dx.doi.org/10.1149/1945-7111/ad1e41> [Y. Zhang, U. Gulzar, A. Lonergan, A. Grant, A. Carroll]
- 'Effect of the synthesis route and co coverage on co / Ti3C2Tx materials for the oxygen evolution reaction', *Electrochimica Acta*, 490, 144269 (2024), <http://hdl.handle.net/2262/110369> [C. Kaplan, R.M. Restrepo, T. Schultz, K. Li, V. Nicolosi]
- 'Unraveling the impact of oxygen vacancy on electrochemical valorization of polyester over spinel oxides', *Small* (2024), <http://dx.doi.org/10.1002/sml.202406068> [S. Kang, X. Guo, D. Xing, W. Yuan, J. Shang]
- '2D titanium carbide MXene and single-molecule fluorescence: distance-dependent nonradiative energy transfer and leaflet-resolved dye sensing in lipid bilayers', *Advanced Materials* (2024), <http://hdl.handle.net/2262/110368> [L. Manzanares, D. Spurling, A.M. Szalai, G. Ferrari, M.R.J. Dagleish]
- '3D networked MXene thin films for high performance supercapacitors', *Energy Storage Materials*, 65, 103148 (2024), <http://dx.doi.org/10.1016/j.ensm.2023.103148> [D. Spurling, F. Rasch, M.P. Kremer, L. Kienle, R. Adelung]
- 'Beyond biodegradation: upcycling of polylactic acid plastic waste into amino acids via cascade catalysis under mild conditions', *Green Chemistry*, 26, 7 (2024), 3995-4004 [[Y. Ma, X. Guo, M. Du, S. Kang, W. Dong]
- 'Biphasic gain alloy constructed stable percolation network in polymer composites over ultrabroad temperature region', *Advanced Materials*, 36, 14 (2024), <http://dx.doi.org/10.1002/adma.202310849> [X. Zhou, Y. Liu, Z. Gao, P. Min, J. Liu]
- 'Effect of the precursor metal salt on the oxygen evolution reaction for NiFe oxide materials', *ChemElectroChem*, 11, 17 (2024), <http://hdl.handle.net/2262/110371> [A. Zuber, I.M. Oikonomou, L. Gannon, I. Chunin, L. Reith]
- 'Breaking the symmetry of sulfur defect states via atomic substitution for enhanced CO₂ photoreduction', *Journal of Materials Chemistry A*, 12, 40 (2024), 27220-27228 [Y. Ma, H. Tao, X. Guo, P. Yang, D. Xing]
- 'Liquid processed nano As4S4/SWCNTs composite electrodes for high-performance Li-ion and Na-ion battery anodes', *Energy and Fuels*, 38, 21 (2024), 21521-21534 [M. McCrystall, C. Gabbett, H. Kaur, T. Carey, J. Munera]
- 'Dielectric engineering of perovskite BaMnO₃ for the rapid heterogeneous nucleation of Pt nanoparticles for catalytic applications', *Advanced Functional Materials*, 34(2024), 12 [L. Hughes, A. Roy, N. Yadav, C. Downing, M.P. Browne]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'Carbon thin-film electrodes as high-performing substrates for correlative single entity electrochemistry', *Small Methods* (2024), <http://dx.doi.org/10.1002/smtd.202400639> [[M.B. Cabré, C. Schröder, F. Pota, M.A.C. de Oliveira, H. Nolan]
- 'Liquid-phase exfoliation of arsenic trisulfide (As_2S_3) nanosheets and their use as anodes in potassium-ion batteries', *ACS Nano*, 18, 31 (2024), 20213-20225 [H. Kaur, B. Konkena, M. McCrystall, K. Synnatschke, C. Gabbett]
- 'Enhancing the oxygen evolution reaction activity of CuCo based hydroxides with V2CTx MXene', *Journal of Materials Chemistry A* (2024), <http://hdl.handle.net/2262/109208> [B. Schmiedecke, B. Wu, T. Schultz, A.A. Emerenciano, N. Sharma]
- 'Long lived photogenerated charge carriers in few-layer transition metal dichalcogenides obtained from liquid phase exfoliation', *Nanoscale Advances*, 6, 4 (2023), 1074-1083 [F. Morabito, K. Synnatschke, J.D. Mehew, S. Varghese, C.J. Sayers]
- Rozas, Isabel**, 'Searching for 'greener' bioequivalents of CF3 to lower its environmental impact', *Chemistry a European Journal* (2024), e202401954 [M. Minneci, M. Misevicius, I. Rozas]
- Scanlan, Eoin**, 'Computational design of cyclic peptide inhibitors of a bacterial membrane lipoprotein peptidase', *ACS Chemical Biology*, 19, 5 (2024), 1125-1130 [T.W. Craven, M.D. Nolan, J. Bailey, S. Olatunji, S.J. Bann]
- 'Radical mediated decarboxylation of amino acids via photochemical carbonyl sulfide (COS) elimination', *Molecules*, 29, 7 (2024), <http://dx.doi.org/10.3390/molecules29071465> [A. Benny, L. Di Simo, L. Guazzelli, E.M. Scanlan]
- 'A thiol-ene mediated approach for peptide bioconjugation using 'green' solvents under continuous flow', *Organic and Biomolecular Chemistry*, 22, 11 (2024), 2203-2210 [S. Fitzgerald, A. Mezzetta, L. Guazzelli, D.F. O'Shea, E.M. Scanlan]
- 'Fluorescent probes for disease diagnosis', *Chemical Reviews*, 124, 11 (2024), 7106-7164 [X. Wang, Q. Ding, R.R. Groleau, L. Wu, Y. Mao]
- 'Synthesis of macrocyclic thiolactone peptides via photochemical intramolecular radical acyl thiol-ene ligation', *Chemical Communications*, 60, 61 (2024), 7950-7953 [A. Benny, E.M. Scanlan]
- Schmitt, Wolfgang**, 'Alkali cation- π interactions in aqueous systems, modulating supramolecular stereoisomerism of nanoscopic metal-organic capsules', *Nature Communications*, 15 (2024), 10180 [P. Wix, S. Tandon, S. Vaesen, K. Karimu, J.S. Mathieson]
- 'Accelerating water oxidation - a mixed Co/Fe polyoxometalate with improved turnover characteristics', *Chemical Science*, 14, 47 (2023), 13722-13733 [M. Besora, J.M. Clemente-Juan, M. O'Doherty, N-Y. Zhu, C.L. Hill]
- 'Single walled carbon nanotube functionalisation in printed supercapacitor devices and shielding effect of tin(II) oxide', *Electrochimica Acta*, 448 (2023), <http://dx.doi.org/10.1016/j.electacta.2023.142168> [S. Ryan, M.P. Browne, A. Zhussupbekova, D. Spurling, L. McKeown]
- Senge, Mathias**, 'C-C coupling in sterically demanding porphyrin environments', *Beilstein Journal of Organic Chemistry*, 20 (2024), 2784-2798 [L. Cribbin, B. Twamley, N. Buga, J. O'Brien, R. Bühler]
- 'Trendbericht organische chemie 2024', *Nachrichten aus der Chemie*, 72 (2024), 44-67 [M. Breugst, J. Andexer, L. Barra, S.B. Beil, C. Winter]
- 'Trendbericht organische chemie 2023', *Nachrichten aus der Chemie*, 71 (2023), 40-66 [M. Breugst, J. Andexer, L. Barra, S.B. Beil, C. Winter]
- 'Fine-tuning of radiative properties by 'mild' substituents: searching for a perfectly soft chromophore', *Physical Chemistry Chemical Physics*, 26, 25 (2024), 17944-17950 [G. Orzanowska, C. Ryppa, M.O. Senge, J. Waluk]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

'Porphyrin atropisomerism as a molecular engineering tool in medicinal chemistry, molecular recognition, supramolecular assembly, and catalysis', *Chemistry - A European Journal*, 30, 43 (2024), <http://hdl.handle.net/2262/110700> [S. Maguire, G. Strachan, K. Norvaiša, C. Donohoe, L.C. Gomes-da-Silva]

'Understanding and controlling molecular compositions and properties in mixed-linker porphyrin metal-organic frameworks', *Inorganic Chemistry*, 63, 4 (2024), 2122-2130 [K. Hemmer, S.M. Kronawitter, N. Grover, B. Twamley, M. Cokoja]

'Molecular symmetry and art: visualizing the near-symmetry of molecules in Piet Mondrian's De Stijl', *Angewandte Chemie - International Edition*, 63, 25 (2024), <http://hdl.handle.net/2262/110742> [C.J. Kingsbury, M.O. Senge]

'Chirality induction to porphyrin derivatives co-confined at the air-water interface with silica nanohelices: towards enantioselective thin solid film surfaces', *Nanoscale*, 16, 35 (2024), 16593-16601 [M. Ottolini, Z. Anfar, N. Grover, G. Magna, M. Stefaneli]

'Quantifying near-symmetric molecular distortion using symmetry-coordinate structural decomposition', *Chemical Science*, 15, 34 (2024), 13638-13649 [C.J. Kingsbury, M.O. Senge]

'Synthesis, biological evaluation, and docking studies of pyrazole-linked benzothiazole hybrids as promising anti-TB agents', *Journal of Molecular Structure*, 1311, 138415 (2024), <http://hdl.handle.net/2262/110694> [R.A. Mohamed-Ezzat, M.A. Omar, A. Temirak, A.S. Abdelsamie, M.M. Abdel-Aziz]

Southern, John, 'Queuine analogues incorporating the 7-aminomethyl-7-deazaguanine core: structure-activity relationships in the treatment of experimental autoimmune encephalomyelitis', *ChemMedChem*, 18, 17 (2023), <http://dx.doi.org/10.1002/cmdc.202300207> [M. Cotter, S. Varghese, F. Chevot, C. Fergus, V.P. Kelly]

'A new class of 7-deazaguanine agents targeting autoimmune diseases: dramatic reduction of synovial fibroblast IL-6 production from human rheumatoid arthritis patients and improved performance against murine experimental autoimmune encephalomyelitis', *RSC Medicinal Chemistry*, 15, 5 (2024), 1556-1564 [M. Cotter, S.M. Quinn, U. Fearon, S. Ansboro, T. Rakovic]

School of Computer Science and Statistics

COMPUTER SCIENCE

Arnedillo-Sanchez, Inmaculada, 'Leaping forward without losing sight of the past: a collective reflection on the future of mobile learning', *Proceedings of the 22nd International mLearn Conference (mLearn2023)*, eds J. Freysen, H van der Merwe, Durban, South Africa (2023), 143-162 [M. Koole, E. Rusman, K. MacCallum, I. Arnedillo-Sánchez, D. Cristof]

'Motion-based technology to support motor skills screening in developing children: a scoping review', *Computer Methods and Programs in Biomedicine*, 240 (2023), 107715 [B. Bossavit, I. Arnedillo-Sánchez]

'The Arabic psychosocial impact of assistive devices scale: development, translation, and evaluation', *Assistive Technology* (2024), 1-8 [B. Boyle, I. Arnedillo-Sanchez, A. Zahid, Y. Pennisi]

'Importance assigned to breastfeeding by Spanish pregnant women and associated factors: a survey-based multivariate linear correlation study', *Nutrients*, 16, 13 (2024), 2116 [S. Arnedillo-Sánchez, J. Suffo-Abouza, M. Carmona-Rodríguez, R. Morilla-Romero-de-la-Osa, I. Arnedillo-Sánchez]

Bouroche, Melanie, 'Safe CAV lane changes using MARL and control barrier functions', *Agents in Traffic and Transportation (ATT 2024)*, eds A. Bazzan, I. Dusparic, M. Lujak, G. Vizzari, Santiago de Compostela, Spain (2024), <http://hdl.handle.net/2262/109906> [B. Hegde, M. Bourouche]

'Actor-centric spatio-temporal feature extraction for action recognition', *Communications in Computer and Information Science* (2024), 586-599 [K. Anil, M. Bourouche, B. Schoen-Phelan]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'Can listening to more neighbours help CAVs be faster and safer?', *2023 IEEE Intelligent Vehicles Symposium (IV)* (2023), 1-8 [M. Garg, M. Bourroche]
- 'Towards a framework for privacy-preserving pedestrian analysis', *2023 IEEE/CVF Winter Conference on Applications of Computer Vision (WACV)* (2023), 4359-4369 [A. Kunchala, M. Bourroche, B. Schoen-Phelan]
- Bresnihan, Nina**, 'Experiences trialling a novel block-to-text environment in a summer school context', *Proceedings of the 2024 on Innovation and technology in computer science education V. 1*, New York, NY, USA, association for computing machinery (2024), 150-156 [G. Strong, B. North, B. Gillespie, S. Fiori, D. Wallace, N. Bresnihan]
- 'Family learning in the context of computer science education', *Teaching and Learning with Technologies in the Primary School*, eds M. Leask, S. Younie, London, Routledge (2024), 299-317 [N. Bresnihan, R. Millwood, G. Strong, L. Caldwell]
- Butterfield, Andrew**, 'Towards an algebra for Unifying Theories of Concurrent Programming (UTCP)', *LNCS, the application of formal methods*, eds S. Foster, A. Sampaio, University of York, UK, Springer Nature (2024), 203-232 [A. Butterfield]
- 'Deploying promela/spin-based test generation on RTEMS: progress and prospects', *DASIA (Data Systems In Aerospace)*, Opatija, Croatia, ASD-Eurospace (2024), 3 [A. Butterfield, D. Griffin-Carroll]
- 'Deploying promela/spin-based test generation on RTEMS: A progress report', *DASIA (Data Systems in Eurospace)*, Sitges, Spain, ASD Eurospace (2023), 6 [A. Butterfield]
- Clarke, Siobhan**, 'Dynamic service placement in edge computing: a comparative evaluation of nature-inspired algorithms', *IEEE Access*, 13 (2024), 2653-2670 [A.H. Kazmi, A. Staffolani, T. Zhang, C. Cabrera, S. Clarke]
- 'Travel time prediction utilizing hybrid deep learning models', *Transportation Research Record*, 2678, 4 (2024), 56-65 [D. Bharathi, J.M. González Sopeña, S. Clarke, B. Ghosh]
- 'DBGAN: A Data Balancing Generative Adversarial Network for mobility pattern recognition', *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, 14148 LNCS (2023), 120-134 [K. Zhang, H. Liu, S. Clarke]
- 'Energy efficient route prediction for solar powered vehicles', *Green Energy and Intelligent Transportation*, 2, 1 (2023), <http://dx.doi.org/10.1016/j.geits.2022.100063> [J. Gallagher, S. Clarke]
- 'Revvig up VNDN: efficient caching and forwarding by expanding content popularity perspective and mobility', *Computer Communications*, 212 (2023), 342-352 [S. Dhara, A. Majidi, S. Clarke]
- 'Toward context-aware information dissemination in autonomous networks of vehicles', *IEEE Communications Standards Magazine*, 7, 2 (2023), 8-15 [S.R. Chaudhry, H.T. Malazi, S. Dhara, A.H. Kazmi, S. Clarke]
- 'Travel time prediction utilizing hybrid deep learning models', *Transportation Research Record: Journal of the Transportation Research Board* (2023), <http://hdl.handle.net/2262/103124> [D. Bharathi, J.M. González Sopeña, S. Clarke, B. Ghosh]
- Di Liberto, Giovanni**, 'IDyOMpy: a new Python-based model for the statistical analysis of musical expectations', *Journal of Neuroscience Methods*, 415 (2025), 110347 [G. Marion, F. Gao, B.P. Gold, G.M. Di Liberto, S. Shamma]
- 'Cortical encoding of phonetic onsets of both attended and ignored speech in hearing impaired individuals', *PLoS ONE*, 19, 11 (2024), e0308554 [S. Carta, E. Aličković, J. Zaar, A. López Valdés, G.M. Di Liberto]
- Dingliana, John**, 'Tangible authoring of embedded-object visualizations in mixed reality', *VINCI '24 - the 17th international symposium on visual information communication and interaction - art papers*, Hsinchu, Taiwan, ACM (2024), 1-5 [X. Li, J. Dingliana]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

'A tangible interface for creating virtual cutaways in mixed reality', *21st EuroXR international conference - EuroXR 2024*, Athens, Greece, Springer Nature (2024), 155-162 [X. Li, P. Jalan, J. Dingliana]

'Auto-summarization of human volumetric videos', *Video4IMX: international workshop on video for immersive experiences at the ACM interactive media experience conference (IMX 2024)*, Stockholm, Sweden, ACM (2024), 65-70 [N. Gadipudi, C. O'Fearghail, J. Dingliana]

'Twinenet: coupling features for synthesizing volume rendered images via convolutional encoder-decoders and multilayer perceptrons', *The Visual Computer* (2024), <http://dx.doi.org/10.1007/s00371-024-03368-5> [S. Luo, J. Xu, J. Dingliana, M. Wei, L. Han]

'Virtual rehabilitation for patients with osteoporosis or other musculoskeletal disorders: a systematic review', *Virtual Reality*, 28, 2 (2024), 93 [E. Thuillier, J. Carey, M. Dempsey, J. Dingliana, B. Whelan, A. Brennan]

Doherty, Gavin, 'The rocky road to sustainable security', *IEEE Security and Privacy*, 22, 5 (2024), 82-86 [L. Pasquale, K. Ramkumar, W. Cai, J. McCarthy, G. Doherty, B. Nuseibeh]

'Designing personalized mental health interventions for anxiety: CBT therapists' perspective', *International Journal of Human-Computer Studies*, 190 (2024), <https://doi.org/10.1016/j.ijhcs.2024.103319> [A. Balaskas, S.M. Schueller, K. Doherty, A.L. Cox, G. Doherty]

'Using speech agents for mood logging within blended mental healthcare: mental healthcare practitioners' perspectives', *ACM Conference on Conversational User Interfaces*, Luxembourg (2024), <https://doi.org/10.1145/3640794.3665540> [O. Cooney, K. Doherty, M. Barry, D. Coyle, G. Doherty, B. Cowan]

'Exploring the design of generative AI in supporting music-based reminiscence for older adults', *Proceedings of CHI conference on human factors in computing systems (CHI '24)*, ACM (2024), <https://doi.org/10.1145/3613904.3642800> [Y. Jin, W. Cai, L. Chen, Y. Zhang, G. Doherty]

'Smartphone-based serious games for mental health: a scoping review', *Multimedia Tools and Applications* (2024), <https://doi.org/10.1007/s11042-024-18971-w> [A. Gomez-Cambronero, A-L. Mann, A. Mira, G. Doherty, S. Casteleyn]

Doyle, Jordan, 'PADRAIG: Precise Android Automated Input Generation', *International conference on software Quality, Reliability and Security (QRS)*, Cambridge, UK, IEEE (2024), <http://hdl.handle.net/2262/110814> [J. Doyle, T. Laurent, A. Ventresque]

'Modelling Android applications through static analysis and systematic exploratory testing', *International conference on Dependable Systems and Their Applications (DSA)*, Tokyo, Japan, IEEE (2023), <http://hdl.handle.net/2262/110811> [J. Doyle, T. Laurent, A. Ventresque]

Dzaferagic, Merim, 'Performance measurement dataset for open RAN with user mobility and security threats', *Computer Networks*, 253 (2024), 110710 [B. Missi Xavier, M. Dzaferagic, M. Martinello, M. Ruffini]

'ML-based handover prediction over a real O-RAN deployment using RAN intelligent controller', *IEEE Transactions on Network and Service Management* (2024), 1 [M. Dzaferagic, B. Missi Xavier, D. Collins, V. D'Onofrio, M. Martinello, M. Ruffini]

'Analysis of temporal robustness in massive machine type communications', *IEEE Internet of Things Journal*, 10, 8 (2023), 6915-6927 [D. Goswami, M. Dzaferagic, H. Siljak, S.S. Das, N. Marchetti]

'Cross-domain AI for early attack detection and defense against malicious flows in O-RAN', *IEEE International Conference on Communications (ICC)* (2024), 1-6 [B. Missi Xavier, M. Dzaferagic, I. Vilà, M. Martinello, M. Ruffini]

'Demonstration of cooperative transport interface using open-source 5G OpenRAN and virtualised PON network', *Optical Fibre Communications (OFC)* (2024), 1-3 [F. Slyne, K. O'Sullivan, M. Dzaferagic, B. Richardson, M. Wrzeszcz]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'Machine learning-based early attack detection using open RAN intelligent controller', *IEEE International Conference on Communications (ICC)* (2023), 1-6 [B. M. Xavier, M. Dzaferagic, D. Collins, G. Comarella, M. Martinello, M. Ruffini]
- Graham, Yvette, 'Memento: a prototype search engine for LSC 2021', *Multimedia Tools and Applications*, 82 (2023), <https://doi.org/10.1007/s11042-023-15067-9> [N. Alam, Y. Graham]
- 'ALoRA: Allocating Low-Rank adaptation for fine-tuning large language models', *Proceedings of the 2024 conference of the north American chapter of the association for computational linguistics: human language technologies (Volume 1: Long Papers)*, Mexico City, Mexico, association for computational linguistics (2024), 622-641 [Z. Liu, J. Lyn, W. Zhu, X. Tian, Y. Graham]
- 'Memento 4.0: A prototype conversational search system for LSC'24', *LSC '24: proceedings of the 7th annual acm workshop on the lifelog search challenge*, Portsmouth, UK, ACM (2024), <https://doi.org/10.1145/3643489.3661126> [N. Alam, Y. Graham, C. Gurrin]
- Haahr, Mads, 'Storytelling with augmented reality music art experience', United Arts Club (2024), [S. Rudenko, M. Haahr]
- 'The role of voice in virtual reality interactive narratives', *Journal of Interactive Narrative (JIN)*, 1, 1 (2024), 1-19 [J. Barbara, M. Haahr]
- 'The effect of educational video game perceptual realism on learning outcomes and motivation', *Proceedings of IEEE Gaming, Entertainment and Media (GEM) Conference*, eds F. Lamberti, B. Kapralos, F. Gabriele Prattico, Turin, Italy, IEEE (2024), <http://hdl.handle.net/2262/109187> [A. Rojas-Salazar, M. Haahr]
- 'Whose narrative is this? A character's expression of identity to counter a hegemonic narrative', *GAME: The Italian Journal of Game Studies, Issue 11, Ass.ne Culturale Ludica*, 11, 1 (2023), 53-66 [J. Barbara, M. Haahr]
- Hederman, Lucy, 'Learning to rank for query auto-complete with language modelling in enterprise search', *KDIR 2024 - 16th international conference on Knowledge Discovery, Knowledge Engineering and Information Retrieval* (2024), <https://doi.org/10.5220/0012888100003838> [C. Daly, L. Hederman]
- 'Data and process harmonisation of multinational, multi-site research data', *Studies in Health Technology and Informatics*, 316 (2024), 1411-1412 [J. Turner, S. Impey, F. Gibbons, D. Murray, O. Hardiman]
- 'COVID_ICU_BERT: a fine-tuned language model for covid-19 intensive care unit clinical notes', *International Journal of Cognitive and Language Sciences*, 17, 8 (2023), 445-452 [S. Nagoor, L. Hederman, K. Koidl, A. Caputo]
- 'Investigating facilitators and barriers to data quality in a digital health systems pipeline: the VODAN case study', *Tropical Medicine and International Health*, 28 (2023), 58 [A. Abubakar Kawu, P. Hadi Purnama Jati, G. Tadale Taye, L. Schrijver, M. van Reisen]
- 'Enterprise search: learning to rank with click-through data as a surrogate for human relevance judgements', *15th international joint conference on Knowledge Discovery, Knowledge Engineering and Knowledge Management - KDIR*, Rome, Italy (2023), <https://doi.org/10.5220/0012170200003598> [C. Daly, L. Hederman]
- 'Exploring the design of low-end technology to increase patient connectivity to electronic health records', *17th international joint conference on biomedical engineering systems and technologies - HEALTHINF*, Rome, Italy (2024), <https://doi.org/10.5220/0012460900003657> [R. Kievit, A. Kawu, M. van Reisen, D. O'Sullivan, L. Hederman]
- 'Chatting for change: insights into and directions for using online peer support groups to interrupt prolonged workplace sitting', *17th international joint conference on biomedical engineering systems and technologies - HEALTHINF*, Rome, Italy (2024), <https://doi.org/10.5220/0012423400003657> [E. Uetova, L. Hederman, D. O'Sullivan, R. Ross, M. Oppezzo]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

'Dataset, usability and process - developing an interdisciplinary, multi-modal data collection tool and platform for a rare disease', *Proceedings of the 8th international conference on informatics and assistive technologies for health-care, medical support and wellbeing, HEALTHINFO 2023*, Valencia, Spain (2023), 26-29 [S. Impey, J. Turner, F. Gibbons, A. Bolger, O. Hardiman]

Howard, Emma, '15th international conference on Learning Analytics and Knowledge (LAK25)', *Demo of ouladFormat: an R package for loading and formatting the open university Learning Analytics Dataset*, 3-7 March, Dublin, eds A. Martínez Monés, C. Mills, J. Jovanovic, X. Ochoa, ACM, 2025, 290

'The enhancement of statistical literacy: a cross-institutional study using data analysis and text mining to identify statistical issues in the transition to university education', *Information*, 15, 9 (2024), <http://dx.doi.org/10.3390/info15090567> [A. de la Hoz-Ruiz, E. Howard, R. Hijón-Neira]

'A scoping literature review of the impact and evaluation of mathematics and statistics support in higher education', *Educational Studies in Mathematics* (2024), <https://doi.org/10.1007/s10649-024-10332-6> [C. Mullen, E. Howard, A. Cronin]

'A scoping systematic review of mathematics and statistics support evaluation literature: lessons learnt', *Proceedings of the ninth conference on research in Mathematics Education in Ireland (MEI9)*, Dublin, Ireland (2023), <https://doi.org/10.5281/zenodo.10062919> [E. Howard, C. Mullen, A. Cronin]

Kelleher, John, 'Agent based modelling of blood borne viruses: a scoping review', *BMC Infectious Diseases*, 24, 1 (2024), <http://dx.doi.org/10.1186/s12879-024-10271-w> [S. Ale, E. Hunter, J.D. Kelleher]

'A roadmap for improving data quality through standards for collaborative intelligence in human-robot applications', *Frontiers in Robotics and AI*, 11 (2024), <http://dx.doi.org/10.3389/frobt.2024.1434351> [S. Mehak, E. Damiani, M.C. Leva]

'Correction to: Agent based modelling of blood borne viruses: a scoping review (BMC Infectious Diseases, (2024), 24, 1, (1411), 10.1186/s12879-024-10271-w)', *BMC Infectious Diseases*, 25, 1 (2025), <http://dx.doi.org/10.1186/s12879-024-10430-z> [S. Ale, E. Hunter, J.D. Kelleher]

'BIS: NL2SQL service evaluation benchmark for business intelligence scenarios', *Lecture notes in computer science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, 15405 LNCS(2025), 357-372 [B. Caglayan, M. Wang, J.D. Kelleher, S. Fei, G. Tong]

'A framework for measuring the training efficiency of a neural architecture', *Artificial Intelligence Review*, 57, 349 (2024), 1-33 [E. Cueto-Mendoza, J.D. Kelleher]

'Multi-task learning for predicting quality-of-life and independence in activities of daily living after stroke: a proof-of-concept study', *Frontiers in Neurology*, 15 (2024), <http://hdl.handle.net/2262/109889> [T.N.Q. Nguyen, A. Garcia-Rudolph, J. Sauri, J.D. Kelleher]

'Assessing the relative importance of vitamin D deficiency in cardiovascular health', *Frontiers in Cardiovascular Medicine*, 11 (2024), <http://hdl.handle.net/2262/109888> [M. Rubab, J.D. Kelleher]

'Estimating population burden of stroke with an agent-based model', *Springer Proceedings in Complexity* (2024), 9-20 [E. Hunter, J.D. Kelleher]

'Analyzing operator states and the impact of AI-enhanced decision support in control rooms: a human-in-the-loop specialized reinforcement learning framework for intervention strategies', *International Journal of Human-Computer Interaction* (2024), <http://dx.doi.org/10.1080/10447318.2024.2391605> [A.N. Abbas, C.W. Amazu, J. Mietkiewicz, H. Briwa, A.A. Perez]

'Transparently predicting therapy compliance of young adults following ischemic stroke', *Communications in Computer and Information Science*, 2156 CCIS (2024), 24-41 [H.B. Martinez, K. Cisek, A. Garcia-Rudolph, J.D. Kelleher, A. Hines]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'TWIG: towards pre-hoc hyperparameter optimisation and cross-graph generalisation via simulated KGE models', *2024 IEEE 18th International Conference on Semantic Computing (ICSC)*, (2024), 122-129 [J. Sardina, J.D. Kelleher, D. O'Sullivan]
- 'Action recognition for human-robot teaming: exploring mutual performance monitoring possibilities', *Machines*, 12, 1 (2024), <http://dx.doi.org/10.3390/machines12010045> [S. Mehak, J.D. Kelleher, M. Guilfoyle, M.C. Leva]
- 'Predictors of social risk for post-ischemic stroke reintegration', *Scientific Reports*, 14, 1 (2024), <http://dx.doi.org/10.1038/s41598-024-60507-7> [K.K. Cisek, T.N.Q. Nguyen, A. Garcia-Rudolph, J. Sauri, H. Becerra Martinez]
- 'Computable phenotype for real-world, data-driven retrospective identification of relapse in ANCA-associated vasculitis', *RMD Open*, 10, 2 (2024), 1-11 [J. Scott, A. White, C. Walsh, L. Aslett, M.A. Rutherford]
- 'Local or global: the variation in the encoding of style across sentiment and formality', *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, 14263 LNCS (2023), 492-504 [S. Jafaritazehjani, G. Lecorve, D. Lolive, J.D. Kelleher]
- 'Hierarchical framework for interpretable and specialized deep reinforcement learning-based predictive maintenance', *Data and Knowledge Engineering*, 149, 102240 (2024), <http://dx.doi.org/10.1016/j.datak.2023.102240> [A.N. Abbas, G.C. Chasparis, J.D. Kelleher]
- 'Analysis of attention mechanisms in box-embedding systems', *Communications in Computer and Information Science*, 1662 CCIS (2023), 68-80 [J. Sardina, C. Sardina, J.D. Kelleher, D. O'Sullivan]
- 'Long-term trajectories of community integration: identification, characterization, and prediction using inpatient rehabilitation variables', *Topics in Stroke Rehabilitation*, 30, 7 (2023), 714-726 [A. Garcia-Rudolph, J. Sauri, K. Cisek, J.D. Kelleher, V.I. Mada]
- 'Current topics in technology-enabled stroke rehabilitation and reintegration: a scoping review and content analysis', *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, 31 (2023), 3341-3352 [K. Cisek, J.D. Kelleher]
- 'Determining the proportionality of ischemic stroke risk factors to age', *Journal of Cardiovascular Development and Disease*, 10, 2 (2023), <http://dx.doi.org/10.3390/jcdd10020042> [E. Hunter, J.D. Kelleher]
- 'Know an emotion by the company it keeps: word embeddings from reddit/coronavirus', *Applied Sciences (Switzerland)*, 13, 11 (2023), <http://dx.doi.org/10.3390/app13116713> [A. Garcia-Rudolph, D. Sanchez-Pinsach, D. Frey, E. Opisso, K. Cisek]
- 'Assessing the impact of contact tracing with an agent-based model for simulating the spread of covid-19: the Irish experience', *Healthcare Analytics*, 4, 100229 (2023), <http://dx.doi.org/10.1016/j.health.2023.100229> [E. Hunter, S. Saha, J. Kumawat, C. Carroll, J.D. Kelleher]
- Koutavas, Vasileios**, 'An operational semantics for yul', *Lecture notes in computer science, Software Engineering and Formal Methods. SEFM 2024*, eds A. Madeira, A. Knapp, Aveiro, Portugal, Springer Nature Switzerland (2024), 328-346 [V. Koutavas, Y.-Y. Lin, N. Tzevelekos]
- 'Pushdown normal-form bisimulation: a nominal context-free approach to program equivalence', *LICS '24: Proceedings of the 39th annual ACM/IEEE symposium on logic in computer science*, Tallinn, Estonia, association for computing machinery (2024), 1-15 [V. Koutavas, Y.Y. Lin, N. Tzevelekos]
- Koutsombogera, Maria**, 'Motion energy alignment analysis in dialogue', *15th IEEE international conference on cognitive infocommunications - CogInfoCom 2024*, eds A. Ito, P. Baranyi, Tokyo, Japan (2024), 91-96 [Z. Khosrobeigi, M. Koutsombogera, C. Vogel]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

'Evidence for categories of laughter', *Laughter and other non-verbal vocalisations workshop 2024*, eds B. Ludusan, M. Cantarutti, Belfast, NI, ISCA (2024), 15-17 [K. Hegarty, M. Koutsombogera, A. Esposito, C. Vogel]

Laurent, Thomas, 'PADRAIG: Precise Android Automated Input Generation', *International conference on software Quality, Reliability and Security (QRS)*, Cambridge, UK, IEEE (2024), <http://hdl.handle.net/2262/110814> [J. Doyle, T. Laurent, A. Ventresque]

'Modelling Android applications through static analysis and systematic exploratory testing', *International conference on Dependable Systems and their Applications (DSA)*, Tokyo, Japan, IEEE (2023), <http://hdl.handle.net/2262/110811> [J. Doyle, T. Laurent, A. Ventresque]

Leith, Douglas, 'Improving privacy benefits of redaction', *ESANN* (2025), 1-8 [V. Gusain, D. Leith]
'Re-evaluating the privacy benefit of federated learning', *ECML-PKDD* (2023), 1-8 [M. Suliman, D. Leith, A. Halimi]

'Towards quantifying the privacy of redacted text', *ECIR* (2023), 1-8 [V. Gusain, D.J. Leith]

'A good state estimator can yield a simple recommender: a reinforcement learning perspective', *CIKM* (2024), 1-8 [D. Rajapakse, D. Leith]

'Plausible deniability of redacted text', *ESORICS* (2024), 1-8 [V. Gusain, D. Leith]

'Two models are better than one: federated learning is not private for Google GBoard next word prediction', *ESORICS* (2024), 105-122 [M. Suliman, D. Leith]

'Data forging is harder than you think', *ICLR workshop on privacy regulation and protection in machine learning* (2024), 1-8 [M. Suliman, S. Kadhe, A. Halimi, D. Leith, N. Baracaldo]

'Evaluating impact of user-cluster targeted attacks in matrix factorisation recommenders', *ACM Transactions on Recommender Systems*, 3, 2 (2025), 1-34 [S. Shams, D. Leith]

'Android OS privacy under the loupe - a tale from the east', *WiSec*, ACM (2023), 1-8 [H. Liu, D.J. Leith, P. Patras]

Lewis, David, 'AI cards: towards an applied framework for machine-readable AI and risk documentation inspired by the EU AI act', *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, 14831 LNCS (2024), 48-72 [D. Golpayegani, I. Hupont, C. Panigutti, H.J. Pandit, S. Schade]

"Who should i trust with my data?" Ethical and legal challenges for innovation in new decentralized data management technologies', *Information (Switzerland)*, 14, 7 (2023), <http://dx.doi.org/10.3390/info14070351> [H. Asgarinia, A. Chomczyk Penedo, B. Esteves, D. Lewis]

Lin Hou, Yu, 'An operational semantics for yul', *Lecture notes in computer science, software engineering and formal methods. SEFM 2024*, eds A. Madeira, A. Knapp, Aveiro, Portugal, Springer Nature Switzerland (2024), 328-346 [V. Koutavas, Y.-Y. Lin, N. Tzevelekos]

'Pushdown normal-form bisimulation: a nominal context-free approach to program equivalence', *LICS '24: proceedings of the 39th annual ACM/IEEE symposium on logic in computer science*, Tallinn, Estonia, association for computing machinery (2024), 1-15 [V. Koutavas, Y.Y. Lin, N. Tzevelekos]

Malik, Saif, 'A UML-based approach towards test case generation and optimization', *KSII Transactions on Internet and Information Systems*, 18, 3 (2024), 633-652 [S. Saleem, S.U.R. Malik, B. Mehboob, R. Alrooba, S. Algarni]

'DeepDetect: an innovative hybrid deep learning framework for anomaly detection in IoT networks', *Journal of Computational Science*, 83 (2024), [Z. Zulfiqar, S.U.R. Malik, S.A. Moqurrab, Z. Zulfiqar, U. Yaseen, G. Srivastava]

'A novel multi-modal federated learning based thermal-aware job scheduling framework', *Computer Networks*, 255 (2024), [R. Rehman, S.U.R. Malik, S.H. Qureshi, S.A. Mouqarrab]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'IoV-TwinChain: predictive maintenance of vehicles in internet of vehicles through digital twin and blockchain', *Internet of Things (The Netherlands)*, 30 (2025), [M. Iqbal, S. Suhail, F.A. Shah, S.U.R. Malik, K. McLaughlin]
- 'Blockchain based general data protection regulation compliant data breach detection system', *PeerJ Computer Science*, 10 (2024), [K. Ansar, M. Ahmed, S.U.R. Malik, M. Helfert, J. Kim]
- 'TRIPLE: a blockchain-based digital twin framework for cyber-physical systems security', *Journal of Industrial Information Integration*, 42 (2024), [S. Suhail, M. Iqbal, R. Hussain, S.U.R. Malik, R. Jurdak]
- 'LightAuth: a lightweight sensor nodes authentication framework for smart health system', *Expert Systems*, 42, 2 (2025), [Z.U.I. Adil, M.I. Khan, K. Sanam, S.U.R. Malik, S.A. Moqurrah]
- 'A model-based approach to enhance the communication between the participants of collaborative business processes', *IEEE Access*, 12 (2024), 121780-121791 [A. Murtaza, A. Rehman, S.U.R. Malik, G. Ahmed, A. Abbas, M.A. Khan]
- 'SecurePrivChain: A decentralized framework for securing the global model using cryptography', *Future Generation Computer Systems*, 142 (2023), 364-375 [K. Sanam, S.U.R. Malik, T. Kanwal, Z.U.I. Adil]
- 'Malware detection in android IoT systems using deep learning', *Computers, Materials and Continua*, 74, 2 (2023), 4399-4415 [M. Waqar, S. Fareed, A. Kim, S.U.R. Malik, M. Imran, M.U. Yaseen]
- 'A detailed survey on federated learning attacks and defenses', *Electronics (Switzerland)*, 12, 2 (2023), <http://dx.doi.org/10.3390/electronics12020260> [H.S. Sikandar, H. Waheed, S. Tahir, S.U.R. Malik, W. Rafique]
- 'Preserving privacy in the Internet of Vehicles (IoV): a novel group leader-based shadowing scheme using blockchain', *IEEE Internet of Things Journal* (2023), <http://dx.doi.org/10.1109/JIOT.2023.3294133> [N.U. Saqib, S.U.R. Malik, A. Anjum, M.H. Syed, S.A. Moqurrah]
- Manzke, Michael**, 'Work-in-progress-design of immersive virtual reality environment for learning 3D transformations', *10th international conference of the Immersive Learning Research Network (ILRN) proceedings - selected academic contributions* (2024), 96-102 [M. Alobaid, M. Manzke]
- McCarthy, Daniel**, 'The Alexandrian Paschal table brought to Ireland by Saint Patrick, c. AD 458', *Peritia*, 35 (2024), 75-122 [D. Mc Carthy]
- 'The Zeitz Paschal table of AD 447', *Pre-Carolingian latin computus and its regional contexts*, eds I. Warntjes, T. Loevenich, D. Ó Cróinín, Brepols, Turnhout, Belgium, Brepols (2023), 17-85 [D. Mc Carthy]
- McDonnell, Rachel**, 'Dog code: human to quadruped embodiment using shared codebooks', *Proceedings of the 17th ACM SIGGRAPH conference on motion, interaction, and games*, USA (2024), <http://hdl.handle.net/2262/111443> [D. Egan, A. Jovane, J. Szkaradek, G. Fletcher, D. Cosker]
- 'Priming and personality effects on the sense of embodiment for human and non-human avatars in virtual reality', *International conference on artificial reality and telexistence eurographics symposium on virtual environments*, Japan (2024), <http://hdl.handle.net/2262/111444> [D. Higgins, R. McDonnell, J.M. Normand, R. Fribourg]
- 'Model-based inexact graph matching on top of DNNs for semantic scene understanding', *Computer Vision and Image Understanding*, 235, 103744 (2023), <http://dx.doi.org/10.1016/j.cviu.2023.103744> [J. Chopin, J-B. Fasquel, R. Dahyot, I. Bloch]
- 'A real-time digital twin for active safety in an aircraft hangar', *Frontiers in Virtual Reality*, 5, 1372923 (2024), <http://dx.doi.org/10.3389/frvir.2024.1372923> [L. Casey, J. Dooley, M. Codd, R. Dahyot, M. Cognetti]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'Speech driven video editing via an audio-conditioned diffusion model', *Image and Vision Computing*, 142, 104911 (2024), <http://dx.doi.org/10.1016/j.imavis.2024.104911> [D. Bigioi, S. Basak, M. Stypułkowski, M. Zieba, H. Jordan]
- Millwood, Richard, 'Family learning in the context of computer science education', *Teaching and learning with technologies in the primary school*, eds M. Leask, S. Younie, London, Routledge (2024), 299-317 [N. Bresnihan, R. Millwood, G. Strong, L. Caldwell]
- North, Ben, 'Experiences trialling a novel block-to-text environment in a summer school context', *Proceedings of the 2024 on Innovation and Technology in Computer Science Education V. 1*, New York, NY, USA, Association for Computing Machinery (2024), 150-156 [G. Strong, B. North, B. Gillespie, S. Fiori, D. Wallace]
- O'Sullivan, Declan, 'Phased evaluation of ontologies with domain and ontology experts', *15th Workshop on Ontology design and Patterns (WOP 2024)*, *International Semantic Web Conference (ISWC)*, Baltimore, USA, CEUR (2024), 1-12 [A. Randles, D. O'Sullivan]
- 'A survey on graph structure and knowledge graph embeddings', *IEEE 19th international conference on semantic computing*, Laguna Hills, California, USA, IEEE Computer Society Press (2025), 1-10 [J. Sardina, J.D. Kelleher, D. O'Sullivan]
- 'Ontology-based integration and querying of heterogeneous rare disease data sources - POLVAS perspective', *Computers in Biology and Medicine*, 185 (2025), 1-14 [W. Palacz, S. Licholai, Jacek Musiał, K. Wawrzycka-Adamczyk, G. Ślusarczyk]
- 'Leveraging knowledge graphs for enhancing climate-resilient agricultural analysis', *IEEE 9th International Conference on Computational Intelligence and Applications (ICCI)*, Haikou, China, IEEE (2024), 241-245 [J. Wu, F. Orlandi, D. O'Sullivan, S. Dev]
- 'Evaluating InterDev: A FAIR platform for international development data', *VOILA Workshop, International Semantic Web Conference ISWC*, Baltimore, USA, CEUR (2024), 1-12 [M. Murtagh-White, P.J. Wall, D. O'Sullivan]
- 'Evaluating the knowledge graph editor of the virtual record treasury of Ireland', *VOILA workshop - International Semantic Web Conference ISWC*, Baltimore, USA, CEUR (2024), 14 [A. Randles, L. McKenna, L. Kilgallon, B. Yaman, P. Crooks]
- 'The knowledge graph explorer for the virtual record treasury of Ireland', *VOILA workshop - International Semantic Web Conference ISWC*, Baltimore, USA, CEUR (2024), 1-15 [A. Randles, L. McKenna, L. Kilgallon, B. Yaman, P. Crooks]
- 'Enabling data linkages for rare diseases in a resilient environment with the SERDIF framework', *NPJ Digital Medicine, Spring Nature*, 7 (2024), 1-9 [A. Navarro-Gallinad, J. Scott, E. Havyarimana, N. Basu, M. Little]
- 'Mining impactful discoveries from the biomedical literature', *BMC Bioinformatics*, 25 (2024), 1-20 [E. Moreau, O. Hardiman, M. Heverin, D. O'Sullivan]
- 'Facilitating search of the virtual record treasury of Ireland knowledge graph using ChatGPT', *Demo paper: SEMANTICS - 20th international conference on semantic systems*, Amsterdam, The Netherlands (2024), 1-5 [A. Randles, L. McKenna, L. Kilgallon, B. Yaman, P. Crooks]
- 'TWIG-I: embedding-free link prediction and cross-KG transfer learning using a small neural architecture', *Studies on the semantic web, volume 60: knowledge graphs in the age of language models and neuro-symbolic AI, SEMANTICS - 20th international conference on semantic systems*, Amsterdam, The Netherlands, IOS Press (2024), 106-122 [J. Sardina, A. Debnath, J.D. Kelleher, D. O'Sullivan]
- 'AI cards: an applied framework for machine-readable documentation of AI systems and their risks aligned with the EU AI act', *Annual Privacy Forum 2024*, Sweden, LNCS, Springer (2024), 48-72 [D. Golpayegani, I. Hupont, C. Panigutti, H.J. Pandit, S. Schade]
- 'Data driven subclassification of ANCA associated vasculitis: model-based clustering of the FAIRVASC cohort', *The Lancet Rheumatology* (2024), 1-19 [K. Gisslander, A. White, L. Aslett, Z. Hrušková, P. Lamprecht]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'R2[RML]-ChatGPT framework', *Fifth International workshop On Knowledge Graph Construction (KGC), European Semantic Web Conference*, Herssonissos, Greece, CEUR (2024), 1-15 [A. Randles, D. O'Sullivan]
- 'Digital prosopography information in virtual record treasury of Ireland knowledge graph', *First international workshop of Semantic Digital Humanities, SemDH 2024*, Herssonissos, Greece (2024), 1-14 [B. Yaman, L. McKenna, A. Randles, L. Kilgallon, P. Crooks]
- 'PRICER: leveraging few-shot learning with fine-tuned large language models for unstructured economic data', *Second international workshop on semantic technologies and deep learning models for scientific, technical and legal data (SemTech4STLD), European Semantic Web Conference (ESWC)*, Herssonissos, Greece, CEUR (2024), 26-36 [M. Murtagh, P.J. Wall, D. O'Sullivan]
- 'LinkedGeoClimate: an interoperable platform for climate data access within geographical context', *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, 17(2024), 10352-10366 [J. Wu, F. Orlandi, D. O'Sullivan, S. Dev]
- 'Analysis of attention mechanisms in box-embedding systems', *Communications in Computer and Information Science*, 1662 CCIS (2023), 68-80 [J. Sardina, C. Sardina, J.D. Kelleher, D. O'Sullivan]
- Pham, Viet**, 'Resolution-preserving multi-scale network for 5G-LTE spectrogram-based spectrum sensing', *IEEE Wireless Communications Letters* (2025), <https://doi.org/10.1109/LWC.2025.3552193> [H-T. Nguyen, H-T. Phuoc Dang, Q-V. Pham, T. Huynh-The]
- 'Quantum annealing-based sum rate maximization for multi-uav-aided wireless networks', *IEEE Internet of Things Journal* (2025), <https://doi.org/10.1109/JIOT.2025.3546645> [S-G. Jeong, P. Dang Anh Duc, Q. Vinh Do, D-I. Noh, N. Xuan Tung]
- 'Outage, capacity, and error performance of downlink rsma-based systems: analysis and resource optimization', *IEEE Transactions on Communications* (2025), <https://doi.org/10.1109/TCOMM.2025.3538831> [Ti-H. Vu, D. Benevides Da Costa, S. Kim, Q-V. Pham]
- 'Privacy-preserving cyberattack detection in blockchain-based IoT systems using AI and homomorphic encryption', *IEEE Internet of Things Journal* (2025), <https://doi.org/10.1109/JIOT.2025.3535792> [B. Duc Manh, C-H. Nguyen, D. Thai Hoang, D.N. Nguyen, M. Zeng, Q-V Pham]
- 'Revisiting LARS for large batch training generalization of neural networks', *IEEE Transactions on Artificial Intelligence* (2024), <https://doi.org/10.1109/TAI.2024.3523252> [K. Do, M-D Nguyen, Nguyen Tien Hoa, L. Tran-Thanh, N.H. Tran, Q-V. Pham]
- 'The metaverse for industry 5.0 in NextG communications: potential applications and future challenges', *IEEE Open Journal of the Computer Society* (2024), <https://doi.org/10.1109/OJCS.2024.3497335> [P. Boopathy, N. Deepa, P.K.R. Maddikunta, N. Victor, T.R. Gadekallu]
- 'SRNet: Deep semantic segmentation network for spectrum sensing in wireless communications', *IEEE Wireless Communications Letters*, 14, 2 (2025), 355-359 [T. Huynh-The, G-V. Nguyen, T-H. Vu, D. Benevides da Costa, Q-V. Pham]
- 'Latency minimization for STAR-RIS aided federated learning networks with wireless power transfer', *IEEE Internet of Things Journal*, 12, 7 (2025), 8508-8522 [M. Hossein Alishahi, P. Fortier, M. Zeng, T. Huynh-The, X. Li, Q-V. Pham]
- 'DDPG-E2E: a novel policy gradient approach for end-to-end communication systems', *IEEE Transactions on Cognitive Communications and Networking* (2024), <https://doi.org/10.1109/TCCN.2024.3485648> [B. Zhang, N.V. Huynh, D.T. Hoang, D.N. Nguyen, Q.V. Pham]
- 'Applications of Generative AI (GAI) for mobile and wireless networking: a survey', *IEEE Internet of Things Journal* (2024), <https://doi.org/10.1109/JIOT.2024.3487627> [T.H. Vu, S.K. Jagatheesaperumal, M.D. Nguyen, N.V. Huynh, S. Kim]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'Enhancing RIS-aided two-way full-duplex communication with non-orthogonal multiple access', *IEEE Transactions on Vehicular Technology*, 11, 1 (2024), 19963-19977 [T.-H. Vu, Q.-V. Pham, T.-T. Nguyen, D. Benevides da Costa, S. Kim]
- 'Empowering federated learning with DDPG for energy efficiency in communication networks', *IEEE International Conference on Communications and Electronics (ICCE)*, Danang, Vietnam, IEEE (2024), 607-612 [M. Ngoc Luu, M.-D. Nguyen, V. Duc Nguyen, Q.-V. Pham]
- 'Total computational bits maximization for STAR-RIS aided wireless power transfer mobile edge computing networks: TDMA or NOMA?', *IEEE Transactions on Vehicular Technology* (2024), <https://doi.org/10.1109/TVT.2024.3481462> [M. Hossein Alishahi, P. Fortier, M. Zeng, Q.-V. Pham, T. Huynh-The]
- 'Learning-based QoE optimization for green edge computing networks with aerial servers', *IEEE Transactions on Green Communications and Networking* (2024), <https://doi.org/10.1109/TGCN.2024.3480274> [Q. Vinh Do, Q.-V. Pham, Z. Yang, W.-J. Hwang]
- 'Distortion resilience for goal-oriented semantic communication', *IEEE Transactions on Mobile Computing* (2024), <https://doi.org/10.1109/TMC.2024.3456856> [M.-D. Nguyen, Q. Vinh Do, Z. Yang, W.-J. Hwang, Q.-V. Pham]
- 'Federated learning for industrial internet of things', *IEEE Internet of Things Magazine*, 7, 5 (2024), 12-13 [D.C. Nguyen, Q.-V. Pham, S. Hosseinalipour, Z. Xiong, TM. Hoang Trong]
- 'A survey on intelligent internet of things: applications, security, privacy, and future directions', *IEEE Communications Surveys and Tutorials* (2024), 1-1 [O. Aouedi, T.-H. Vu, A. Sacco, D.C. Nguyen, K. Piamrat]
- 'Applications of distributed machine learning for the internet-of-things: a comprehensive survey', *IEEE Communications Surveys and Tutorials* (2024), 1-1 [Mai Le, Thien Huynh-The, Tan Do-Duy, Thai-Hoc Vu, Won-Joo Hwang, Quoc-Viet Pham]
- 'Improved waveform classification for integrated radar-communication 6G systems via convolutional neural networks', *IEEE Transactions on Vehicular Technology*, 73, 9 (2024), 13921-13925 [T. Huynh-The, N. Cong Luong, H. Phan, D. Benevides da Costa, Q.-V. Pham]
- 'A joint communication and computation design for semantic wireless communication with probability graph', *Journal of the Franklin Institute* (2024), 107055 [Z. Zhao, Z. Yang, X. Gan, Q.-V. Pham, C. Huang]
- 'Resource allocation in THz-NOMA-Enabled HAP systems: a deep reinforcement learning approach', *IEEE Transactions on Consumer Electronics* (2024), <https://doi.org/10.1109/TCE.2024.3420718> [M. Le, Q. Vinh Do, Z. Han, W.-J. Hwang, Q.-V. Pham]
- 'THz-based rate-splitting multiple-access (RSMA): is it always better than NOMA?', *IEEE Transactions on Vehicular Technology*, 73, 3 (2024), 4435-4440 [T.-H. Vu, Q.-V. Pham, S. Kim]
- Ruffini, Marco, 'Routing and spectrum allocation in broadband quantum entanglement distribution', *IEEE Journal on Selected Areas in Communications (JSAC)* (2025), 1-16 [R. Bali, A.N. Tittelbaugh, S.L. Jenkins, A. Agrawal, J. Horgan]
- 'ML-based handover prediction over a real O-RAN deployment using RAN intelligent controller', *IEEE Transactions on Network and Service Management* (2025), 635-647 [M. Dzaferagic, B.M. Xavier, D. Collins, V. D'Onofrio, M. Martinello]
- 'PoT-PolKA: let the edge control the proof-of-transit in path-aware networks', *IEEE Transactions on Network and Service Management* (2024), 3681-3691 [E.S. Borges, V.B. Bonella, A.J. dos Santos, G.T. Meneguetti, C.K. Dominicini]
- 'Control protocol for entangled pair verification in quantum optical networks', *IEEE International Conference on Communications (ICC)* (2024), 1-6 [V. Vasan, A. Agrawal, A. Nico-Katz, J. Horgan, B.A. Bash]
- 'Real-time streaming telemetry based detection and mitigation of OOK and power interference in multi-user OSaaS networks', *Optical Fibre Communications (OFC)* (2025), 1-3 [A. Raj, D. Dass, D. Kilper, M. Ruffini]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'Coexistence of digital coherent, mmWave and sub-THz Analog RoF services using OSaaS over converged access-metro live production network', *Optical Fibre Communications (OFC)* (2025), 1-3 [D. Dass, A. Delmade, A. Raj, E. Kenny, D. Kilper]
- 'Demonstration of cooperative transport interface over open source 7.2 split RAN and virtualised open PON network', *Optical Fibre Communications (OFC)* (2025), 1-3 [M. Dzaferagic, K. O'Sullivan, B. Richardson, B. Ryan, N. Power]
- 'AI/ML-based state-of-polarization monitoring in optical networks: concepts and challenges', *Optical Fibre Communications (OFC)* (2025), 1-3 [L. Sadighi, C. Natalino, S. Karlsson, L. Wosinska, M. Ruffini]
- 'Scalable machine learning models for optical transmission system management', *Optical Fibre Communications (OFC)* (2025), 1-3 [Z. Wang, A. Raj, G. Borracchini, S. Han, Y-K Huang]
- 'Transfer learning for EDFA gain modeling: a semi-supervised approach using internal amplifier features', *IEEE Future Networks World Forum* (2024), 1-3 [A. Raj, D. Kilper, M. Ruffini]
- 'Coexistence of analogue radio and digital coherent transmission over access/metro networks fibre for bandwidth-efficient fronthaul beyond 5G', *European Conference on Optical Communications (ECOC)* (2024), 1-3 [D. Dass, F. Slyne, D. Kilper, L. Barry, M. Ruffini]
- 'Multi-span optical power spectrum evolution modeling using ML-based multi-decoder attention framework', *European Conference on Optical Communications (ECOC)* (2024), 1-3 [A. Raj, Z. Wang, F. Slyne, T. Chen, D. Kilper]
- 'Detection and classification of eavesdropping and mechanical vibrations in fiber optical networks by analyzing polarization signatures over a noisy environment', *European Conference on Optical Communications (ECOC)* (2024), 1-3 [L. Sadighi, S. Karlsson, C. Natalino, L. Wosinska, M. Ruffini]
- 'Routing and spectrum allocation in broadband degenerate EPR-pair distribution', *IEEE International Conference on Communications (ICC)* (2024), 1-6 [R. Bali, A. Tittelbaugh, S. L. Jenkins, A. Agrawal, J. Horgan]
- 'Towards efficient confluent edge networks', *Joint European Conference on Networks and Communications and 6G Summit (EuCNC/6G Summit)* (2024), 1-6 [R. Raj, D. Das, K. Kaival, S. Patri, V. Sleiffer]
- Savage, Timothy**, 'A socio-cultural perspective on technology for environmental sustainability: the case of filtering water pots (G-filters) in Rajasthan, India', *Implications of information and digital technologies for development, 18th IFIP Working Group 9.4*, eds W. Chigona, S. Kabanda, L.F. Seymour, Capetown, South Africa, Springer Nature Switzerland (2024), 167-178 [R. Satankar, A. Krishnan Plappally, D. Saxena, T. Savage, P.J. Wall]
- 'Partners in Design: Insights from an Innovative Education for Sustainable Development Module Design Process', *Implications of Information and digital technologies for development, 18th IFIP Working Group 9.4* eds W. Chigona, S. Kabanda, L.F. Seymour, Capetown, South Africa, Springer Nature Switzerland (2024), 245-257 [T. Savage, P.J. Wall, D. Saxena]
- Stephens, Gaye**, 'TEDME-KG metrics framework: a metrics framework for TEmporal Data Modelling Evaluation in Knowledge Graphs', *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, 15459 LNCS (2025), 123-138 [S. Hooshafza, B. Yaman, A. Randles, M. Little, G. Stephens]
- 'Dataset, usability and process - developing an interdisciplinary, multi-modal data collection tool and platform for a rare disease', *Proceedings of the 8th International Conference on Informatics and Assistive Technologies for Health-Care, Medical Support and Wellbeing, HEALTHINFO 2023*, Valencia, Spain (2023), 26-29 [S. Impey, J. Turner, F. Gibbons, A. Bolger, G. Stephens]
- Strong, Glenn**, 'Experiences trialling a novel block-to-text environment in a summer school context', *Proceedings of the 2024 on Innovation and Technology in Computer Science Education V. 1*, New York, NY, USA, association for computing machinery (2024), 150-156 [G. Strong, B. North, B. Gillespie, S. Fiori, D. Wallace, N. Bresnihan]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'Family learning in the context of computer science education', *Teaching and Learning with Technologies in the Primary School*, eds M. Leask, S. Younie, London, Routledge (2024), 299-317 [N. Bresnihan, R. Millwood, G. Strong, L. Caldwell]
- Tewari, Hitesh**, 'Optimized communication in sharded blockchain networks', *Future of Information and Communication Conference (FICC)*, San Francisco, USA (2023), https://doi.org/10.1007/978-3-031-28076-4_18 [J. Rowland, H. Tewari]
- 'CoviChain: a blockchain based covid-19 vaccination passport', *Future of Information and Communication Conference (FICC)*, San Francisco, USA (2023), https://doi.org/10.1007/978-3-031-28076-4_17 [P. Bradish, S. Chaudhari, M. Clear, H. Tewari]
- Ventresque, Anthony**, 'PADRAIG: Precise Android Automated Input Generation', *International conference on software Quality, Reliability and Security (QRS)*, Cambridge, UK, IEEE (2024), <http://hdl.handle.net/2262/110814> [J. Doyle, T. Laurent, A. Ventresque]
- 'Enhancing program synthesis with large language models using many-objective grammar-guided genetic programming', *Algorithms*, 17, 7 (2024), <https://doi.org/10.3390/a17070287> [N. Tao, A. Ventresque, V. Nallur, T. Saber]
- 'Grammar-obeying program synthesis: a novel approach using large language models and many-objective genetic programming', *Computer Standards and Interfaces*, 92 (2025), 103938 [N. Tao, A. Ventresque, V. Nallur, T. Saber]
- 'The key points: using feature importance to identify shortcomings in sign language recognition models', *Joint international conference on computational linguistics, Language Resources and Evaluation (LREC-COLING 2024)*, Torino, Italy (2024), [R.M. Holmes, E. Rushe, A. Ventresque]
- 'Frisbees and dogs: domain adaptation for object detection with limited labels in rugby data', *ECAI 2024*, Spain (2024), <http://hdl.handle.net/2262/110800> [W. Connors, E. Rushe, A. Ventresque]
- 'Are recommended tackle techniques associated with superior performance outcomes? A retrospective video analysis study of elite womens Rugby Union', *Journal of Sport Sciences*, 42, 24 (2024), <https://doi.org/10.1080/02640414.2024.2434799> [K. Dane, S. West, C. Simms, H. Sharief, N. van Dyk]
- 'Modelling Android applications through static analysis and systematic exploratory testing', *Interactive conference on Dependable Systems and their Applications (DSA)*, Tokyo, Japan, IEEE (2023), <http://hdl.handle.net/2262/110811> [J. Doyle, T. Laurent, A. Ventresque]
- Vogel, Carl**, 'Decoding humans' and virtual agents' emotional expressions', *Handbook of human-machine systems*, eds G. Fortino, D. Kaber, A. Nürnberger, D. Mendonça, Hoboken, New Jersey, USA, John Wiley and Sons, Inc. (2023), 225-239 [T. Amorese, G. Cordasco, M. Cuciniello, O. Shevaleva, S. Marrone]
- 'Cognitive infocommunications', *Frontiers in Computer Science*, 5, 1129898 (2023), <http://dx.doi.org/10.3389/fcomp.2023.1129898> [A. Esposito, G. Cordasco, C. Vogel, P. Baranyi]
- 'Motion energy alignment analysis in dialogue', *15th IEEE international conference on cognitive infocommunications - CogInfoCom 2024*, eds A. Ito, P. Baranyi, Tokyo, Japan (2024), 91-96 [Z. Khosrobeigi, M. Koutsombogera, C. Vogel]
- 'How willingness to interact and intelligibility of the voice affect childrens' interaction with an interactive dialogue system', *15th IEEE international conference on cognitive infocommunications*, eds A. Ito, P. Baranyi, Tokyo, Japan (2024), 173-179 [M. Veneziano, M. Cuciniello, T. Amorese, G. Cordasco, C. Vogel]
- 'The social contract', *15th IEEE international conference on cognitive infocommunications*, eds A. Ito, P. Baranyi, Tokyo, Japan (2024), 223-228 [C. Vogel]
- 'Issues in the ethics of using generative AI', *15th IEEE international conference on cognitive infocommunications*, eds A. Ito, P. Baranyi, Tokyo, Japan (2024), 25-30 [C. Vogel, A. Esposito]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'Evidence for categories of laughter', *Laughter and other non-verbal vocalisations workshop 2024*, eds B. Ludusan, M. Cantarutti, Belfast, NI, ISCA (2024), 15-17 [K. Hegarty, M. Koutsombogera, A. Esposito, C. Vogel]
- Young, Gareth, 'Exploring the impact of volumetric graphics on the engagement of broadcast media professionals', *Multimedia Systems*, 30, 6 (2024), 310 [G.W. Young, G. Dinan, A. Smolic, J. Ondrej]
- 'A volumetric video application to enhance museum experiences', *ACM Symposium on Virtual Reality Software and Technology* (2024), 1-3 [A. Nguyen, J. Lässig, A.F. Kälin, A. Huwiler, P. Haslbauer]
- 'Cognitive representations and personal experiences of covid-19 using social virtual reality', *PRESENCE: Virtual and Augmented Reality*, 33 (2024), 339-366 [G.W. Young, N. O'Dwyer, A. Smolic]
- 'Back to the virtual future: presence in cinematic virtual reality', *Proceedings of the 2024 ACM international conference on interactive media experiences workshops, immersive video technologies* (2024), 80-87 [C. O Fearghail, N. Gadipudi, G.W. Young]
- 'Ethical considerations in the production and consumption of music in the metaverse', *Musical metaverse IEEE 5th international symposium on the internet of sounds (IS2)* (2024), 1-9 [G.E. Young]
- 'Realtime-3D interactive content creation for multi-platform distribution: a 3D interactive content creation user study', *International conference on human-computer interaction, immersive video technologies* (2023), 215-229 [G.W. Young, G. Dinan, A. Smolic]
- 'Multimodality: exploring sensibility and sense-making beyond the metaverse', *International conference on human-computer interaction, immersive video technologies* (2023), 307-322 [G.W. Young, O. Dawkins]
- 'A case study on student experiences of social VR in a remote STEM classroom', *Extended abstracts of the 2023 CHI conference on human factors in computing systems, immersive video technologies* (2023), 1-8 [G.W. Young, N. O'Dwyer]

Research students

- Connors, Will, 'Are we tackle ready? Cross-sectional video analysis of match tackle characteristics in elite women's Rugby Union', *European Journal of Sports Science*, 24, 7 (2024), 999-1009 [K. Dane, S.W. West, S. Hendricks, C. Simms, N. Van Dyk]
- Fiori, Sara, 'Experiences trialling a novel block-to-text environment in a summer school context', *Proceedings of the 2024 on innovation and technology in computer science education v. 1*, New York, NY, USA, association for computing machinery (2024), 150-156 [G. Strong, B. North, B. Gillespie, S. Fiori, D. Wallace]

STATISTICS

- Benavoli, Alessio, 'Bayes' rule using imprecise probabilities', *IEEE Signal Processing Magazine*, 41, 1 (2024), 67-71 [B. Ristic, A. Benavoli, S. Arulampalam]
- Brophy, Caroline, 'Design principles for multi-species productive grasslands: quantifying effects of diversity beyond richness', *Journal of Ecology*, 112 (2024), 2421-2694 [J.A. Finn, M. Suter, R. Vishwakarma, N.J. Oram, A. Lüscher]
- 'Effects of experimental drought and plant diversity on multifunctionality of a model system for crop rotation', *Scientific Reports*, 14 (2024), 10265 [G. Grange, C. Brophy, R. Vishwakarma, J.A. Finn]
- 'The importance of multi-species grassland leys to enhance ecosystem services in crop rotations', *Grass and Forage Science*, 79 (2024), 120-134 [C.S. Malisch, J.A. Finn, J. Eriksen, R. Loges, C. Brophy]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'Reduced IFNL1 and/or IFNL2, but not IFNL3 is associated with worse outcome in patients with covid-19', *Clinical and Experimental Immunology*, 218 (2024), 300-307 [E. Woods, A. Mena, S. Sierpinska, E. Carr, R. Hagan]
- D'Angelo, Silvia**, 'A discussion on 'sparse Bayesian factor analysis when the number of factors is unknown' by Frühwirth-Schnatter, Hosszejni and Freitas Lopes', *Bayesian Analysis* (2024), 62-64 [A. Casa, M. Fop, S. D'Angelo]
- Fritz, Cornelius**, 'Socio-cognitive networks between researchers', *ArXiv e-prints* (2024), [A. Espinosa-Rada, J. Lerner, C. Fritz]
- 'A strategic model of software dependency networks', *ArXiv e-prints* (2024), [C. Fritz, P. Georg, A. Mele, M. Schweinberger]
- 'A regression framework for studying relationships among attributes under network interference', *ArXiv e-prints* (2024), [C. Fritz, M. Schweinberger, S. Bhadra, D.R. Hunter]
- 'Discussion of 'a tale of two datasets: representativeness and generalisability of inference for samples of networks' by P.N. Krivitsky, P. Coletti, N. Hens', *Journal of the American Statistical Association*, (2023), 1-5 [M. Schweinberger, C. Fritz]
- 'Modelling the large and dynamically growing bipartite network of German patents and inventors', *Journal of the Royal Statistical Society. Series A (Statistics in Society)*, 186, 3 (2023), 557-576 [C. Fritz, G. De Nicola, S. Kevorg, D. Harhoff, G. Kauermann]
- 'Challenges in interpreting epidemiological surveillance data - experiences from Germany', *Journal of Computational and Graphical Statistics*, 3 (2023), [C. Fritz, G. De Nicola, F. Günther, D. Rügamer, M. Rave]
- 'All that glitters is not gold: relational events models with spurious events', *Network Science*, 11, Special Issue 2 (2023), [C. Fritz, M. Mehrl, P.W. Thurner, G. Kauermann]
- 'Deepregression: a flexible neural network framework for semi-structured deep distributional regression', *Journal of Statistical Software*, 105, 2 (2023), 1-31 [D. Rügamer, C. Kolb, C. Fritz, F. Pfisterer, B. Bischl]
- 'Dependence matters: statistical models to identify the drivers of tie formation in economic networks', *Journal of Economic Behavior and Organization*, 215 (2023), 351-363 [G. De Nicola, C. Fritz, M. Mehrl, G. Kauermann]
- Georgiadis, Athanasios**, 'Adaptive Estimation of the L₂-Norm of a probability density and related topics I. lower bounds', *Annals of Statistics* (2025), 1-21 [G. Cleanthous, A.G. Georgiadis, O.V. Lepski]
- Ng, Tin**, 'Social induction via a social behavioral intervention on changes in metabolic risk factors: a randomized controlled trial in rural Appalachia, United States', *Mayo Clinic Proceedings* (2024), <https://doi.org/10.1016/j.mayocp.2023.11.023> [E.L. Ding, K.T. Watson, L. Makarechi, T. Lok James Ng, D. Huddleston]
- 'Data driven subclassification of ANCA associated vasculitis: model-based clustering of the FAIRVASC cohort', *The Lancet Rheumatology* (2024), 1-19 [K. Gisslander, A. White, L. Aslett, Z. Hrušková, P. Lamprecht]
- 'Jason Wyse, James Ng, Arthur White and Michael Fop's contribution to the discussion of 'Root and community inference on the latent growth process of a network' by Crane and Xu', *Journal of the Royal Statistical Society, Series B* (2024), <https://doi.org/10.1093/jrsssb/qkae049> [J. Wyse, J. Ng, A. White, M. Fop]
- 'Analysis of risk factors and diagnosis for anxiety disorder in older people with the aid of artificial intelligence: observational study', *31st Irish conference on Artificial Intelligence and Cognitive Science, AICS 2023*, Letterkenny, Institute of Electrical and Electronics Engineers Inc. (2023), <http://dx.doi.org/10.1109/AICS60730.2023.10470782> [J. Wang, M. Black, D. Rankin, J. Wallace, C.F. Hughes]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'Computable phenotype for real-world, data-driven retrospective identification of relapse in ANCA-associated vasculitis', *RMD Open*, 10, 2 (2024), 1-11 [J. Scott, A. White, C. Walsh, L. Aslett, M.A. Rutherford]
- White, Arthur**, 'Challenges and adaptations of model-based clustering for flow and mass cytometry', *WIRES Computational Statistics*, 17, 1 (2025), 1-15 [U.P. Doherty, R.M. McLoughlin, A. White]
- 'gateTree: a user-informed tree algorithm for population identification in flow cytometry', *International workshop on statistical modelling 2024*, eds J. Einbeck, R. Drikvandi, G. Karagiannis, K. Perrakis, Q. Zhang, Durham, United Kingdom (2024), 108-113 [U.P. Doherty, R. McLoughlin, T. Claxton, A. White]
- 'Empirical study of the Sardex network', *International workshop on statistical modelling 2024*, eds J. Einbeck, R. Drikvandi, G. Karagiannis, K. Perrakis, Q. Zhang, Durham, United Kingdom (2024), 49-52 [S. Appleby, G. Iosifidis, A. White]
- 'Data driven subclassification of ANCA associated vasculitis: model-based clustering of the FAIRVASC cohort', *The Lancet Rheumatology* (2024), 1-19 [K. Gisslander, A. White, M.A. Little, A.J. Mohammad]
- 'Computable phenotype for real-world, data-driven retrospective identification of relapse in ANCA-associated vasculitis', *RMD Open*, 10, 2 (2024), 1-11 [J. Scott, A. White, C. Walsh, L. Aslett, M.A. Rutherford]
- Wilson, Simon**, 'Fast solution of Sylvester-structured systems for spatial source separation of the cosmic microwave background', *Numerical Linear Algebra with Applications* (2024), <https://doi.org/10.1002/nla.2597> [D. Pham, K. Soodhalter, S.P. Wilson]
- 'Fungi species description rates confirm high global diversity and suggest half remain unnamed', *Frontiers of Biogeography*, 16, 2 (2024), <http://dx.doi.org/10.21425/F5FBG62358> [J.A. Cunningham, M. Padamsee, S. Wilson, M.J. Costello]
- 'Why many Indonesian marine species remain undescribed: a case study using polychaete species discovery', *Raffles Bulletin of Zoology*, 71 (2023), 337-365 [Z.L. Siallagan, C.M. Sidabalok, M.M. Islami, N. Mujiono, S.P. Wilson]
- 'Discussion of specifying prior distributions in reliability applications', *Applied Stochastic Models in Business and Industry*, 40, 1 (2024), 103 [S. Wilson]
- 'A Bayesian approach to the estimation of road profile and bridge damage from a fleet passing vehicle measurements', *International Journal of Structural Stability and Dynamics*, 24, 4 (2024), <http://dx.doi.org/10.1142/S0219455424500408> [E.J. O'Brien, S. Wilson, J. Keenahan, Y. Ren]
- 'Progress in the discovery of isopods (Crustacea: Peracarida) - is the description rate slowing down?', *PeerJ*, 9, e15984 (2023), <http://dx.doi.org/10.7717/peerj.15984> [L. Hartebrodt, S. Wilson, M.J. Costello]
- Wyse, Jason**, 'Bayesian variable selection in distributed lag models: a focus on binary quantile and count data regressions', *Communications in Statistics-Simulation and Computation*, (2025), <https://doi.org/10.1080/03610918.2025.2458578> [D. Dempsey, J. Wyse]
- 'Jason Wyse, James Ng, Arthur White and Michael Fop's contribution to the discussion of 'Root and community inference on the latent growth process of a network' by Crane and Xu', *Journal of the Royal Statistical Society, Series B* (2024), <https://doi.org/10.1093/jrsssb/qkae049> [J. Wyse, J. Ng, A. White, M. Fop]
- Zhang, Mimi**, 'AdSegNet: a deep network to localize billboard in outdoor scenes', *Signal, Image and Video Processing*, 18 (2024), 7221-7235 [S. Dhang, M. Zhang, S. Dev]
- 'Learning mixtures of Gaussian processes through random projection', *Proceedings of the 41st International Conference on Machine Learning (ICML 2024)*, Vienna, Austria (2024), <http://hdl.handle.net/2262/108414> [E. Akeweje, M. Zhang]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

'Investigation of the surrogate model in an ANN-Meanline hybrid model for radial turbine performance prediction', *International Journal of Gas Turbine, Propulsion and Power Systems*, 15, 2 (2024), 9-18 [P. Ren, C. Stuart, M. Zhang, R. Inomata, K. Nakamura]

'Analysis of risk factors and diagnosis for anxiety disorder in older people with the aid of artificial intelligence: observational study', *31st Irish conference on Artificial Intelligence and Cognitive Science, AICS 2023*, Letterkenny, Institute of Electrical and Electronics Engineers Inc. (2023), <http://dx.doi.org/10.1109/AICS60730.2023.10470782> [J. Wang, M. Black, D. Rankin, A.M. Molloy]

School of Engineering

CIVIL, STRUCTURAL AND ENVIRONMENTAL ENGINEERING

Alakoya, Timilehin, 'Relaxed inertial Tseng extragradient method for variational inequality and fixed point problems', *Applicable Analysis* (2023), <http://dx.doi.org/10.1080/00036811.2022.2107913> [E.C. Godwin, T.O. Alakoya, O.T. Mewomo, J. Chih Yao]

'S-iteration inertial subgradient extragradient method for variational inequality and fixed point problems', *Optimization* (2023), <http://dx.doi.org/10.1080/02331934.2023.2168482> [T.O. Alakoya, O. T. Mewomo]

'A new projection and contraction method for solving split monotone variational inclusion, pseudomonotone variational inequality, and common fixed point problems', *Computational and Applied Mathematics* (2023), <http://dx.doi.org/10.1007/s40314-022-02138-0> [T.O Alakoya, V. A. Uzor, O.T. Mewomo]

'Strong convergent inertial two-subgradient extragradient method for finding minimum-norm solutions of variational inequality problems', *Networks and Spatial Economics* (2024), <http://dx.doi.org/10.1007/s11067-024-09615-5> [O.T. Alakoya, O.T. Temitope]

'Solving split inverse problems', *Carpathian Journal of Mathematics* (2023), <http://dx.doi.org/10.37193/CJM.2023.03.02> [T.O. Alakoya, O.T. Mewomo, A. Gibali]

'Outer approximated projection and contraction method for solving variational inequalities', *Journal of Inequalities and Applications* (2023), <http://dx.doi.org/10.1186/s13660-023-03043-8> [V.A. Uzor, O.T. Mewomo, T.O. Alakoya, A. Gibali]

'Strong convergent algorithm for finding minimum-norm solutions of quasimonotone variational inequalities with fixed point constraint and application', *Computational and Applied Mathematics* (2024), <http://dx.doi.org/10.1007/s40314-023-02555-9> [O.T. Mewomo, G.N. Ogwo, T.O. Alakoya]

'Traffic network analysis via multidimensional split variational inequality problem with multiple output sets', *Networks and Heterogeneous Media* (2024), <http://dx.doi.org/10.3934/nhm.2024008> [T.O. Alakoya, B. Ghosh, S. Moutari, V. Pakrashi, R.B. Ramachandra]

'Relaxed inertial method for solving split monotone variational inclusion problem with multiple output sets without co-coerciveness and Lipschitz continuity', *Acta Mathematica Sinica, English Series* (2024), <http://dx.doi.org/10.1007/s10114-024-2594-3> [T.O. Alakoya, O.T. Mewomo]

'Strongly convergent inertial projection and contraction methods for split variational inequality problem', *Rendiconti del Circolo Matematico di Palermo* (2024), <http://dx.doi.org/10.1007/s12215-024-01022-6> [O.T. Mewomo, G.N. Ogwo, T.O. Alakoya, C. Izuchukwu]

'Generalized viscosity inertial Tseng's method with adaptive step sizes for solving pseudomonotone variational inequalities with fixed point constraints', *Applied Set-Valued Analysis and Optimization* (2024), <http://dx.doi.org/10.23952/asvao.6.2024.2.05> [O.T. Mewomo, O.J. Ogunsola, T.O. Alakoya]

'Solving quasimonotone and non-monotone variational inequalities', *Mathematical Methods of Operations Research* (2023), <http://dx.doi.org/10.1007/s00186-023-00846-9> [V.A. Uzor, T.O. Alakoya, O.T. Mewomo, A. Gibali]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'Inertial hybrid gradient method with adaptive step size for variational inequality and fixed point problems of multivalued mappings in Banach spaces', *Afrika Matematika* (2023), <http://dx.doi.org/10.1007/s13370-023-01087-z> [O.T. Mewomo, T.O. Alakoya, S.H. Khan]
- 'On split generalized equilibrium problem with multiple output sets and common fixed points problem', *Demonstratio Mathematica* (2023), <http://dx.doi.org/10.1515/dema-2022-0251> [E.C. Godwin, O.T. Mewomo, T.O. Alakoya]
- 'On fixed point algorithms for solving split inverse problems with applications', *Applied Set-Valued Analysis and Optimization* (2023), <http://dx.doi.org/10.23952/asvao.5.2023.3.08> [O. Ogunleye, O.T. Mewomo, T.O. Alakoya, O.S. Iyiola]
- 'Mann-type inertial projection and contraction method for solving split pseudomonotone variational inequality problem with multiple output sets', *Mediterranean Journal of Mathematics* (2023), <http://dx.doi.org/10.1007/s00009-023-02535-7> [T.O. Alakoya, O.T. Mewomo]
- 'An inertial subgradient extragradient method with Armijo type step size for pseudomonotone variational inequalities with non-Lipschitz operators in Banach spaces', *Journal of Industrial and Management Optimization* (2023), <http://dx.doi.org/10.3934/jimo.2022239> [G. Nnennaya Ogwo, T.O. Alakoya, O.T. Mewomo]
- 'Relaxed double inertial Tseng's extragradient method for solving non-Lipschitz split monotone variational inclusion problems with fixed point constraints', *Journal of Industrial and Management Optimization* (2024), <http://dx.doi.org/10.3934/jimo.2023126> [O.T. Mewomo, E. Chigaemezu Godwin, T.O. Alakoya]
- 'Viscosity S-iteration algorithm for finding common fixed point of nonexpansive mappings and application to nonexpansive semigroups', *Miskolc Mathematical Notes* (2023), <http://dx.doi.org/10.18514/MMN.2023.4024> [A. Taiwo, T.O. Alakoya, T.O., L.O.O. Jolaoso, O.T. Mewomo]
- 'On split monotone variational inclusion problem with multiple output sets with fixed point constraints', *Computational Methods in Applied Mathematics* (2023), <http://dx.doi.org/10.1515/cmam-2022-0199> [V. Amarachi Uzor, T.O. Alakoya, O.T. Mewomo]
- 'Mann-type approximation scheme for solving a new class of split inverse problems in Hilbert spaces', *Applicable Analysis* (2023), <http://dx.doi.org/10.1080/00036811.2023.2233977> [M.U. Wickramasinghe, O.T. Mewomo, T.O. Alakoya, O.S. Iyiola]
- 'A strongly convergent algorithm for solving multiple set split equality equilibrium and fixed point problems in Banach spaces', *Proceedings of the Edinburgh Mathematical Society* (2023), <http://dx.doi.org/10.1017/S0013091523000251> [E.C. Godwin, O.T. Mewomo, T.O. Alakoya]
- 'An inertial viscosity algorithm for solving monotone variational inclusion and common fixed point problems of strict pseudocontractions', *Boletín de la Sociedad Matemática Mexicana* (2023), <http://dx.doi.org/10.1007/s40590-023-00502-6> [T.O. Alakoya, O.J. Ogunsola, O.T. Mewomo]
- 'Modified forward-backward splitting method for split equilibrium, variational inclusion, and fixed point problems', *Applied Set-Valued Analysis and Optimization* (2023), <http://dx.doi.org/10.23952/asvao.5.2023.1.07> [V.A. Uzor, T.O. Alakoya, O.T. Mewomo]
- 'Modified inertial hybrid subgradient extragradient method for solving variational inequalities and fixed point problems for an infinite family of multivalued relatively nonexpansive mappings in Banach spaces with applications', *Matematiski Vesnik* (2023), <http://dx.doi.org/10.57016/MV-nzkk6556> [T.O. Alakoya, O.T. Mewomo]
- 'A self-adaptive inertial extragradient method for a class of split pseudomonotone variational inequality problems', *Open Mathematics* (2023), <http://dx.doi.org/10.1515/math-2022-0571> [A. Semii Oluwatosin Enitan Owolabi, T.O. Alakoya, O.T. Mewomo]
- 'An inertial iterative algorithm for approximating common solutions to split equalities of some nonlinear optimization problems', *Acta Mathematica Vietnamica* (2023), <http://dx.doi.org/10.1007/s40306-023-00521-5> [O.T. Mewomo, G.N. Ogwo, T.O. Alakoya]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- Ali, Muhammad**, 'Striking a balance: decentralized and centralized wastewater treatment systems for advancing sustainable development goal 6', *Advanced Energy and Sustainability Research*, (2024), 2400097 [F. Saadatinavaz, M.A. Alomari, P.E. Saikaly]
- 'Filtration performance of biofilm membrane bioreactor: fouling control by threshold flux operation', *Chemosphere*, 362 (2024), 142458 [Z. Wenxian, L. Wenzhon, J. Jiaro, M. Shujua, H. Ziqian]
- Basu, Biswajit**, 'Railway traffic signal recognition system based on spatio-temporal features', *22nd International conference on trust, security and privacy in computing and communications (TrustCom)*, Exeter, IEEE (2023), 2465-2471 [H. Zhu, A. Staino, B. Basu]
- 'Graph expansion in pruned recurrent neural network layers preserves performance', *2nd Tiny paper track, international conference on learning reinforcement*, Vienna (2024), 189, 1-6. [S.A. Kalra, P. Mitra, A. Biswas, B. Basu]
- 'Performance analysis of a quantum-classical hybrid reinforcement learning approach', *2nd Tiny paper track, international conference on learning reinforcement*, Vienna (2024), 202, 1-6. [E. Mitchell, B. Basu, P. Mitra]
- 'A study on polarity distribution for network learning', *2nd Tiny paper track, international conference on learning reinforcement*, Vienna (2024), 209, 1-6. [A. Igoo, A. Biswas, B. Basu]
- 'Sparse network initialization using deterministic Ramanujan graphs', *Theoretical foundations of foundation models, international conference on machine learning*, Vienna (2024), 8, 1-8. [A. Biswas, S.A. Kalra, P. Mitra, B. Basu]
- 'Modeling of tsunami generated in stratified oceans by sub-aquatic volcanic eruptions', *Physics of Fluids*, 35, 5 (2023), 56602, 1-9 [M. Kanojia, S. Gurusamy, B. Basu]
- 'A quantum algorithm for computing dispersal of submarine volcanic tephra', *Physics of Fluids*, 36, 3 (2024), 036607, 1-10 [B. Basu, S. Gurusamy, F. Gaitan]
- 'Shallow quantum neural networks (SQNNs) with application to crack identification', *Applied Intelligence*, 54, 2 (2024), 1267 [M. Das, A. Naskar, P. Mitra, B. Basu]
- 'A computationally efficient approach to estimate design wave force on seawalls under large amplitude irrotational waves', *Ocean Engineering*, 311, 1 (2024), 118745, 1-11 [S. Paul, A. Ghosh, B. Basu]
- 'Detection of cavitation in a centrifugal pump-as-turbine using time-domain-based analysis of vibration sign', *Energies*, 17, 11 (2024), 2598-1-18 [C. Stephen, B. Basu, A. McNabola]
- 'Short-term office temperature forecasting through a data-driven approach integrated with bidirectional gated recurrent neural network', *Energy and Buildings*, 314 (2024), 114231-1, 114231-22 [S. Zhang, S. Gurusamy, K. James-Chakraborty, B. Basu]
- 'Modelling the effect of submarine volcanic eruption on equatorial oceanic flows', *Nonlinear Analysis: Real World Applications*, 74 (2023), 103956, 1-13 [B. Basu, M. Kanojia]
- 'Estimating the performance of wind turbines misaligned with respect to the wind direction using a simplified CFD based approach', *The science of making torque from wind (TORQUE 2024)*, Florence (2024), <http://hdl.handle.net/2262/108643> [S. Lal Basu, B. Fitzgerald, B. Basu]
- 'On the influence of large amplitude nonlinear regular waves on the structural response of spar-type floating offshore wind turbines', *Ocean Engineering*, 269 (2023), 113448, 1-11 [H. Nguyen, L. Chen, B. Basu]
- Broderick, Brian**, 'Validation of acceleration response modelling for modular high rise structures through full scale monitoring', *Journal of Physics: Conference Series, Eurodyn 2023*, IOP Publishing (2024), 242007 [B. Broderick, H. Moore, B. Fitzgerald, J. Hickey]
- 'Improved fatigue life of floating offshore wind turbine towers with tuned mass damper inerters (TMDIs)', *XII international conference on structural dynamics*, Delft (2023), <http://hdl.handle.net/2262/108634> [J. McAuliffe, S. Baisthakur, B. Broderick, B. Fitzgerald]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'Validation of acceleration response modelling for modular high rise structures through full scale monitoring', *XII international conference on structural dynamics (EURODYN)*, Delft (2023), <http://hdl.handle.net/2262/108635> [B. Broderick, H. Moore, B. Fitzgerald, J. Hickey]
- 'Corrosion fatigue analysis of NREL's 15-MW offshore wind turbine with time-varying stress concentration factors', *The science of making torque from wind (TORQUE 2024)*, Florence (2024), <http://hdl.handle.net/2262/108644> [J. McAuliffe, S. Baisthakur, B. Broderick, B. Fitzgerald]
- Caulfield, Brian**, 'User characteristics and preferences for micromobility use in first- and last-mile journeys in Dublin, Ireland', *Travel Behaviour and Society*, 38, 100926 (2025), <http://hdl.handle.net/2262/110640> [J. Oeschger, B. Caulfield, P. Carroll]
- 'The challenge of making EVs just affordable enough: assessing the impact of subsidies on equity and emission reduction in Ireland', *Research in Transportation Economics*, 109, 101495 (2025), <http://hdl.handle.net/2262/110636> [A. Stefaniec, R. Egan, K. Hosseini, B. Caulfield]
- 'Transport emission modelling based on a bottom-up approach to facilitate sustainable transport planning', *Sustainable Futures*, 100435 (2025), <http://hdl.handle.net/2262/110635> [A. Charly, B. Caulfield]
- 'Validity of GPS data in driving cycles', *IET Intelligent Transport Systems* (2024), 1-7 [H. Smith, S. Akhtar, B. Caulfield, M. O'Mahony]
- 'Detecting and quantifying PM_{2.5} and NO₂ contributions from train and road traffic in the vicinity of a major railway terminal in Dublin, Ireland', *Environmental Pollution*, 361 (2024), 124903 [S. Priyan, Y. Guo, A. McNabola, B. Broderick, B. Caulfield]
- 'Driving green change: commercial sector adopting electric vehicles in Ireland', *Transportation Research Part D: Transport and Environment*, 135 (2024), 104398 [U. Illahi, T. Choudhari, A. Charly, M. O'Mahony, B. Caulfield]
- 'Understanding the determinants of bike-sharing demand in the context of a medium-sized car-oriented city: the case study of Milton Keynes, UK', *Sustainable Cities and Society*, 114 (2024), 105781 [M. Dzięcielski, A. Nikitas, A. Radzimski, B. Caulfield]
- 'Evaluating the readiness for electric vehicle adoption among the urban population using geospatial techniques', *Journal of Transport Geography*, 119 (2024), 103972 [A. Charly, G. Misra, S. Sonarghare, R. Fealy, T. McCarthy, B. Caulfield]
- 'Decarbonising shared mobility: the potential of shared electric vehicles', *Transportation Research Part D: Transport and Environment*, 133 (2024), 104313 [T. Choudhari, U. Illahi, M. Al-Hosni, M. O'Mahony, B. Caulfield]
- 'E-bike to the future: scalability, emission-saving, and eco-efficiency assessment of shared electric mobility hubs', *Transportation Research Part D: Transport and Environment*, 133 (2024), 104275 [K. Hosseini, A. Stefaniec, M. O'Mahony, B. Caulfield]
- 'Driving as essential, cycling as conditional: how automobility is politically sustained in discourses of everyday mobility', *Mobilities*, 19, 3 (2024), 789-805 [R. Egan, B. Caulfield]
- Fitzgerald, Breffni**, 'Wind-wave misalignment in Irish waters and its impact on floating offshore wind turbines', *Energies* (2025), <https://doi.org/10.3390/en18020372> [T. Shanahan, B. Fitzgerald]
- 'Real-time anomaly detection of the stochastically excited systems on spherical (S²) manifold', *Probabilistic Engineering Mechanics* (2024), <http://hdl.handle.net/2262/109829> [S. Panda, B. Fitzgerald, B. Hazra]
- 'Validation of acceleration response modelling for modular high rise structures through full scale monitoring', *Journal of Physics: Conference Series, Eurodyn 2023*, IOP Publishing (2024), 242007 [B. Broderick, H. Moore, B. Fitzgerald, J. Hickey]
- 'Improved fatigue life of floating offshore wind turbine towers with tuned mass damper inerters (TMDIs)', *XII international conference on structural dynamics*, Delft (2023), <http://hdl.handle.net/2262/108634> [J. McAuliffe, S. Baisthakur, B. Broderick, B. Fitzgerald]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

'Validation of acceleration response modelling for modular high rise structures through full scale monitoring', *XII international conference on structural dynamics (EURODYN)*, Delft (2023), <http://hdl.handle.net/2262/108635> [B. Broderick, H. Moore, B. Fitzgerald, J. Hickey]

'Corrosion fatigue analysis of NREL's 15-MW offshore wind turbine with time-varying stress concentration factors', *The science of making torque from wind (TORQUE 2024)*, Florence (2024), <http://hdl.handle.net/2262/108644> [J. McAuliffe, S. Baisthakur, B. Broderick, B. Fitzgerald]

'Estimating the performance of wind turbines misaligned with respect to the wind direction using a simplified CFD based approach', *The science of making torque from wind (TORQUE 2024)*, Florence (2024), <http://hdl.handle.net/2262/108643> [S. Lal Basu, B. Fitzgerald, B. Basu]

'Physics-informed neural network surrogate model for bypassing blade element momentum theory in wind turbine aerodynamic load estimation', *Renewable Energy* (2024), <http://hdl.handle.net/2262/105549> [S. Baisthakur, B. Fitzgerald]

Gallagher, John, 'Leaching performance of concrete with recycled plastic fibers', *Reuse of plastic waste in eco-efficient concrete*, eds F. Pacheco-Torgal, J. Khatib, F. Colangelo, R. Tuladharads, Elsevier (2024), 311-337 [A.P. Galvin, A. Lopez-Uceda, J. Gallagher, A. Barbudo]

'The impact of dynamic traffic and wind conditions on green infrastructure performance to improve local air quality', *Science of the Total Environment*, 917 (2024), 170211 [M. Jin, L.Y. Zhang, Z.R. Peng, X.B. Li, J. Gallagher]

'Plastic packaging waste in Europe: addressing methodological challenges in recording and reporting', *Waste Management and Research: The Journal for a Sustainable Circular Economy*, 41, 6 (2023), 1134-1143 [C. Somlai, C. Bullock, J. Gallagher]

'Life cycle performance and associated environmental risks of constructed wetlands used for micropollutant removal from municipal wastewater effluent', *Cleaner Environmental Systems*, 12 (2024), 100162 [H. Brunhoferova, S. Venditti, J. Hansen, J. Gallagher]

'Environmental health impacts and inequalities in green space and air pollution in six medium-sized European cities', *Environmental Research*, 237 (2023), 116891 [E. Pereira Barboza, F. Montana, M. Cirach, T. lungman, S. Khomenko]

'A trait-based investigation into evergreen woody plants for traffic-related air pollution mitigation over time', *Science of the Total Environment*, 914, 169713 (2024), 1-20 [Y. Barwise, P. Kumar, K.V. Abhijith, J. Gallagher, A. McNabola]

'Researching green process innovation across borders and boundaries through collaborative inquiry', *Journal of Applied Behavioral Science*, 59, 4 (2023), 556-584 [P. Coughlan, R. Bellini, A. Bello-Dambatta, R. Dallison, K. Dreyer-Gibney]

'The impact of street level particulate emissions on the energy performance of roof level building ventilation systems', *Journal of Wind Engineering and Industrial Aerodynamics*, 233, 105310 (2023), 1-13 [B. Considine, J. Gallagher, P. Kumar, A. McNabola]

Ghaani, Mohammad, 'A physics constrained methodology for the life cycle assessment of sustainable aviation fuel production', *Biomass and Bioenergy*, 185 (2024), [L.A. Mannion, A. Bell, T. Watson-Murphy, M. Kelly, M.R. Ghaani, S. Dooley]

'Steady states and kinetic modelling of the acid-catalysed ethanolysis of glucose, cellulose, and corn cob to ethyl levulinate', *Energy Advances*, 3, 6 (2024), 1439-1458 [C. McNamara, A. O'Shea, P. Rao, A. Ure, L. Ayarde-Henriquez]

'CO₂ loss into solution: an experimental investigation of CO₂ electrolysis with a membrane electrode assembly cell', *ACS Applied Energy Materials* (2024), [W. Liu, H. Dunne, B. Ballotta, A. A. Massie, M. R. Ghaani]

'Sensitivity analysis of one-dimensional multiphysics simulation of CO₂ electrolysis cell', *Journal of Physical Chemistry C*, 128, 27 (2024), 11131-11144 [H. Dunne, W. Liu, M. R. Ghaani, K. McKelvey, S. Dooley]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- Gill, Laurence**, 'Lower grass transpiration under elevated CO₂ can decrease transpiration and evapotranspiration rates despite carbon fertilization', *Plant Direct*, 8, 10 (2024), e70013 [S. Ahmad, C. Yiotis, W. Xu, J. Knappe, L. Gill]
- 'An integrated mitigation approach to diffuse agricultural water pollution - a scoping review', *Frontiers in Environmental Science*, 12, 1340565 (2024), <http://dx.doi.org/10.3389/fenvs.2024.1340565> [L. Quill, D. Ferreira, B. Joyce, G. Coleman, C. Harper]
- 'Back to the future: comparing yeast as an outmoded artificial tracer for simulating microbial transport in karst aquifer systems to more modern approaches', *Environmental Pollution*, 349 (2024), 123942 [L. Vucinic, D. O'Connell, C. Coxon, L.W. Gill]
- 'Reviews and syntheses: a scoping review of the evaluation of the potential application of ecohydrological models for northern peatland restoration', *Biogeosciences*, 21 (2024), 3143-3163 [M.P. Silva, M.G. Healy, L.W. Gill]
- 'Understanding the impacts of human wastewater effluent pollution on karst springs using chemical contamination fingerprinting techniques', *EGU General Assembly 2024*, Vienna, Austria (2024), <https://doi.org/10.5194/egusphere-egu24-11063> [L. Vucinic, D. O'Connell, D. Dubber, P. Behan, Q. Crowley]
- 'Pepper mild mottle virus as an effective tool in microbial source tracking for deficient domestic on-site water treatment systems', *Science of the Total Environment*, 939 (2024), 173229 [A.J.C. Monleon, L.W. Gill]
- 'Back to the future: comparing yeast as an outmoded artificial tracer for simulating microbial transport in karst aquifer systems to more modern approaches', *Environmental Pollution*, 123942 (2024), <http://hdl.handle.net/2262/108642> [L. Vucinic, D. O'Connell, C. Coxon, L.W. Gill]
- 'The use of sterol profiles, supported with other faecal source tracking methods, to apportion septic tanks contamination in rural catchments', *Environmental Pollution*, 341, 122884 (2023), <https://doi.org/10.1016/j.envpol.2023.122884> [D. Dubber, L. Brophy, D. O'Connell, P. Behan, M. Danaher]
- Grey, Thomas**, 'Long-term residential care and the built environment: improving quality of life and resilience through a universal design approach', *Stud Health Technol Inform*, 320 (2024), 207-214 [T. Grey, J. O'Donoghue, D. Xidous, D. O'Neill]
- 'Bringing brain health home: the importance of housing and the urban environment for building this generation's brain health', *Cities and Health* (2024), <http://dx.doi.org/10.1080/23748834.2024.2327815> [B. Lawlor, T. Grey, E.J. Cotter, M. Espina Diaz, I.H. Robertson]
- Hickey, John**, 'An efficient method for calculating hysteretic dry friction response of dynamic systems subjected to combined harmonic and random excitation', *Journal of Structural Dynamics* (2024), <http://hdl.handle.net/2262/109202> [J. Hickey, T. Butlin]
- 'Validation of acceleration response modelling for modular high rise structures through full scale monitoring', *Journal of Physics: Conference Series, Eurodyn 2023*, IOP Publishing (2024), 242007 [B. Broderick, H. Moore, B. Fitzgerald, J. Hickey]
- 'Validation of acceleration response modelling for modular high rise structures through full scale monitoring', *XII international conference on structural dynamics (EURODYN)*, Delft (2023), <http://hdl.handle.net/2262/108635> [B. Broderick, H. Moore, B. Fitzgerald, J. Hickey]
- Igoe, David**, 'Overview of a new cyclic methodology for the geotechnical design of monopiles supporting offshore wind turbines in sand', *Proceedings of the offshore site investigation and geotechnics conference*, London (2023), 1091-1097 [L. Lapastoure, A. Diambra, I. Thusyanthan, S. Jalilvand, D. Igoe]
- 'Motivation and demonstration of robotic tooling for ground characterisation: the Robocone', *Proceedings of the offshore site investigation and geotechnics conference* (2023), 368-275 [J. Creasey, A. E. Hajjar, A. Conn, E. Ibraim, A. H. Bateman]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'Predicting the compression capacity of screw piles in sand using machine learning trained on finite element analysis', *Geotechnics*, 4, 3 (2024), 807-823 [D. Igoe, P. Zahedi, H. Soltani-Jigheh]
- McCormack, Sarah**, 'Fabrication and performance evaluation of large-scale luminescent and plasmonic luminescent solar concentrator modules', *Solar Energy*, 282, 112972 (2024), <http://dx.doi.org/10.1016/j.solener.2024.112972> [A. Glenn, S. Chandra, M. Nasiri, A. Ortega, S. McCormack]
- 'Prediction of liquid phase heat capacity of ionic liquids: comparison of existing methods and development of new hybrid group contribution models', *Industrial and Engineering Chemistry Research*, 62, 39 (2023), 16093-16112 [S. Liaqat, M. B. Shahin, P. Nancarrow, S. Zeinab, T. Ibrahim]
- 'Experimental and theoretical evaluation of a commercial luminescent dye for PVT systems', *Energies*, 16, 17 (2023), [K. Coldrick, J. Walshe, S.J. McCormack, J. Doran, G. Amarandei]
- 'The role of solar spectral beam splitters in enhancing the solar-energy conversion of existing PV and PVT Technologies', *Energies*, 16, 19 (2023), [K. Coldrick, J. Walshe, S.J. McCormack, J. Doran, G. Amarandei]
- 'Performance analysis of a medium concentrated photovoltaic system thermally regulated by phase change material: phase change material selection and comparative analysis for different climates', *Applied Thermal Engineering*, 236 (2024), 121653 [Q. Abbas, S. Jawa, M.A. Sye, T. Muhamma, M.U. Ghula]
- 'Crystal phase ionic liquids for energy applications: heat capacity prediction via a hybrid group contribution approach', *Molecules*, 29, 9 (2024), [M.B. Shahin, S. Liaqat, P. Nancarrow, S.J. McCormack]
- 'High-performance p-type V_2O_3 films by spray pyrolysis for transparent conducting oxide applications', *Scientific Reports*, 14, 1 (2024), <http://hdl.handle.net/2262/108743> [A. Ainabayev, B. Walls, D. Mullarkey, D. Caffrey, K. Fleischer]
- 'Tailoring epitaxial VO_2 thin films with tunable properties via spray pyrolysis', *Journal of Physical Chemistry C*, 127, 50 (2023), 24432-24442 [A. Ainabayev, B. Walls, D. Casey, D. Caffrey, D. Mullarkey]
- 'Introducing luminescent solar waveguides for sustainable buildings for enhanced circadian rhythm regulation', *Sustainable Buildings*, 6 (2023), 6 [W.Q. Tham, S. Chandra, B. Norton, S. McCormack]
- 'Assessment of large-area luminescent solar concentrators as building-integrated geodesic dome panels', *Sustainable Buildings*, 6 (2023), 7 [T. Flynn, S. Chandra, A. Ortega, S. McCormack]
- 'Design, fabrication and preliminary testing of plasmonic luminescent solar concentrator devices', *Sustainable Buildings*, 6 (2023), 8 [A. Glenn, S. Chandra, S. McCormack]
- McNabola, Aonghus**, 'An assessment of the potential for wastewater heat recovery in the Zambian food processing industry', *8th IAHR Europe conference*, Lisbon (2024), 1-8 [M.K. Murali, E. Mancusi-Ungaro, A. McNabola]
- 'Detection of cavitation in a centrifugal pump-as-turbine using time domain based analysis of vibration signals', *Energies*, 17, 2598 (2024), 1-18 [C. Stephen, B. Basu, A. McNabola]
- Misstear, Bruce**, 'Wells and wellbeing: writing a book about holy wells in Ireland', *International association of hydrogeologists (Irish group) conference on groundwater and nature based solutions*, Tullamore, Co Offaly, (2024), VI-11-VI-18 [B.D.R. Misstear]
- 'The hydrogeology of sacred wells: insights from Ireland', *Hydrogeology Journal*, 32 (2024), 1561-1565 [B.D.R. Misstear, L. Gill]
- Morrissey, Patrick**, 'Turloughs - a disappearing act', *Lakes in Ireland, mirrors of change*, eds C. Dalton, E. de Eyto, E. Jennings, Mayo, Ireland, (2024), 174-195 [O. Naughton, T. McCormack, P. Johnston, P. Morrissey]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- Moslem, Sarbast**, 'A novel parsimonious spherical fuzzy analytic hierarchy process for sustainable urban transport solutions', *Engineering Applications of Artificial Intelligence*, 128 (2024), <http://dx.doi.org/10.1016/j.engappai.2023.107447> [S. Moslem]
- Murali, Madhu**, 'An assessment of the potential for wastewater heat recovery in the Zambian food processing industry', *8th IAHR Europe conference*, Lisbon (2024), 1-8 [M.K. Murali, E. Mancusi-Ungaro, A. McNabola]
- O'Connell, David**, 'Back to the future: comparing yeast as an outmoded artificial tracer for simulating microbial transport in karst aquifer systems to more modern approaches', *Environmental Pollution*, 123942 (2024), <http://hdl.handle.net/2262/108642> [L. Vucinic, D. O'Connell, C. Coxon, L.W. Gill]
- O'Connor, Alan**, 'Flood adaptation decision-making for vulnerable locations using expectation-quantile-investment analysis', *Journal of Flood Risk Management*, 16, 1 (2023), <http://dx.doi.org/10.1111/jfr3.12875> [R. Teixeira, B. Martinez-Pastor, L. Vucinic, A. O'Connor]
- 'A structural equation model to analyze the effects of covid-19 pandemic risks on project success: contractors' perspectives', *ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part A: Civil Engineering*, 9, 3 (2023), <http://dx.doi.org/10.1061/AJRUA6.RUENG-1008> [M.K.S. Al-Mhdawi, M. Brito, B.S. Onggo, A. Qazi, A. O'Connor]
- 'Construction risk management in Iraq during the covid-19 pandemic: challenges to implementation and efficacy of practices', *Journal of Construction Engineering and Management*, 149, 9 (2023), <http://dx.doi.org/10.1061/JCEMD4.COENG-13099> [M.K.S. Al-Mhdawi, M. Brito, B.S. Onggo, A. Qazi, A. O'Connor]
- 'Covid-19 emerging risk assessment for the construction industry of developing countries: evidence from Iraq', *International Journal of Construction Management*, 24, 7 (2024), 693-706 [M.K.S. Al-Mhdawi, M. Brito, B.S. Onggo, A. Qazi, A. O'Connor]
- 'Investigating partial factors for the assessment of existing reinforced concrete bridges', *Structural Engineering International*, 34, 1 (2024), 55-70 [A. Orcesi, D. Diamantidis, A. O'Connor, F. Palmisano, M. Sykora]
- 'Structural safety assessment criteria for dismantling operations of unique structures. San Mames Roof Arch Experience', *Journal of Building Engineering*, 84 (2024), <http://dx.doi.org/10.1016/j.jobbe.2024.108617> [A. Gaute-Alonso, D. Garcia-Sanchez, A. O'Connor]
- 'Structural equation modeling and fuzzy set theory: advancing risk assessment in oil and gas construction projects', *Environmental Impact Assessment Review*, 109 (2024), <http://dx.doi.org/10.1016/j.eiar.2024.107622> [M.K.S. Al-Mhdawi, A. O'Connor, A. Qazi]
- O'Dwyer, Dermot**, 'The Halpins - Irish lighthouse builders 1810-1862', *Studies in construction history, proceedings of the tenth annual conference of the construction history society*, eds W.P. James, Campbell et al. Queens' College Cambridge (2023), 243-254 [D. O'Dwyer]
- O'Kelly, Brendan**, 'Bearing pressure enhancement of sand foundation beds by encapsulating geogrids in thin densified gravel layer inclusions', *Geomechanics and Engineering*, 40, 4 (2025), 277-293 [S.N. Moghaddas Tafreshi, H. Alizadeh Balf, H.R. Rezaeinejad, B.C. O'Kelly, A. Faramarzi]
- 'Xanthan gum (XG) sorption and hydraulic conductivity of XG-treated soils', *Sustainability in ground improvement: the case of xanthan gum biopolymer*, eds A.M.O Mohamed, B.C. O'Kelly, A. Soltani, Cham, Switzerland, Springer (2024), 199-256
- 'Strength and compressibility of xanthan gum-treated soils', *Sustainability in ground improvement: the case of xanthan gum biopolymer*, eds A.M.O. Mohamed, B.C. O'Kelly, A. Soltani, Cham, Switzerland, Springer (2024), 163-198
- 'Stability of xanthan gum-soil cohesive networks', *Sustainability in ground improvement: the case of xanthan gum biopolymer*, eds A.M.O Mohamed, B.C. O'Kelly, A. Soltani, Cham, Switzerland, Springer (2024), 125-162

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

'Xanthan gum-soil interactions', *Sustainability in ground improvement: the case of xanthan gum biopolymer*, eds A.M.O Mohamed, B.C. O'Kelly, A. Soltani, Cham, Switzerland, Springer (2024), 99-123

'Rheology of xanthan gum aqueous solution', *Sustainability in ground improvement: the case of xanthan gum biopolymer*, eds A.M.O Mohamed, B.C. O'Kelly, A. Soltani, Cham, Switzerland, Springer (2024) 57-97

'Xanthan gum production and structure', *Sustainability in ground improvement: the case of xanthan gum biopolymer*, eds A.M.O Mohamed, B.C. O'Kelly, A. Soltani, Cham, Switzerland, Springer (2024), 25-55

'Unraveling the challenges of xanthan gum soil stabilization', *Sustainability in ground improvement: the case of xanthan gum biopolymer*, eds A.M.O Mohamed, B.C. O'Kelly, A. Soltani, Cham, Switzerland, Springer (2024), 1-23

'Front Matter', *Sustainability in ground improvement: the case of xanthan gum biopolymer*, eds A.M.O Mohamed, B.C. O'Kelly, A. Soltani, Cham, Switzerland, Springer (2024), i-xviii

Sustainability in ground improvement: the case of xanthan gum biopolymer, First, Cham, Switzerland, Springer (2024), 1-256 [A.M.O. Mohamed, B.C. O'Kelly, A. Soltani]

'Discussion: Utilizing waste-shredded rubber pieces for improved foundation stability [Transp. Infrastruct. Geotech. 11 (6), 3941-3968]', *Transportation Infrastructure Geotechnology*, 40, 4 (2025), 10 (101) [A. Soltani, B.C. O'Kelly]

'Discussion: Undrained shear strength prediction of clays using liquidity index, eds Q. Wang, S. Qiu, H. Zheng, R. Zhang', *Acta Geotechnica*, 20, 3 (2025), 1495-1498 [B.C. O'Kelly, S.K. Haigh]

'Unique relationship between optimum compaction properties of fine-grained soils across rational compactive efforts: a validation study', *Transportation Infrastructure Geotechnology*, 11, 5 (2024), 2932-2952 [A. Soltani, B.C. O'Kelly, S. Horpibulsuk, A. Taheri]

'A comprehensive review of soil remolding toughness determination and its use in the classification of fine-grained soils', *Geomaterials: latest advances in materials for construction and engineering applications*, ed J.M. Moreno-Maroto, Basel, Switzerland, MDPI (2024), 169-187 [B.C. O'Kelly, J. Alonso-Azcárate, J.M. Moreno-Maroto]

'Statistical reappraisal of the wax and mercury methods for shrinkage limit determinations of fine-grained soils', *Geotechnical and Geological Engineering*, 42, 6 (2024), 5317-5333 [A. Soltani, M. Azimi, B.C. O'Kelly, A. Baghbani, A. Taheri]

'Assessment of steel-fiber-reinforced segmental lining of Chamshir water conveyance tunnel, Iran: integrating laboratory experiments, field observations, and numerical analysis', *Case Studies in Construction Materials*, 20 (2024), (e03144) [M. Ezazi, M.F. Hossaini, R. Sheikhmali, M. Khosrotash, E. Sharifi Teshnizi]

O'Mahony, Margaret, 'Are broadband, computer and transport access inequity interrelated?', *104th transportation research board annual conference*, Washington D.C. (2025), 1-18 [D. Gardiner, M. O'Mahony]

'Road design optimisation for autonomous vehicles', *104th transportation research board conference*, Washington D.C. (2025), 1-21 [F.T. Kuteesa, M. O'Mahony]

'Self-reported public fast charging infrastructure demand: what do existing and potential electric vehicle adopters want and where?', *Sustainable Cities and Society*, 116, 105935 (2024), 1-15 [U. Illahi, R. Egan, M. O'Mahony, B. Caulfield]

'Validity of GPS data in driving cycles', *IET Intelligent Transport Systems* (2024), 1-7 [H. Smith, S. Akhtar, B. Caulfield, M. O'Mahony]

'Decarbonising transport sector by electrifying car-sharing fleet in Ireland', *103rd annual meeting of the transportation research board*, Washington D.C. (2024), 1-5 [T. Choudhari, U. Illahi, M. Al-Hosni, M. O'Mahony, B. Caulfield]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'Detecting and quantifying PM_{2.5} and NO₂ contributions from train and road traffic in the vicinity of a major railway terminal in Dublin, Ireland', *Environmental Pollution*, 361 (2024), 124903 [S. Priyan, Y. Guo, A. McNabola, B. Broderick, B. Caulfield]
- 'Driving green change: commercial sector adopting electric vehicles in Ireland', *Transportation Research Part D: Transport and Environment*, 135 (2024), 104398 [U. Illahi, T. Choudhari, A. Charly, M. O'Mahony, B. Caulfield]
- 'Decarbonising shared mobility: the potential of shared electric vehicles', *Transportation Research Part D: Transport and Environment*, 133 (2024), 104313 [T. Choudhari, U. Illahi, M. Al-Hosni, M. O'Mahony, B. Caulfield]
- 'E-bike to the future: scalability, emission-saving, and eco-efficiency assessment of shared electric mobility hubs', *Transportation Research Part D: Transport and Environment*, 133 (2024), 104275 [K. Hosseini, A. Stefaniec, M. O'Mahony, B. Caulfield]
- 'Pre and post covid preferences for working from home', *Travel Behaviour and Society*, 34, 100679 (2024), 1-8 [A. Richards, S. Convery, M. O'Mahony, B. Caulfield]
- Pavia, Sara**, 'Geopolymer based on spent fluid catalytic cracking catalyst: design optimisation and high-temperature resistance', *Case Studies in Construction Materials*, 22 (2025), <https://doi.org/10.1016/j.cscm> [Z. Lei, S. Pavia]
- 'Biomass ash (BA) waste as an activator to produce carbon-negative cement', *Cement*, 18 (2024), <https://doi.org/10.1016/j.cement.2024.100112> [Z. Lei, S. Pavia]
- 'Pozzolanic activity of FCC catalyst waste slag (CWS) for cement and geopolymer production', *Cleaner Engineering and Technology*, 20 (2024), <https://doi.org/10.1016/j.clet.2024.100758> [Z. Lei, S. Pavia]
- 'Developing an adaptive virtual learning environment for sustainable learning in individuals with Down syndrome', *International Journal of Information and Learning Technology*, 41, 3 (2024), 318-337 [C. Arranz-Barcenilla, S. Pavia, M.C. Sáiz Manzanares, L. Alameda Cuenca-Romero, S. Gutiérrez-González]
- 'Valorisation of gypsum boards with polyurethane waste', *Resources, Conservation and Recycling Advances*, 25 (2024), <https://doi.org/10.1016/j.rcra> [A. Rodrigo-Bravo, S. Pavia, V. Calderón, L. Alameda, S. Gutiérrez-Gonzalez]
- Teixeira, Rui**, 'Toward interpretability in fault diagnosis for autonomous vehicles: interpretation of sensor data anomalies', *IEEE Sensors Journal*, 23, 5 (2023), 5014-5027 [Y. Fang, H. Min, X. Wu, X. Lei, S. Chen]
- 'Optimal design of rail level crossings and associated transition zones using adaptive surrogate-assisted optimization', *Engineering Structures*, 282 (2023), <http://dx.doi.org/10.1016/j.engstruct.2023.115740> [Y. Shang, M. Nogal, R. Teixeira, A.R.R.M. Wolfert]
- 'A day-to-day evacuation model to maximise transport resilience under dynamic hazards', *Transportation Letters*, 16, 10 (2024), 1224-1236 [E. Bakhshian, R. Teixeira, B. Martinez-Pastor]
- 'Resilience-oriented oscillation dampening for connected autonomous vehicle platoons', *IEEE Transactions on Vehicular Technology*, 73, 11 (2024), 16024-16040 [Y. Fang, H. Min, X. Wu, X. Zhao, X. Wang]
- 'Cross-vehicle federated learning for unsupervised scoring of driver behavior under privacy constraint', *IEEE Internet of Things Journal* (2024), <http://dx.doi.org/10.1109/JIOT.2024.3494716> [L. Lu, X. Chu, A. Guo, Y. Fang, B. Martinez-Pastor]
- 'Extreme-oriented sensitivity analysis using sparse polynomial chaos expansion. Application to train-track-bridge systems', *Reliability Engineering and System Safety*, 243 (2024), <http://dx.doi.org/10.1016/j.ress.2023.109818> [Y. Shang, M. Nogal, R. Teixeira, A.R.R.M. Wolfert]
- 'Anomaly diagnosis of connected autonomous vehicles: a survey', *Information Fusion*, 105 (2024), <http://dx.doi.org/10.1016/j.inffus.2024.102223> [Y. Fang, H. Min, X. Wu, W. Wang, X. Zhao, B. Martinez-Pastor, R. Teixeira]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'Incremental learning of parameter spaces in machine-learning based reliability analysis', *Reliability Engineering and System Safety*, 245 (2024), <http://dx.doi.org/10.1016/j.ress.2024.110034> [R. Teixeira, B. Martinez-Pastor]
- 'Travel time prediction for an intelligent transportation system based on a data-driven feature selection method considering temporal correlation', *Transportation Engineering*, 18 (2024), <http://dx.doi.org/10.1016/j.treng.2024.100272> [Kandiri A., Ghiasi R., Nogal M., Teixeira R.]
- 'A fault diagnosis framework for autonomous vehicles with sensor self-diagnosis', *Expert Systems with Applications*, 224 (2023), <http://dx.doi.org/10.1016/j.eswa.2023.120002> [H. Min, Y. Fang, X. Wu, X. Lei, S. Chen]
- 'Flood adaptation decision-making for vulnerable locations using expectation-quantile-investment analysis', *Journal of Flood Risk Management*, 16, 1 (2023), <http://dx.doi.org/10.1111/jfr3.12875> [R. Teixeira, B. Martinez-Pastor, L. Vucinic, A. O'Connor]
- West, Roger**, 'Thermoelectric conversion in buildings', *Material Today Energy* (2023), <http://hdl.handle.net/2262/102586> [M. Jabri, S. Masoumi, F. Sajadiriad, R.P. West, A. Pakdel]
- 'Development of concrete facade sandwich panels incorporating phase change materials', *Energies*, 17 (2024), 28 [D. Niall, R.P. West]
- 'Sustainable concrete with zero carbon footprint', *Recent Progress in Materials*, 6, 3 (2024), 32 [A. Alawais, R.P. West]
- 'Achieving a sustainable built environment using a bamboo composite frame system with cowdung masonry infills', *Urban Lifeline* (2024), 1-17 [S. Bhalla, A. Singh, D. Bhagat, R.P. West]
- 'To teach is human', *Perspectives and strategies on newage education and creative learning*, ed S. Khanra Jha, India, Springer Nature (2024), 7 [R.P. West]
- Xiao, Liwen**, 'Facilitating interface tuning of metal-support interaction on the sepiolite surface for the enhancement of metronidazole removal', *Separation and Purification Technology*, 354 (2025), 129141 [C. Huanq, L. Zhen, Y. Xingji, H. Peiha, F. Qingg]
- 'Algae polysaccharide-induced transport transformation of nanoplastics in seawater-saturated porous media', *Water Research*, 259 (2024), 121807 [L. Changjia, H. Yuanzhan, Y. Wenka, T. Yuche, H. Def]
- 'Analysis of aged microplastics: a review', *Environmental Chemistry Letters*, 22, 4 (2024), 1861-1888 [S. Yanq, S. Linpin, H. Hexinyu, Y. Kef, Y. Lumin]
- 'Characteristics of zero-valent iron surface oxide films under the catalytic interface reactions by assisting ligands in nitrate-contaminated groundwater', *Journal of Hazardous Materials*, 472 (2024), 134433 [Z. We, Q. Lian, L. Lin, G. Chengche, X. Liwe]
- 'Machine learning-assisted assessment of key meteorological and crop factors affecting historical mulch pollution in China', *Journal of Hazardous Materials*, 465 (2024), 133281 [C. Zhen, D. Shuguan, Z. Cairon, X. Liwe, L. Zhib]
- 'A kinetic model for porosity evaluation in Fe(0) mixed material-based sequential groundwater remediation', *Science of The Total Environment*, 908 (2024), 168507 [Z. We, Q. Lian, L. Dunzh, X. Liwe]
- 'Micro and nano plastics release from a single absorbable suture into simulated body fluid', *Journal of Hazardous Materials*, 466, 133559 (2024), <http://hdl.handle.net/2262/108625> [Y. Shi, D. Li, C. Hill, L. Yang, E.D. Sheerin]

ELECTRONIC AND ELECTRICAL ENGINEERING

- Cleare, Ann**, 'Meridians', Dublin, Ireland (2024), [A. Cleare]
- 'Gravity dreams iv' (2024), [A. Cleare]
- 'Terrarium', Dublin, Ireland (2024), [A. Cleare]
- Eadie, Jimmy**, 'Into paradise 'album 25'', UK, Bandcamp, Setanta, Ensign Records (2025), [J. Eadie]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'Cascando', Daliangshan Theatre Festival, China (2024), [J. Eadie]
- 'Crosssampler: a digital convolution cross synthesis instrument', *Audio signal processing for music applications, ICASPM 2024: 18. International conference on audio signal processing for music applications*, Paris, France, World academy of science, engineering and technology (2024), 100-120 [J. Eaide]
- 'Cascando', Staatstheater Mainz, Germany, Staatstheater Mainz/Zeitgeist Irland 24, Culture Ireland. (2024), [J. Eadie]
- Fannin, Paul**, 'Polarising magnetic field effect on some electrical properties of a ferrofluid in microwave field', *Magnetochemistry* 2024, 10, 88 (2024), 1-15 [C.N. Marin, P.C. Fannin. I. Malaescu]
- Farhang, Arman**, 'A generalized framework for pulse-shaping on delay-doppler plane', *IEEE international conference on communications*, Denver, CO, USA (2024), 788-793 [M. Bayat, A. Farhang]
- 'SC-FDMA as a delay-doppler domain modulation technique', *IEEE International Conference on Communications Workshops (ICC Workshops)*, Denver, CO, USA (2024), 69-74 [A. Farhang, M. Bayat]
- 'Combining NOMA-OMA with a multiagent architecture for enhanced spectrum sharing in 6G', *Proceedings of IEEE/IFIP network operations and management symposium 2023, NOMS 2023* (2023), <http://dx.doi.org/10.1109/NOMS56928.2023.10154422> [G.C. Eichler, C.G. Ralha, A. Farhang, M.A. Marotta]
- 'Truncated turbo equalizer with SIC for OTFS', *IEEE Globecom Workshops (GC Workshops)*, Kuala Lumpur, Malaysia (2024), 251-256 [P.S. Sanoopkumar, S. McWade, A. Farhang]
- Harte, Naomi**, 'What automatic speech recognition can and cannot do for conversational speech transcription', *Research Methods in Applied Linguistics*, 3, 3 (2024), <http://dx.doi.org/10.1016/j.rmal.2024.100163> [S. O'Connor Russell, I. Gessinger, A. Krason, G. Vigliocco, N. Harte]
- 'Joint speech-text embeddings for multitask speech processing', *IEEE Access*, 12 (2024), 145955-145967 [M.G. Gonzales, P. Corcoran, N. Harte, M. Schukat]
- 'Noise-robust hearing aid voice control', *IEEE Signal Processing Letters* (2024), <http://dx.doi.org/10.1109/LSP.2024.3512377> [I. Lopez-Espejo, E. Rosello, A. Edraki, N. Harte, J. Jensen]
- Kaszubowska-Anandarajah, Aleksandra**, 'Design of a low threshold single-mode In-P laser using regrowth-free fabrication', *IEEE Photonics Journal*, 16, 3 (2024), 1-9 [A. Sharma, P. Landais, M. Srivastava, M. Wallace, F. Smyth]
- Lopez Valdes, Alejandro**, 'Prediction of hearing aid cognitive outcomes in age-related hearing loss', *Frontiers in Aging Neuroscience* (2025), <https://doi.org/10.3389/fnagi.2025.1548526> [P. Voss, Z.E. Martinez-Moreno, F. Prévost, A. Zeitouni, A. Lopez Valdes]
- 'Analysis of synchronization component dynamics during a cooperative group task as assessed by electroencephalography', *IEEE engineering in medicine and biology conference* (2024), 1-4 [A. Kennedy, A. Lopez Valdes]
- 'Cortical encoding of phonetic onsets of both attended and ignored speech in hearing impaired individuals', *PLoS ONE*, 19, 11 (2024), e0308554 [S. Carta, E. Aličković, J. Zaar, A. López Valdés, G.M. Di Liberto]
- 'Brain clocks capture diversity and disparities in aging and dementia across geographically diverse populations', *Nature Medicine* (2024), [S. Moguiler, S. Baez, H. Hernandez, J. Migeot, B. Miller]
- Marchetti, Nicola**, 'Optimal monitor placement in quantum network tomography', *IEEE International Conference on Quantum Computing and Engineering (QCE)* (2024), <http://dx.doi.org/10.1109/QCE60285.2024.10310> [A. Kalavampara Raghunadhan, M.G. De Andrade, D. Towsley, I. Dey, D. Kilper]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'Detection and classification of anomalies in WSN-enabled cyber-physical systems', *IEEE Sensors Journal* (2025), <http://dx.doi.org/10.1109/JSEN.2024.3520507> [D. Gutierrez-Rojas, C. Kalalas, I. Christou, G. Almeida, E. Eldeeb]
- 'Quantum teleportation in higher dimension and entanglement distribution via quantum switches', *IET Quantum Communication* (2025), <http://dx.doi.org/10.1049/qtq2.12122> [I. Dey, N. Marchetti]
- 'Directional modulation for enhanced privacy in smartwatch devices: proposing a security solution compatible with internet of things devices [bioelectromagnetics]', *IEEE Antennas and Propagation Magazine*, 66, 2 (2024), 59-90 [A. Zandamela, N. Marchetti, A. Narbudowicz]
- 'Flexible multimode-based beamforming MIMO antenna', *Proceedings of the 17th European conference on antennas and propagation*, Florence, Italy (2023), <http://hdl.handle.net/2262/101962> [A. Zandamela, N. Marchetti, A. Narbudowicz]
- 'Electrically small multimodal 3D beamforming MIMO antenna for PHY-Layer security', *Proceedings of the 17th European conference on antennas and propagation*, Florence, Italy (2023), <http://hdl.handle.net/2262/101961> [A. Zandamela, N. Marchetti, A. Narbudowicz]
- 'Virtual spherical modes for AoA estimation with small sub-wavelength antennas', *IEEE Antennas and Wireless Propagation Letters* (2024), <http://dx.doi.org/10.1109/LAWP.2024.3441513> [L. Antony, A. Zandamela, N. Marchetti, A. Narbudowicz]
- 'Quantum game theory meets quantum networks', *IEEE Wireless Communications*, 31, 4 (2024), 90-96 [I. Dey, N. Marchetti, M. Caleffi, A.S. Cacciapuoti]
- 'A novel semantic-functional approach for multiuser event-trigger communication', *Elsevier Ad Hoc Networks*, 159 (2024), <http://dx.doi.org/10.1016/j.adhoc.2024.103496> [P. Gorla, P. Dester, H. Siljak, N. Marchetti, P. Nardelli]
- 'A novel semantic-functional approach for multiuser event-trigger communication', *Ad Hoc Networks*, 159 (2024), 103496 [E.G. Silva Pedro, S. Dester Plinio, H. Siljak, N. Marchetti, H.J. Nardelli Pedro]
- 'Pattern and polarization diversity multi-sector annular antenna for IoT applications', *IEEE Transactions on Antennas and Propagation*, 71, 9 (2023), 7241-7249 [A. Zandamela, N. Marchetti, M.J. Ammann, A. Narbudowicz]
- McDonnell, Maura, 'Visual music animation from Trinity College', University Monstra - Trinity College Dublin, Lisbon, Portugal (2024), [M. McDonnell]
- O'Loughlin, Declan, 'Developments in open-source tools for microwave breast imaging', *2024 18th European Conference on Antennas and Propagation (EuCAP)*, Glasgow, Scotland, the UK (2024), <http://hdl.handle.net/2262/108578> [D. O'Loughlin]
- 'Cross-correlation of confocal images for excised breast tissues of total mastectomy', *IEEE Transactions on Biomedical Engineering*, 71, 5 (2024), 1705-1716 [H. Song, S. Sasada, T. Kadoya, K. Arihiro, M. Okada]
- 'Challenges to demonstrating efficacy when translating microwave diagnostic devices', *2023 IEEE Conference on Antenna Measurements and Applications (CAMA)*, Genoa, Italy (2023), <http://hdl.handle.net/2262/108639> [E. Porter, D. O'Loughlin]
- 'Vicilogic: linking online learning, assessment and prototyping with remote FPGA hardware', *International conference on remote engineering and virtual instrumentation*, Thessaloniki, Greece (2023), https://doi.org/10.1007/978-3-031-42467-0_25 [F. Morgan, L. Bakó, D. O'Loughlin, R. George, A. Beretta]
- 'Simple steps to characterise a conductivity measurement probe for bio-impedance applications', *23rd international conference on biomedical applications of electrical impedance tomography*, Aachen, Germany (2023), <https://doi.org/10.31219/osf.io/pb9eq> [M.J. Krasny, H. Benchakroun, N. Istuk, D. O'Loughlin, A. Elahi]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- O'Rourke, Eugene**, 'Gamma-patterned sensory stimulation reverses synaptic plasticity deficits in rat models of early Alzheimer's disease', *European Journal of Neuroscience*, 58, 6 (2023), 3402-3411 [Y. Yang, T. Ondrejcek, N-W. Hu, S. Islam, E. O'Rourke]
- Perova, Tatiana**, 'Enhancement of 5-fluorouracil drug delivery in a graphene oxide containing electrospon chitosan/PVP construct', *Materials*, 17, 5300 (2024), 1-24 [J.J. Grant, S.C. Pillai, T. Perova, B. Brennan, S.J. Hinder]
- Peters, Nils**, 'The internet of sounds: convergent trends, insights and future directions', *IEEE Internet of Things Journal* (2023), <http://dx.doi.org/10.1109/JIOT.2023.3253602> [L. Turchet, M. Lagrange, C. Rottondi, G. Fazekas, N. Peters]
- 'Debiasing strategies for conversational AI: improving privacy and security decision-making', *Digital Society* (2023), <http://dx.doi.org/10.1007/s44206-023-00062-2> [A. Leschanowsky, B. Birgit, N. Peters]
- 'Direction of arrival estimation using the rotating equatorial microphone', *Frontiers in Signal Processing* (2024), <http://dx.doi.org/10.3389/frsip.2024.1341087> [J. Lawrence, J. Ahrens, N. Peters]
- Pitie, Francois**, 'Subjective assessment of the impact of a content adaptive optimiser for compressing 4K HDR content with AV1', *2023 IEEE International Conference on Image Processing (ICIP)* (2023), 2610-2614 [V. Vibhoothi, A. Katsenou]
- 'The disparity between optimal and practical Lagrangian multiplier estimation in video encoders', *Frontiers in Signal Processing*, 3 (2023), 1205104 [D.J. Ringis, V. Vibhoothi, F. Pitie, A. Kokaram]
- Reilly, Richard**, 'Multimodal analysis of the biomechanical impact of knee angle on the sit-to-stand transition', *Gait and Posture*, 105 (2023), 125-131 [C. O'Keeffe, C. Gill, M. Etzelmueller, C. Taylor, S. Hablani]
- 'Age-related hearing loss associated with differences in the neural correlates of feature binding in visual working memory', *Neurobiology of Aging*, 132 (2023), 233-245 [D.G. Loughrey, C. Jordan, A. Ibanez, M.A. Parra, B.A. Lawlor]
- 'Demographics, culture and participatory nature of multi-marathoners-an observational study highlighting issues with recommendations', *PLoS ONE*, 19, 5 (2024), e0302602 [L. Lundy, R.B. Reilly]
- 'The influence of body position on the resting motor threshold of posterior root-muscle reflexes evoked via transcutaneous spinal cord stimulation', *Journal of Clinical Medicine*, 13, 17 (2024), 5008 [B.T. Gorman, C. Gill, M. Etzelmueller, C. O'Keeffe, R.B. Reilly]
- 'Discrete relationships between spatiotemporal gait characteristics and domain-specific neuropsychological performance in midlife', *Sensors* (2024), <https://doi.org/10.3390/s24123903> [L. Morrison, A.H. Dyer, H. Dolphin, I. Killane, N.M. Bourke]
- 'Contralateral selectivity of upper limb motor pools via targeted stimulation of the cervical spinal cord', *Biomedicines*, 11, 2 (2023), <http://hdl.handle.net/2262/104180> [N. Fleming, C. Taylor, M. Etzelmueller, C. Gill, C. O'Keeffe]
- 'Gamma-patterned sensory stimulation reverses synaptic plasticity deficits in rat models of early Alzheimer's disease', *European Journal of Neuroscience*, 58, 6 (2023), 3402-3411 [Y. Yang, T. Ondrejcek, N-W. Hu, S. Islam, E. O'Rourke]
- 'The impact of temporal synchronisation imprecision on TRF analyses', *Journal of Neuroscience Methods*, 385 (2023), 109765 [S. Carta, A.M.A. Mangiacotti, A.L. Valdes, R.B. Reilly, F. Franco]
- Shanker, Shreejith**, 'A case for FPGA-based accelerators for energy-efficient motion picture video processing', *Applications of Digital Image Processing XLVI*, eds SPIE, San Diego, SPIE (2023), <http://hdl.handle.net/2262/103755> [J. Boyle, S. Shanker]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'Exploring lightweight federated learning for distributed load forecasting', *IEEE SmartGridComm 2023 Conference*, Glasgow, UK (2023), <http://hdl.handle.net/2262/104085> [A. Duttagupta, J. Zhao, S. Shreejith]
- 'Exploring highly quantised neural networks for intrusion detection in automotive CAN', *International conference on Field Programmable Logic and applications (FPL)* (2023), <http://hdl.handle.net/2262/102968> [S. Khandelwal, S. Shreejith]
- 'Real-time zero-day intrusion detection system for automotive controller area network on FPGAs', *International conference on application-specific systems, architectures and processors*, Portugal (2023), <http://hdl.handle.net/2262/102967> [S. Khandelwal, S. Shreejith]
- 'Custom precision accelerators for energy-efficient image-to-image transformations in motion picture workflows', *Applications of digital image processing XLV*, San Diego, USA, SPIE (2023), <http://hdl.handle.net/2262/103756> [E. Murphy, S. Khandelwal, S. Shreejith]
- 'Implementation and analysis of custom instructions on RISC-V for Edge-AI applications', *Proceedings of the 14th international symposium on highly efficient accelerators and reconfigurable technologies*, eds ACM, Porto (2024), 126-129 [A. Kumar M, V. Kumar, D. John, S. Shanker]
- Siljak, Harun*, 'UGEN: UAV and GAN-aided ensemble network for post-disaster survivor detection through ORAN', *IEEE Transactions on Vehicular Technology* (2024), <http://dx.doi.org/10.1109/TVT.2023.3349312> [R.G., Manoharan A, H. Siljak]
- 'A novel semantic-functional approach for multiuser event-trigger communication', *Ad Hoc Networks*, 159 (2024), 103496 [E.G. Silva Pedro, S. Dester Plinio, H. Siljak, N. Marchetti, H.J. Nardelli, A.A. de Souza Rausley]
- Vij, Jagdish*, 'Colossal dielectric permittivity and superparaelectricity in phenyl pyrimidine based liquid crystals', *Journal of Materials Chemistry C*, 13 (2025), 1507-1518 [Y. P. Panarin, W. Jiang, N. Yadav, M. Sahai, Y. Tang]
- 'Extracting the temperature dependence of both nanowire resistivity and junction resistance from electrical measurements on printed silver nanowire networks', *ACS Applied Electronic Materials*, 7, 2 (2025), 806-815 [E. Coleman, A. Kelly, C. Gabbett, L. Doolan, S. Liu]
- 'Dielectric engineering of perovskite BaMnO₃ for the rapid heterogeneous nucleation of Pt nanoparticles for catalytic applications', *Advanced Functional Materials*, 34 (2024), 12 [L. Hughes, A. Roy, N. Yadav, C. Downing, M.P. Browne]
- 'Gyan Prakash Johari (1940-2024)', *Current Science*, 126, 8 (2024), 966-968 [J.K. Vij]
- 'Understanding how junction resistances impact the conduction mechanism in nano-networks', *Nature Communications*, 15, 1 (2024), <http://hdl.handle.net/2262/109848> [C. Gabbett, A.G. Kelly, E. Coleman, J.N. Coleman]
- Wetterling, Friedrich*, 'Ultra-low field magnetic resonance imaging of the human forearm in the earths magnetic field of Dublin, Ireland', *British and Irish Chapter of the International Society for Magnetic Resonance in Medicine*, Nottingham, UK (2024), 98-99 [F. Wetterling, C. Conway, S. Hunt, A. Bokde, A. Kokarem]
- 'Measurement inaccuracy reported via the manufacturer and user facility device experience database for an implantable pulmonary artery pressure sensor: recalibration direction and magnitude results', *European Heart Journal, European Society of Cardiology*, London (2024), 2 [F. Wetterling, V. Kittipibul, M. Fudim]
- Zhao, Jin*, 'Impacts of renewable energy resources on the weather vulnerability of power systems', *Nature Energy* (2024), 8 [J. Zhao, F. Li, Q. Zhang]
- 'Exploring lightweight federated learning for distributed load forecasting', *IEEE SmartGridComm 2023 Conference*, Glasgow, UK (2023), <http://hdl.handle.net/2262/104085> [A. Duttagupta, J. Zhao, S. Shreejith]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

MECHANICAL, MANUFACTURING AND BIOMEDICAL ENGINEERING

Bennett, Gareth, 'Deep sub-wavelength broadband metasurface with micro-perforated panels and extended-neck Helmholtz resonators', *Applied Physics Letters*, 126, 14 (2025), 141703 [J. Wang, G.J. Bennett]

'Air curtains for landing gear noise reduction', *Aerospace Science and Technology*, 161 (2025), 110139 [D. Carroll, M. Pott-Polenske, G.J. Bennett]

'Review of wavenumber-frequency spectrum models of turbulent boundary-layer wall pressure fluctuations', *AIAA Journal*, 63, 3 (2025), 1140-1166 [K. Zhao, Y. Li, R. Pei, H. Li, G.J. Bennett]

'Evaluating an additive manufactured acoustic metamaterial using the advanced noise control fan', *AIAA Journal* (2024), 1-17 [E.P. Ross, K.M. Figueroa-Ibrahim, S.C. Morris, D.L. Sutliff, G.J. Bennett]

'Air curtains as flow control low noise technologies for landing gear noise reduction', *30th AIAA/CEAS Aeroacoustics conference, 30th AIAA/CEAS aeroacoustics conference*, Rome, Italy, American institute of aeronautics and astronautics (2024), <http://hdl.handle.net/2262/110309> [G.J. Bennett, D. Carroll, M. Pott-Pollenske]

'Broadband duct noise reduction using multi-chamber micro-perforated panel absorbers', *30th AIAA/CEAS aeroacoustics conference, 30th AIAA/CEAS aeroacoustics conference*, Rome, Italy, American institute of aeronautics and astronautics (2024), <http://hdl.handle.net/2262/110310> [J. Wang, L. Brady, G.J. Bennett]

Borah, Rajiv, 'Thou shall not heal: overcoming the non-healing behaviour of diabetic foot ulcers by engineering the inflammatory microenvironment', *Advanced Drug Delivery Reviews*, 203 (2023), <http://hdl.handle.net/2262/110865> [M.G. Monaghan, R. Borah, C. Thomsen, S. Browne]

Buckley, Conor, 'In silico modeling the potential clinical effect of growth factor treatment on the metabolism of human nucleus pulposus cells', *JOR Spine*, 7, 3 (2024), <http://dx.doi.org/10.1002/jsp2.1352> [E.E. McDonnell, T. Ni Neill, N. Wilson, S.L. Darwish, J.S. Butler]

'Modulation of inflammation and regeneration in the intervertebral disc using enhanced cell-penetrating peptides for microRNA delivery', *Advanced NanoBiomed Research* (2024), <http://hdl.handle.net/2262/108679> [M.N. Barcellona, T. Ni-Neill, F.J. O'Brien, J.E. Dixon, C.M. Curtin]

'Development and characterization of antacid microcapsules to buffer the acidic intervertebral disc microenvironment', *Journal of Biomedical Materials Research - Part A* (2024), <http://hdl.handle.net/2262/108680> [J. Gansau, E.E. McDonnell, C.T. Buckley]

'The influence of pH and salt concentration on the microstructure and mechanical properties of meniscus extracellular matrix-derived implants', *Journal of Biomedical Materials Research - Part A*, 112, 3 (2024), 359-372 [S. Salinas-Fernandez, O. Garcia, D.J. Kelly, C.T. Buckley]

Gibbons, Michael, 'Water droplet evaporation in varied gravity and electric fields', *NPJ Microgravity*, 10, 1 (2024), <http://hdl.handle.net/2262/108682> [M.J. Gibbons, A. Garivalis, S.M. O'Shaughnessy, A.J. Robinson, P. Di Marco]

Hoey, David, 'Human macrophage polarisation and regulation of angiogenesis and osteogenesis is dependent on culture extracellular matrix and dimensionality', *Biochemical and Biophysical Research Communications*, 735 (2024), <http://hdl.handle.net/2262/111195> [S.R. Petrousek, G.S. Kronemberger, S.A. O'Rourke, L.C. Shanley, A. Dunne]

'Sol-gel-templated bioactive glass scaffold: a review', *Research on Biomedical Engineering*, 40, 1 (2024), 281-296 [M.S. Shoushtari, D. Hoey, D.R.A. Biak, N. Abdullah, S. Kamarudin]

'Evaluation of bioactivity and antibacterial properties of bioglass fabricated using a cellulose nano fibre template', *Materials Chemistry and Physics*, 304, 127863 (2023), <http://dx.doi.org/10.1016/j.matchemphys.2023.127863> [M. Sarmast Sh, Y.S. Leow, A.B. Dayang Radiah, N. Abdullah, S. Alijantabar Aghouzi]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'Multicomponent melt-electrowritten vascular graft to mimic and guide regeneration of small diameter blood vessels', *Advanced Functional Materials*, 2409883 (2024), <http://hdl.handle.net/2262/109206> [A. Federici, O. Garcia, D.J. Kelly, D.A. Hoey]
- 'The structural, mechanical, and biological variation of silica bioglasses obtained by different sintering temperatures', *Journal of Sol-Gel Science and Technology* (2024), <http://hdl.handle.net/2262/109207> [M. Sarmast Sh, A.B. Dayang Radiah, D.A. Hoey, N. Abdullah, H.S. Zainuddin]
- 'Nano sized gallium oxide surface features for enhanced antimicrobial and osteo-integrative responses', *Colloids and Surfaces B: Biointerfaces*, 227 (2023), 113378 [B. Murphy, C. Martins, M. Maggio, M.A. Morris, D.A. Hoey]
- 'Effect of starch binders on the properties of bioglass tablets for bone tissue engineering applications', *Starch* (2024), <https://doi.org/10.1002/star.202300169> [M.S. Shoushtari, A.S.W. Mahmood, D.R.A. Biak, S.A. Aghouzi, D. Hoey]
- 'Sol-gel-templated bioactive glass scaffold: a review', *Research in Biomedical Engineering*, 40 (2024), 281-296 [M.S. Shoushtari, D. Hoey, D. Radiah Awang Biak, N. Abdullah, S. Kamaruddin]
- 'Mechanically activated mesenchymal-derived bone cells drive vessel formation via an extracellular vesicle mediated mechanism', *Journal of Tissue Engineering*, 14 (2023), 20417314231186918 [N. Shen, M. Maggio, I. Woods, M.C. Lowry, R. Almasri]
- 'Melt electrowritten scaffold architectures to mimic tissue mechanics and guide neo-tissue orientation', *Journal of the Mechanical Behavior of Biomedical Materials*, 150 (2024), 1-15 [A.S. Federici, B. Tornifoglio, C. Lally, O. Garcia, D.J. Kelly]
- '2P-FLIM unveils time-dependent metabolic shifts during osteogenic differentiation with a key role of lactate to fuel osteogenesis via glutaminolysis identified', *Stem Cell Res Ther*, 14, 364 (2023), <https://doi.org/10.1186/s13287-023-03606-y> [N.G.B. Neto, M. Suku, D.A. Hoey, M.G. Monaghan]
- Kelly, Daniel*, 'The maturation state and density of human cartilage microtissues influence their fusion and development into scaled-up grafts', *Acta Biomaterialia* (2025), <http://hdl.handle.net/2262/111381> [F.D. Spagnuolo, G. Kronemberger, K.J. Storey, D.J. Kelly]
- 'Growth factor stimulation regimes to support the development and fusion of cartilage microtissues', *Tissue Engineering - Part C: Methods* (2024), <http://hdl.handle.net/2262/110819> [G.S. Kronemberger, F.D. Spagnuolo, A.S. Karam, K. Chattahy, K.J. Storey, D.J. Kelly]
- 'Human macrophage polarisation and regulation of angiogenesis and osteogenesis is dependent on culture extracellular matrix and dimensionality', *Biochemical and Biophysical Research Communications*, 735 (2024), <http://hdl.handle.net/2262/111195> [S.R. Petrousek, G.S. Kronemberger, S.A. O'Rourke, L.C. Shanley, A. Dunne]
- 'Biofabrication and biomanufacturing in Ireland and the UK', *Bio-Design and Manufacturing*, 7, 6 (2024), 825-856 [J.F. Murphy, M. Lavelle, L. Asciak, R. Burdis, H.J. Levis]
- 'Rapidly degrading hydrogels to support biofabrication and 3D bioprinting using cartilage microtissues', *ACS Biomater Sci Eng.* (2024), 1 [G.S. Kronemberger, F.D. Spagnuolo, A.S. Karam, K. Chattahy, K.J. Storey]
- 'Gene activated reinforced scaffolds for SOX9 delivery to enhance repair of large load bearing articular cartilage defects', *European Cells and Materials*, 47 (2024), 91-108 [M. Joyce, T. Hodgkinson, C. Intini, J.E. Dixon, D.J. Kelly]
- 'Multicomponent melt-electrowritten vascular graft to mimic and guide regeneration of small diameter blood vessels', *Advanced Functional Materials*, 2409883 (2024), <http://hdl.handle.net/2262/109206> [A. Federici, O. Garcia, D.J. Kelly, D.A. Hoey]
- 'Feature size specific processing parameters for additively manufactured Ti-6Al-4V Micro-Strut lattices', *SSRN* (2024), <http://hdl.handle.net/2262/109621> [C. O'Keeffe, W. Zhang, R.D. Johnston, P. Promoppatum, D. Taylor]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'Melt electrowritten scaffold architectures to mimic vasculature mechanics and control neo-tissue orientation', *bioRxiv* (2023), <http://dx.doi.org/10.1101/2023.04.17.537192> [A.S. Federici, B. Tornifoglio, C. Lally, O. Garcia, D.J. Kelly]
- 'Chemical etching of Ti-6Al-4V biomaterials fabricated by selective laser melting enhances mesenchymal stromal cell mineralization', *Journal of Biomedical Materials Research - Part A* (2024), <http://hdl.handle.net/2262/109620> [C. O'Keeffe, M. Kotlarz, I.F. Goncalves, C. Lally, D.J. Kelly]
- Kelly, Kevin**, 'Implementing and assessing a performance framework for the innovation measurement in a European manufacturer', *International Journal of Productivity and Performance Management*, 73, 11 (2023), 69-95 [V. Nappi, K. Kelly]
- Kennedy, John**, 'Examining the feasibility of Acoustic Resonance Testing (ART) for quality control in manufacturing', *IMC39* (2024), 10 [N. Braun, J. Kennedy, N. Lishchenko, G.E. O'Donnell]
- 'Predicting airport noise impact to 2040: traffic growth and technology uptake', *Applied Acoustics*, 227 (2025), 110229 [K. Einicke, J. Kennedy]
- '3D printed acoustic materials for the performance enhancement of a building acoustics silencer', *Inter-noise and noise-con congress and conference proceedings*, 268, 8 (2023), 206-214 [A. Ciochon, J. Kennedy]
- 'The impact of surface roughness on an additively manufactured acoustic material: an experimental and numerical investigation', *Journal of Sound and Vibration*, 546 (2023), 117434 [A. Ciochon, J. Kennedy, R. Leiba, L. Flanagan, M. Culleton]
- 'Crowdsourced cycling data applications to estimate noise pollution exposure during urban cycling', *Heliyon*, 10, 6 (2024), e27918 [R. Wogan, J. Kennedy]
- 'Acoustic metamaterials for electronics cooling fan noise reduction', *Inter-noise and noise-con congress and conference proceedings*, 268, 5 (2023), 3145-3153 [S. Wasala, W. Zhao, O. Ogun, L. Stevens, R. Sosseh]
- 'Noise impact of changing flight routes: from planning to reality', *Inter-noise and noise-con congress and conference proceedings*, 268, 6 (2023), 2933-2942 [K. Einicke, J. Kennedy]
- 'Practical guidance on the additive manufacturing of acoustic materials', *Inter-noise and noise-con congress and conference proceedings*, 268, 8 (2023), 194-205 [A. Ciochon, J. Kennedy]
- 'Design and fabrication of 3D-printed composite metastructure with subwavelength and ultrawide bandgaps', *New Journal of Physics*, 25, 5 (2023), 053015 [Muhammad, J. Kennedy, O. Ogun]
- 'Assessing rail-based environmental noise exposure using CNOSSOS-EU', *Applied Acoustics*, 207 (2023), 109322 [J-P. Faulkner, E. Murphy, H.J. Rice, J. Kennedy, E. Bourke]
- 'Inverse design of a topological phononic beam with interface modes', *Journal of Physics D: Applied Physics*, 56, 1 (2023), 015106 [Muhammad, O. Ogun, J. Kennedy]
- 'Efficient modelling of surface roughness effects in additively manufactured materials', *Applied Acoustics*, 220 (2024), 109953 [A. Ciochon, J. Kennedy]
- Koutsioukis, Apostolos**, 'Enhancing the oxygen evolution reaction activity of CuCo based hydroxides with V2CTx MXene', *Journal of Materials Chemistry A* (2024), <http://hdl.handle.net/2262/109208> [B. Schmiedecke, B. Wu, T. Schultz, A.A. Emerenciano, N. Sharma]
- Lally, Caitriona**, 'Aortic valve leaflet assessment to inform novel bioinspired materials: understanding the impact of collagen fibres on the tissue's mechanical behaviour', *Journal of the Mechanical Behaviour of Biomedical Materials*, 163 (2025), <http://hdl.handle.net/2262/110629> [C. Hughes, A. Whelan, D. O'Reilly, E. Campbell, C. Lally]
- 'Development of in silico models to guide the experimental characterisation of penile tissue and inform surgical treatment of erectile dysfunction', *Computers in Biology and Medicine*, 166 (2023), <http://dx.doi.org/10.1016/j.combiomed.2023.107524> [B. Fereidoonnezhad, M. Akbarzadeh Khorshidi, S. Bose, B. Watschke, E. Mareena]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'Tailoring the mechanical properties of macro-porous PVA hydrogels for biomedical applications', *SSRN* (2024), <http://dx.doi.org/10.2139/ssrn.4830078> [S. Bose, M.A. Khorshidi, C. Lally]
- 'The role of tissue biomechanics in the implantation and performance of inflatable penile prostheses: current state of the art and future perspective', *Sexual Medicine Reviews*, 11, 3 (2023), 268-277 [S. Bose, B. Fereidoonhezad, M.A. Khorshidi, B. Watschke, E. Mareena]
- 'Aortic valve leaflet assessment: understanding the impact of collagen microstructure on leaflet mechanical behaviour', *SSRN* (2024), <http://dx.doi.org/10.2139/ssrn.4796135> [C. Hughes, A. Whelan, D. O'Reilly, E. Campbell, C. Lally]
- 'Inverse finite element framework combining ultrasound imaging and inflation testing of PVA artery phantoms', *bioRxiv* (2024), <http://dx.doi.org/10.1101/2024.05.01.591942> [Y. Guendouz, N.A.M. Razif, F. Bernasconi, G. O'Brien, R.D. Johnston]
- 'Feature size specific processing parameters for additively manufactured Ti-6Al-4v micro-strut lattices', *SSRN* (2024), <http://hdl.handle.net/2262/109621> [C. O'Keeffe, W. Zhang, R.D. Johnston, P. Promoppatum, D. Taylor]
- 'Characterisation of human penile tissue properties using experimental testing combined with multi-target inverse finite element modelling', *Acta Biomaterialia* (2024), <http://dx.doi.org/10.1016/j.actbio.2024.06.035> [M. Akbarzadeh Khorshidi, S. Bose, B. Watschke, E. Mareena, C. Lally]
- 'Characterisation of human penile tissue properties using experimental testing combined with multi-target inverse finite element modelling', *SSRN* (2024), <http://dx.doi.org/10.2139/ssrn.4796128> [M.A. Khorshidi, S. Bose, B. Watschke, E. Mareena, C. Lally]
- 'Melt electrowritten scaffold architectures to mimic vasculature mechanics and control neo-tissue orientation', *bioRxiv* (2023), <http://dx.doi.org/10.1101/2023.04.17.537192> [A.S. Federici, B. Tornifoglio, C. Lally, O. Garcia, D.J. Kelly]
- 'Chemical etching of Ti-6Al-4V biomaterials fabricated by selective laser melting enhances mesenchymal stromal cell mineralization', *Journal of Biomedical Materials Research - Part A* (2024), <http://hdl.handle.net/2262/109620> [C. O'Keeffe, M. Kotlarz, I.F. Goncalves, C. Lally, D.J. Kelly]
- 'Experimental testing combined with inverse-FE for mechanical characterisation of penile tissues', *Acta Biomaterialia*, 179 (2024), 180-191 [S. Bose, M. Akbarzadeh Khorshidi, R.D. Johnston, B. Watschke, E. Mareena]
- 'Morphological induced improvements in the bulk mechanical properties of chemically etched additively manufactured Ti-6Al-4V micro-struts', *Additive Manufacturing*, 75, 103748 (2023), <http://dx.doi.org/10.1016/j.addma.2023.103748> [C. O'Keeffe, D. Taylor, C. Lally, D.J. Kelly]
- 'Melt electrowritten scaffold architectures to mimic tissue mechanics and guide neo-tissue orientation', *Journal of the Mechanical Behavior of Biomedical Materials*, 150 (2024), 1-15 [A.S. Federici, B. Tornifoglio, C. Lally, O. Garcia, D.J. Kelly]
- Lupoi, Rocco, 'Evaluating the application of cold spray technology for the deposition of copper-graphene composite coatings', *Coatings*, 15 (2025), 1-16 [F. Zarei, A. Ardeshiri Lordejani, S. Ruan, S. Yin, M. Guagliano]
- 'Oscillatory nature in melt-gas-powder interactions during laser powder bed fusion process revealed by CFD-DEM coupled modelling', *Virtual and Physical Prototyping* (2025), <https://doi.org/10.1080/17452759.2024.2446619> [R. Lupoi, S. Yin]
- 'High speed impact induced dehydrogenation of titanium hydride and formation of cellular structure via cold spray', *Scripta Materialia*, 256 (2025), 116443 [T. Chen, P. Yu, Y. Li, Y. Chen, C. Yang]
- 'Cold spray HEA coating surface microstructural characterization and mechanical testing', *Results in Materials*, 21 (2024), 100540 [R. Sesana, N. Sheibani, L. Corsaro, S. Özbilen, R. Lupoi]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'Development of a novel powder sheets printing process towards the next generation of additive manufacturing: the role of laser defocusing', *Virtual and Physical Prototyping (NVPP)*, 19, 1 (2024), 1-20 [W. Zhang, R. Lupoi]
- 'Enhanced pool boiling heat transfer with porous Ti-6Al-4V-coatings produced by cold spray metal additive manufacturing', *Journal of Physics: Conference Series*, 2766 (2024), 012130 [A.I. Garivalis, Y. Chen, E. Shatskiy, A. Robinson, P. Di Marco]
- 'Material incorporation in powder sheet additive manufacturing toward lightweight designs for future mobility', *Journal of Laser Applications*, 36 (2024), 022026 [W. Zhang, D. Pullini, M. Alberghini, A. Bertinetti, A. Tommasi]
- 'Metal additive manufacturing using powder sheets (MAPS) of HEA CoNiCrFeMn: the effect of the polymer content on microstructure and mechanical properties', *CIRP Annals - Manufacturing Technology*, 73, 1 (2024), 173-176 [A. Sasnauskas, A. Coban, W. Zhang, W.M. Abbot, R. Padamati Babu]
- 'Solid-state deposition of Mo-doped CoCrFeNi high-entropy alloy with excellent wear resistance via cold spray', *Journal of Materials Research and Technology*, 30 (2024), 8382-8395 [N. Fan, T. Chen, J. Ju, A. Rafferty, R. Lupoi]
- 'Cold sprayed Ta-Ag composites: mechanistic insight into enhanced corrosion resistance and antibacterial ability', *Corrosion Science*, 237 (2024), 112284 [P. Yu, G. Perumal, K.J. Genoud, J. Maughan, F.J. O'Brien]
- 'Hydrophobic/hydrophilic surfaces constructed using laser spraying: a new route', *Surfaces and Interfaces*, 22 (2024), 105422 [X. Ye, X. Gui, W. Wang, C. Ge, S. Yin]
- 'Wear characterization of cold sprayed HEA coatings by means of active-passive thermography and tribometer', *Lubricants*, 12, 6 (2024), 1-15 [R. Sesana, L. Corsaro, N. Shebanian, R. Lupoi]
- 'Demonstration and benchmarking of a novel powder sheet additive manufacturing approach with austenitic steel', *Materials and Design*, 245 (2024), 113301 [W. Zhang, S. Marola, S. McConnell, Z. Cai, J. Dugenio]
- 'A novel powder sheet laser additive manufacturing method using irregular morphology feedstock', *CIRP Journal of Manufacturing Science and Technology*, 52 (2024), 26-35 [W. Zhang, A. Coban, A. Sasnauskas, Z. Cai, B. Gillham]
- 'Life cycle assessment (lca) of a newly designed metal additive manufacturing process: maps (metal additive manufacturing using powder sheets)', *AMC 2024*, Turkey (2024), 1-3 [A. Coban, A. Sasnauskas, W. Zhang, W.M. Abbott, R. Lupoi, R.P. Babu]
- McGinn, Conor**, 'The effect of human prosody on comprehension of TTS robot speech', *32nd IEEE International conference on Robot and Human Interactive Communication (ROMAN)* (2023), 1816-1822 [A.K. Coyne, C. McGinn]
- Monaghan, Michael**, 'Melt electrowriting of poly(-caprolactone)-poly(ethylene glycol) backbone polymer blend scaffolds with improved hydrophilicity and functionality', *Biomed. Mater.*, 19 (2024), 055011 [C. Darroch, F. Digeronimo, G. Asaro, M. Minsart, N. Pien]
- Munina, Irina**, 'Strain sensing technology to enable next-generation industry and smart machines for the factories of the future: a review', *IEEE Sensors Journal*, 23, 21 (2023), 10.1109/JSEN.2023.3313013 [Y. Hamed, G. O'Donnell, N. Lishchenko, I. Munina]
- 'A review of 3D printed gradient refractive index lens antennas', *IEEE Access*, 11 (2023), 10.1109/ACCESS.2023.3239782 [I. Munina, I. Grigoriev, G. O'Donnell, D. Trimble]
- 'Effect of phase errors on performance of Ka-band reflectarray with DRA unit cells', *18th European Conference on Antennas and Propagation, EuCAP 2024*, Glasgow, Scotland (2024), 10.23919/EuCAP60739.2024.10501 [I. Munina, I. Grigoriev, G. O'Donnell]
- Murphy, Bruce**, 'Design and validation of a novel hand-worn sensor for assessment of dexterity in neurological conditions', *Journal of Medical Devices, Transactions of the ASME*, 17, 4 (2023), 045002 [C.D. Hayden, D. Murray, D. Geraghty, D. Meldrum, O. Hardiman]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- O'Donnell, Garret**, 'Strain sensing technology to enable next-generation industry and smart machines for the factories of the future: a review', *IEEE Sensors Journal*, 23, 21 (2023), 10.1109/JSEN.2023.3313013 [Y. Hamed, G. O'Donnell, N. Lishchenko, I. Munina]
- 'A review of 3D printed gradient refractive index lens antennas', *IEEE Access*, 11 (2023), 10.1109/ACCESS.2023.3239782 [I. Munina, I. Grigoriev, G. O'Donnell, D. Trimble]
- 'A gear grinding allowance stochastic simulation model', *Advances in Industrial and Manufacturing Engineering*, 8 (2024), 10.1016/j.aime.2023.100135 [N. Lishchenko, V. Larshin, G. O'Donnell]
- 'Effect of phase errors on performance of Ka-band reflectarray with DRA unit cells', *18th European Conference on Antennas and Propagation, EuCAP 2024*, Glasgow, Scotland (2024), 10.23919/EuCAP60739.2024.10501 [I. Munina, I. Grigoriev, G. O'Donnell]
- 'Tailoring the theory of critical distances to better assess the combined effect of complex geometries and process-inherent defects during the fatigue assessment of SLM Ti-6Al-4V', *International Journal of Fatigue*, 172 (2023), 107602 [B. Gillham, A. Yankin, F. McNamara, C. Tomonto, C. Huang]
- O'Shaughnessy, Seamus**, 'Two-dimensional dual jets - a comprehensive review of experimental and numerical analyses', *Energies*, 17, 17 (2024), 4487 [P.J. Murphy, S. Alimohammadi, S.M. O'Shaughnessy]
- 'Water droplet evaporation in varied gravity and electric fields', *NPJ Microgravity*, 10, 1 (2024), <http://hdl.handle.net/2262/108682> [M.J. Gibbons, A.I. Garivalis, S.M. O'Shaughnessy, A.J. Robinson, P. Di Marco]
- 'Experimental investigation of condensation heat transfer on vertically inclined grooved aluminium surfaces', *Journal of Physics: Conference Series*, 2766, 1 (2024), <http://hdl.handle.net/2262/108666> [E. Shatskiy, P.S. Kumavat, S.M. O'Shaughnessy]
- 'An experimental investigation of forced convective liquid immersion cooling of a 12-cell Li-ion battery module', *Journal of Physics: Conference Series*, 2766, 1 (2024), <http://hdl.handle.net/2262/108665> [D.W. Salter, G. Bachelier, P.S. Kumavat, S. Trimble, S.M. O'Shaughnessy]
- 'An experimental investigation of liquid immersion cooling of a four cell lithium-ion battery module', *Journal of Energy Storage*, 86 (2024), <http://hdl.handle.net/2262/108668> [N.P. Williams, D. Trimble, S.M. O'Shaughnessy]
- 'A combined experimental and numerical approach for heat transfer enhancement in a minichannel using half rectified pulsating flows', *Journal of Physics: Conference Series*, 2766, 1 (2024), <http://hdl.handle.net/2262/108667> [P.S. Kumavat, S. Alimohammadi, S.M. O'Shaughnessy]
- Pakdel, Amir**, 'Exploring electrical transport in thin film and bulk thermoelectric materials with an automated Seebeck coefficient and resistivity measurement platform', *Measurement*, 236 (2024), 115162 [S. Masoumi, A. Noori, A. Pakdel]
- 'A comprehensive investigation into thermoelectric properties of PEDOT:PSS/Bi_{0.5}Sb_{1.5}Te₃ composites', *Journal of Materials Chemistry C*, 12, 36 (2024), 14314-14329 [S. Masoumi, K. Zhussupbekov, N. Prochukhan, M.A. Morris, A. Pakdel]
- 'Thermoelectric conversion in buildings', *Material Today Energy* (2023), <http://hdl.handle.net/2262/102586> [M. Jabri, S. Masoumi, F. Sajadiriad, R.P. West, A. Pakdel]
- 'Investigating thin-film thermoelectric generators: leg shape, TEG configuration, and contact resistance analysis', *Energy Conversion and Management: X*, 22 (2024), 100597 [S. Masoumi, M. Jabri, A. Pakdel]
- Persoons, Tim**, 'On the numerical investigation of natural-convection heat sinks across a wide range of flow and operating conditions', *Fluids*, 9, 11 (2024), 252 [L. Dewilde, S. Mughees Ali, R. Nimmagadda, T. Persoons]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'Micromixing strategies for efficient mixing processes: a comprehensive review', *Journal of Micromechanics and Microengineering*, 34, 11 (2024), 113001 [D. Soltani, T. Persoons, S. Alimohammadi]
- 'Large eddy simulation for aeroacoustic prediction and characterization of electronics cooling axial fans under various operating conditions', *Applied Acoustics*, 231 (2025), 110530 [W. Zhao, S. Wasala, T. Persoons]
- 'Experimental and numerical investigation of winglet designs for optimized performance of small axial fans', *Applied Acoustics*, 231 (2025), 110448 [J. Hickey, W. Zhao, T. Persoons]
- 'On the numerical investigation of two-phase evaporative spray cooling technology for data centre applications', *Fluids*, 9, 12 (2024), 284 [N. Gao, S. Mughees Ali, T. Persoons]
- 'Application of shadowgraph imaging (SGI) particle characterisation data to interpret the impact of varying test conditions on powder dissolution and to develop an automated agglomeration identification method (AIM) in the USP flow-through apparatus', *International Journal of Pharmaceutics*, 666 (2024), 124778 [A.R. Taseva, T. Persoons, A.M. Healy, D.M. D'Arcy]
- 'Advances in modeling and characterization for electronics cooling', *IEEE Transactions on Components, Packaging and Manufacturing Technology*, 13, 8 (2023), 1085-1087 [T. Persoons, L. Codecasa]
- 'A parametric design study of natural-convection-cooled heat sinks', *Fluids*, 8, 8 (2023), <http://dx.doi.org/10.3390/fluids8080234> [O. McCay, R. Nimmagadda, S.M. Ali, T. Persoons]
- 'On the fast prediction of the aerodynamic performance of electronics cooling fans considering the effect of tip clearance', *IEEE Transactions on Components, Packaging and Manufacturing Technology*, 13, 8 (2023), 1139-1146 [W. Zhao, S. Wasala, T. Persoons]
- 'Electromagnetohydrodynamic flow through a periodically grooved channel', *Journal of Physics D: Applied Physics*, 57, 16 (2024), <http://dx.doi.org/10.1088/1361-6463/ad2007> [M.K. Dewangan, T. Persoons]
- 'In vitro and in silico methods to investigate the effect of moderately increasing medium viscosity and density on ibuprofen dissolution rate', *European Journal of Pharmaceutics and Biopharmaceutics*, 193 (2023), 74-88 [M. Navas-Bachiller, T. Persoons, D.M. D'Arcy]
- 'Application of an AI image analysis and classification approach to characterise dissolution and precipitation events in the flow through apparatus', *European Journal of Pharmaceutics and Biopharmaceutics: Official Journal of Arbeitsgemeinschaft fur Pharmazeutische Verfahrenstechnik e.V* (2023), S0939-6411(23)00108-X [A.R. Taseva, T. Persoons, D.M. D'Arcy]
- Robinson, Anthony**, 'Enhanced pool boiling heat transfer with porous Ti-6Al-4V-coatings produced by cold spray metal additive manufacturing', *Journal of Physics: Conference Series*, 2766 (2024), 012130 [A. Ioannis Garivalis, Y. Chen, E. Shatskiy, A. Robinson, P. Di Marco]
- 'Closed loop liquid cooling of high-powered CPUs: a case study on cooling performance and energy optimization', *Case Studies in Thermal Engineering*, 50 (2023), <http://dx.doi.org/10.1016/j.csite.2023.103472> [F.M. Naduvilakath-Mohammed, R. Jenkins, G. Byrne, A.J. Robinson]
- 'EHD augmented heat transfer during upward bubbly flow boiling for low to medium frequency AC electric fields', *International Journal of Thermal Sciences*, 191 (2023), <http://dx.doi.org/10.1016/j.ijthermalsci.2023.108346> [S. Ahmadi, M. Eraghubi, M. Akhavan-Behabadi, P. Hanafizadeh, S. Sayadian]
- 'A rate-of-rise facility for measuring properties of wick structures', *Measurement Science and Technology*, 34, 4 (2023), <http://dx.doi.org/10.1088/1361-6501/acad1c> [A. Elkholy, J. Durfee, J.P. Mooney, A.J. Robinson, R. Kempers]
- 'An experimental investigation of vapor compression refrigeration cooling and energy performance for CPU thermal management', *Case Studies in Thermal Engineering*, 54 (2024), <http://dx.doi.org/10.1016/j.csite.2023.103963> [F.M. Naduvilakath-Mohammed, M. Lebon, G. Byrne, A.J. Robinson]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'Water droplet evaporation in varied gravity and electric fields', *Npj Microgravity*, 10, 1 (2024), <http://hdl.handle.net/2262/108682> [M.J. Gibbons, A.I. Garivalis, S.M. O'Shaughnessy, A.J. Robinson, P. Di Marco]
- Simms, Ciaran**, 'Are we tackle ready? Cross-sectional video analysis of match tackle characteristics in elite women's Rugby Union', *European Journal of Sports Science*, 24, 7 (2024), 999-1009 [K. Dane, S.W. West, S. Hendricks, C. Simms, N. Van Dyk]
- 'Corrigendum: The Polycomb group proteins bind throughout the INK4A-ARF locus and are disassociated in senescent cells', *Genes and Development*, 37, 17-18 (2023), 861 [A.P. Bracken, D. Kleine-Kohlbrecher, N. Dietrich, D. Pasini, K.H. Hansen]
- 'Correction to: EZH2 is downstream of the pRB-E2F pathway, essential for proliferation and amplified in cancer (The EMBO Journal, (2003), 22, 20, (5323-5335), 10.1093/emboj/cdg542)', *EMBO Journal*, 43, 5 (2024), 886 [A.P. Bracken, D. Pasini, M. Capra, E. Prosperini, E. Colli]
- Spence, Stephen**, 'Collaborative robust design optimization of blade geometry and manufacturing tolerance for a transonic centrifugal impeller', *ASME Journal of Turbomachinery*, 145, 7 (2023), 15 [Y. Liu, Y. Ju, R. Qin, S. Spence, C. Zhang]
- 'Insights into turbocharger centrifugal compressor stability using high-fidelity CFD and a novel impeller diffusion factor', *ASME Turbo Expo 2024*, London, UK (2024), <http://hdl.handle.net/2262/108686> [Y. Liu, S. Spence, J. Horsley, S. Mann, C. Stuart]
- 'Investigation of the surrogate model in an ANN-Meanline hybrid model for radial turbine performance prediction', *International Journal of Gas Turbine, Propulsion and Power Systems*, 15, 2 (2024), 9-18 [P. Ren, C. Stuart, M. Zhang, R. Inomata, K. Nakamura]
- Stuart, Charles**, 'Characterizing the full climate impact of individual real-world flights using a linear temperature response model', *Aerospace* (2025), <http://hdl.handle.net/2262/110798> [M. Awde, C. Stuart]
- 'Evaluation of the GEKO turbulence model for whole aircraft drag prediction', *AIAA SCITECH Forum and Exposition*, Orlando, USA (2025), <http://hdl.handle.net/2262/110457> [A. Kennedy, C. Stuart]
- 'Interaction of SPI pellets with plasma on JET and associated disruptions', *Physica Scripta* (2024), <http://dx.doi.org/10.1088/1402-4896/ad55bd> [S.N. Gerasimov, L.R. Baylor, A. Boboc, I.S. Carvalho, P. Carvalho]
- 'Insights into turbocharger centrifugal compressor stability using high-fidelity computational fluid dynamics and a novel impeller diffusion factor', *ASME Journal of Turbomachinery* (2024), <https://doi.org/10.1115/1.4066742> [Y. Liu, S.W.T. Spence, J. Horsley, S. Mann, C. Stuart]
- 'Evaluation and simulation of parallel hybrid electric propulsion with real flight data', *ICAS congress 2024*, Florence, Italy (2024), <http://hdl.handle.net/2262/109212> [H.r. Murphy, C. Gallagher, C. Stuart, S. Spence, S. Fitzgerald]
- 'Characterising the role of fleet renewal on the pathway to 2050: a European airline case study', *ICAS congress 2024*, Florence, Italy (2024), <http://hdl.handle.net/2262/109213> [N. Barry, C. Gallagher, S. Fitzgerald, C. Stuart]
- 'Insights into turbocharger centrifugal compressor stability using high-fidelity CFD and a novel impeller diffusion factor', *ASME Turbo Expo 2024: turbomachinery technical conference and exposition*, London, UK (2024), <https://doi.org/10.1115/GT2024-123825> [Y. Liu, S. Spence, J. Horsley, S. Mann, C. Stuart]
- 'The effect of chemical kinetic mechanisms on the flame transfer function', *GPPS Chania24*, Chania, Greece (2024), <http://hdl.handle.net/2262/109181> [C. Thomas, S. Spence, C. Stuart, S. Jella, M. Furi, G. Bourque]
- 'Liquid hydrogen and synthetic sustainable aviation fuel: a European airline case study', *GPPS Chania24*, Chania, Greece (2024), <http://hdl.handle.net/2262/109182> [C. Gallagher, C. Stuart, S. Spence]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'Advanced propulsion system evaluation for real-world short-haul operations: open rotor vs. UHBPR turbofan', *AIAA AVIATION*, Las Vegas, USA (2024), <http://hdl.handle.net/2262/110456> [C. Gallagher, C.J. Stuart, S. Spence]
- 'Optimising for sustainability as an objective function within airline fleet scheduling: an Ireland-EU mobility case study', *AIAA AVIATION*, Las Vegas, USA (2024), <http://hdl.handle.net/2262/110458> [N. Barry, C. Gallagher, S. Fitzgerald, C.J. Stuart]
- 'Investigation of the surrogate model in an ANN-meanline hybrid model for radial turbine performance prediction', *International Journal of Gas Turbine, Propulsion and Power Systems*, 15, 2 (2024), 9-18 [P. Ren, C. Stuart, M. Zhang, R. Inomata, K. Nakamura]
- Trimble, Daniel**, 'Optimization of cobalt chrome 3D re-entrant auxetics fabricated using selective laser melting', *Engineering Structures*, 278, 115542 (2023), <http://dx.doi.org/10.1016/j.engstruct.2022.115542> [D. Singh, D. Tobin, L. Dowling, D. Trimble]
- 'An integrated mitigation approach to diffuse agricultural water pollution - a scoping review', *Frontiers in Environmental Science*, 12 (2024), 1-17 [L. Quill, D. Ferreira, B. Joyce, G. Coleman, C. Harper]
- 'A review of 3D printed gradient refractive index lens antennas', *IEEE Access*, 11 (2023), 10.1109/ACCESS.2023.3239782 [I. Munina, I. Grigoriev, G. O'Donnell, D. Trimble]
- 'An experimental investigation of liquid immersion cooling of a four cell lithium-ion battery module', *Journal of Energy Storage*, 86 (2024), <http://hdl.handle.net/2262/108668> [N.P. Williams, D. Trimble, S.M. O'Shaughnessy]
- 'Characterisation of force and torque with auxiliary heating during friction stir spot welding of AA2024-T3', *Results in Materials*, 21, 100535 (2024), <http://dx.doi.org/10.1016/j.rinma.2024.100535> [D. Tobin, S. O'Shaughnessy, D. Trimble]
- 'Tailoring the theory of critical distances to better assess the combined effect of complex geometries and process-inherent defects during the fatigue assessment of SLM Ti-6Al-4V', *International Journal of Fatigue*, 172 (2023), 107602 [B. Gillham, A. Yankin, F. McNamara, C. Tomonto, C. Huang]
- 'Two-photon polymerization of sugar responsive 4D microstructures', *Advanced Functional Materials* (2023), <http://hdl.handle.net/2262/102407> [A. Ennis, D. Nicdao, S. Kolagatla, L. Dowling, Y. Tskhe]
- 'Evaluation of bimodal microstructures in selective-laser-melted and heat-treated Ti-6Al-4V', *Materials and Design*, 227, 111700 (2023), <http://hdl.handle.net/2262/104145> [T. McKenna, C. Tomonto, G. Duggan, E. Lalor, S. O'Shaughnessy]
- Yin, Shuo**, 'Improved strength-ductility synergy in a novel CrCoNiFe/Cu composite via metallurgical bonding interfaces', *Journal of Alloys and Compounds* (2025), 178783 [CC. Yang, B. Guo, X. Yu, S. Zhou, X. Wang]
- 'Oscillatory nature in melt-gas-powder interactions during laser powder bed fusion process revealed by CFD-DEM coupled modelling', *Virtual and Physical Prototyping* (2025), <https://doi.org/10.1080/17452759.2024.2446619> [R. Lupoi, S. Yin]
- 'High speed impact induced dehydrogenation of titanium hydride and formation of cellular structure via cold spray', *Scripta Materialia*, 256 (2025), 116443 [T. Chen, P. Yu, Y. Li, Y. Chen, C. Yang]
- 'Cold sprayed Ta-Ag composites: mechanistic insight into enhanced corrosion resistance and antibacterial ability', *Corrosion Science*, 237 (2024), 112284 [P. Yu, G. Perumal, K.J. Genoud, J. Maughan, F.J. O'Brien]
- 'Deposition mechanism of ceramic reinforced metal matrix composites via cold spraying', *Additive Manufacturing*, 85 (2024), 104167 [Z. Wang, P. Mao, C. Huang, P. Yu, W. Li]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics School of Genetics and Microbiology

GENETICS

Bracken, Adrian, 'Corrigendum: The polycomb group proteins bind throughout the INK4A-ARF locus and are disassociated in senescent cells', *Genes and development*, 37, 17-18 (2023), 861 [A.P. Bracken, D. Kleine-Kohlbrecher, N. Dietrich, K.H. Hansen, K. Helin]

'Correction to: EZH2 is downstream of the pRB-E2F pathway, essential for proliferation and amplified in cancer (The EMBO Journal, (2003), 22, 20, (5323-5335), 10.1093/emboj/cdg542)', *EMBO Journal*, 43, 5 (2024), 886 [A.P. Bracken, D. Pasini, M. Capra, E. Prosperini, E. Colli]

Bradley, Daniel, 'Genomic imputation of ancient Asian populations contrasts local adaptation in pre- and post-agricultural Japan', *iScience*, 27, 110050 (2024), <https://doi.org/10.1016/j.isci.2024.110050> [N.P. Cooke, M. Murray, L.M. Cassidy, V. Mattiangeli, K. Okazaki]

'Genomic insights into a tripartite ancestry in the southern Ryukyu islands', *Evolutionary Human Sciences*, 5 (2023), e23 [N.P. Cooke, V. Mattiangeli, L.M. Cassidy, K. Okazaki, K. Kasai]

Byrne, Ross, 'Considerations in the search for epistasis', *Genome Biology*, 25, 1 (2024), 296 [M. Balvert, J. Cooper-Knock, J. Stamp, R.P. Byrne, S. Mourragui]

'The role of genetically predicted serum iron levels on neurodegenerative and cardiovascular traits', *Scientific Reports*, 14, 1 (2024), 24588 [W. Belbellaj, F. Lona-Durazo, C. Bodano, D. Busseuil, M.C. Cyr]

'A genetic perspective on the recent demographic history of Ireland and Britain', *European Journal of Human Genetics: EJHG* (2025), <http://dx.doi.org/10.1038/s41431-025-01794-0> [A. Shanmugam, M. Merrigan, S. O'Reilly, A.M. Molloy, L. Brody]

Campbell, Matthew, 'Gene therapy for glaucoma: targeting key mechanisms', *Vision Research*, 225, 108502 (2024), <http://dx.doi.org/10.1016/j.visres.2024.108502> [J. Henderson, J. O'Callaghan, M. Campbell]

'Imaging blood-brain barrier dysfunction in drug-resistant epilepsy: a multi-center feasibility study', *Epilepsia* (2024), <http://dx.doi.org/10.1111/epi.18145> [N. Cafri, S. Mirloo, D. Zarhin, L. Kamintsky, Y. Serlin]

'NX210c drug candidate peptide strengthens mouse and human blood-brain barriers', *Fluids and Barriers of the CNS*, 21, 1 (2024), <http://dx.doi.org/10.1186/s12987-024-00577-x> [C. Greene, N. Rebergue, G. Fewell, D. Janigro, Y. Godfrin]

'Multimodal analysis of the retinal manifestations of tuberous sclerosis complex: a case series', *Ophthalmic Surgery Lasers and Imaging Retina*, 55, 10 (2024), 568-574 [M.M. O'Riordan, C. Behan, F. O'Leary, N. Hudson, C.P. Doherty]

'Author correction: Blood-brain barrier disruption and sustained systemic inflammation in individuals with long covid-associated cognitive impairment', *Nature Neuroscience*, 27, 5 (2024), 1019 [C. Greene, R. Connolly, D. Brennan, A. Laffan, E. O'Keeffe]

'The blood-brain barrier in bipolar disorders: a systematic review', *Journal of Affective Disorders*, 361 (2024), 434-444 [A.C. Wakonigg, F. McElhatton, B. O'Mahony, M. Campbell, T.A. Pollak]

'Synergistic induction of blood-brain barrier properties', *Proceedings of the National Academy of Sciences of the United States of America*, 121, 21 (2024), e2316006121 [G. Porkoláb, M. Mészáros, A. Szecskó, J.P. Vigh, F.R. Walter]

'Mosaic deletion of claudin-5 reveals rapid non-cell-autonomous consequences of blood-brain barrier leakage', *Cell Reports*, 43, 3 (2024), 113911 [E. Vázquez-Liébanas, G. Mocci, W. Li, B. Laviña, A. Reddy]

'Circulating myeloid-derived MMP8 in stress susceptibility and depression', *Nature*, 626, 8001 (2024), 1108-1115 [F. Cathomas, H.Y. Lin, K.L. Chan, L. Li, L.F. Parise]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'A loss of function mutation in CLDN25 causing Pelizaeus-Merzbacher-like leukodystrophy', *Human Molecular Genetics*, 33, 12 (2024), 1055-1063 [Y. Hashimoto, C. Besmond, N. Boddaert, A. Munnich, A.M. Campbell]
- 'Pumilio-1 mediated translational control of claudin-5 at the blood-brain barrier', *Fluids and Barriers of the CNS*, 21, 1 (2024), 52 [Y. Hashimoto, C. Greene, N. Hanley, N. Hudson, D. Henshall]
- 'Eyes on glutamate in angiogenesis and barrier formation', *Neuron*, 112, 12 (2024), 1895-1897 [Y. Hashimoto, M. Campbell]
- 'Correction to: Blood-brain barrier disruption and sustained systemic inflammation in individuals with long covid-associated cognitive impairment (Nature Neuroscience, (2024), 27, 3, (421-432), 10.1038/s41593-024-01576-9)', *Nature Neuroscience*, 27, 5 (2024), 1019 [C. Greene, R. Connolly, D. Brennan, A. Laffan, E. O'Keeffe]
- 'Blood-brain barrier disruption and sustained systemic inflammation in individuals with long covid-associated cognitive impairment', *Nature neuroscience*, 27, 3 (2024), 421-432 [C. Greene, R. Connolly, D. Brennan, A. Laffan, E. O'Keeffe]
- Cassidy, Lara**, 'Genomic imputation of ancient Asian populations contrasts local adaptation in pre- and post-agricultural Japan', *iScience*, 27, 110050 (2024), <https://doi.org/10.1016/j.isci.2024.110050> [N.P. Cooke, M. Murray, L.M. Cassidy, V. Mattiangeli, K. Okazaki]
- Chadderton, Naomi**, 'AAV-NDI1 therapy provides significant benefit to murine and cellular models of glaucoma', *Int. J. Mol. Sci.* 2024, 25, 8876, 25 (2024), 8876-8893 [S. Millington-Ward, A. Palfi, C. Shortall, L.K. Finnegan, E. Bargroff]
- Daly, Kevin**, 'Ancient genomics and the origin, dispersal, and development of domestic sheep', *Science* (2025), <http://hdl.handle.net/2262/110770> [K.G. Daly, V.E. Mullin, A.J. Hare, D.G. Bradley]
- Dolan, Michael-John**, 'Exposure of iPSC-derived human microglia to brain substrates enables the generation and manipulation of diverse transcriptional states in vitro', *Nature Immunology*, 24, 8 (2023), 1382-1390 [M.J. Dolan, M. Therrien, S. Jereb, T. Kamath, B. Stevens]
- Farrar, Gwyneth**, 'AAV-NDI1 therapy provides significant benefit to murine and cellular models of glaucoma', *Int. J. Mol. Sci.* 2024, 25, 8876, 25 (2024), 8876-8893 [S. Millington-Ward, A. Palfi, C. Shortall, N. Chadderton, G.J. Farrar]
- 'Towards uncovering the role of incomplete penetrance in maculopathies through sequencing of 105 disease-associated genes', *Biomolecules*, 14, 3 (2024), 367-387 [R.J. Hitti-Malin, D.M. Panneman, Z. Corradi, E.G.M. Boonen, F.P.M. Cremers]
- 'Representation of women among individuals with mild variants in ABCA4-associated retinopathy: a meta-analysis', *JAMA Ophthalmol.* 142, 5 (2024), 463-471 10.1001/jamaophthol.2024.06 [S.S. Cornelis, J. Int'Hout, E.H. Runhart, O. Grunewald, C.M. Dhaenens]
- Finnegan, Laura**, 'AAV-NDI1 therapy provides significant benefit to murine and cellular models of glaucoma', *Int. J. Mol. Sci.* 2024, 25, 8876, 25 (2024), 8876-8893 [S. Millington-Ward, A. Palfi, C. Shortall, L.K. Finnegan, E. Bargroff]
- Hokamp, Karsten**, 'Global analysis of the RNA-RNA interactome in *Acinetobacter baumannii* AB5075 uncovers a small regulatory RNA repressing the virulence-related outer membrane protein CarO', *Nucleic Acids Research* (2024), <https://doi.org/10.1093/nar/gkae668> [F.J. Hamrock, D. Ryan, A. Shaibah, A.S. Ershova, A. Mogre]
- Humphries, Peter**, 'Matrix metalloproteinase-3 (MMP-3)-mediated gene therapy for glaucoma', *Science Advances*, 9, 16 (2023), <http://dx.doi.org/10.1126/sciadv.adf6537> [J. O'Callaghan, C. Delaney, M.S. Lawrence, M. Campbell]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

Kenna, Paul, 'AAV-ND11 therapy provides significant benefit to murine and cellular models of glaucoma', *Int. J. Mol. Sci.* 2024, 25, 8876, 25(2024), 8876-8893 [S. Millington-Ward, A. Palfi, C. Shortall, L.K. Finnegan, E. Bargroff]

Mattiangeli, Valeria, 'Genomic imputation of ancient Asian populations contrasts local adaptation in pre- and post-agricultural Japan', *iScience*, 27, 110050 (2024), <https://doi.org/10.1016/j.isci.2024.110050> [N.P. Cooke, M. Murray, L.M. Cassidy, V. Mattiangeli, K. Okazaki]

'Genomic insights into a tripartite ancestry in the Southern Ryukyu Islands', *Evolutionary Human Sciences*, 5 (2023), e23 [N.P. Cooke, V. Mattiangeli, L.M. Cassidy, K. Okazaki, K. Kasai]

McLaughlin, Russell, 'Whole genome sequencing analysis reveals post-zygotic mutation variability in monozygotic twins discordant for amyotrophic lateral sclerosis', *Neurobiology of Aging*, 122 (2023), 76-87 [G.H.P. Tazelaar, P.J. Hop, M. Seelen, M.A. van Es]

'Cognitive and neuropsychiatric endophenotypes in amyotrophic lateral sclerosis', *Brain Communications*, 5, 3 (2023), <http://dx.doi.org/10.1093/braincomms/fcad166> [E. Costello, M. Ryan, B. Donohoe, C. Kavanagh, O. Hardiman, N. Pender]

'Large-scale analyses of CAV1 and CAV2 suggest their expression is higher in post-mortem ALS brain tissue and affects survival', *Frontiers in Cellular Neuroscience*, 17, 1112405 (2023), <http://dx.doi.org/10.3389/fncel.2023.1112405> [B.N. Adey, J. Cooper-Knock, A. Al Khleifat, A. Iacoangeli]

'Mutations in the tail and rod domains of the neurofilament heavy-chain gene increase the risk of ALS', *Annals of Clinical and Translational Neurology*, 11, 7 (2024), 1775-1786 [H. Marriott, T.P. Spargo, A. Al Khleifat, P. Schwab, A. Al-Chalabi]

'Comparison of machine learning methods for genomic prediction of selected *Arabidopsis thaliana* traits', *PLoS ONE*, 19, 8 (2024), <http://dx.doi.org/10.1371/journal.pone.0308962> [C.M. Kelly, R.L. McLaughlin]

'Bioarchaeology aids the cultural understanding of six characters in search of their agency (Tarquinia, ninth-seventh century BC, central Italy)', *Scientific Reports*, 14, 1 (2024), <http://dx.doi.org/10.1038/s41598-024-61052-z> [G. Bagnasco, M. Marzullo, C. Cattaneo, S. Stoddart]

'Correction to: The SOD1-mediated ALS phenotype shows a decoupling between age of symptom onset and disease duration (Nature Communications, (2022), 13, 1, (6901), 10.1038/s41467-022-34620-y)', *Nature Communications*, 15, 1 (2024), <http://dx.doi.org/10.1038/s41467-024-49938-y> [S. Opie-Martin, A. Iacoangeli, S.D. Topp, C.E. Shaw]

'Limbic network and papez circuit involvement in ALS: imaging and clinical profiles in GGGGCC hexanucleotide carriers in C9orf72 and C9orf72-negative patients', *Biology*, 13, 7 (2024), <http://dx.doi.org/10.3390/biology13070504> [F. Christidi, J. Kleinerova, E.L. Tan, J. Lope, P. Bede]

'Radiological correlates of pseudobulbar affect: corticobulbar and cerebellar components in primary lateral sclerosis', *J Neurol Sci.*, 451 (2023), 120726 [M. Tahedi, E.L. Tan, W.F. Siah, J.C. Hengeveld, M.A. Doherty]

Millington-Ward, Sophia, 'AAV-ND11 therapy provides significant benefit to murine and cellular models of glaucoma', *Int. J. Mol. Sci.* 25 (2024), 8876-8893 [S. Millington-Ward, A. Palfi, C. Shortall, L.K. Finnegan, E. Bargroff]

Mitchell, Kevin, 'Individual peak alpha frequency correlates with visual temporal resolution, but only under specific task conditions', *European Journal of Neuroscience* (2024), <http://dx.doi.org/10.1111/ejn.16519> [C.S. Haarlem, K.J. Mitchell, A.L. Jackson, R.G. O'Connell]

'The speed of sight: individual variation in critical flicker fusion thresholds', *PLoS ONE*, 19, 4 April (2024), <http://dx.doi.org/10.1371/journal.pone.0298007> [C.S. Haarlem, R.G. O'Connell, K.J. Mitchell, A.L. Jackson]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'Systematic analysis of variants escaping nonsense-mediated decay uncovers candidate Mendelian diseases', *American Journal of Human Genetics*, 111, 1 (2024), 70-81 [R.I. Torene, M.J. Guillen Sacoto, F. Millan, Z. Zhang, S. McGee]
- Ongaro, Linda, 'A history of multiple Denisovan introgression events in modern humans', *Nature Genetics* (2024), <http://hdl.handle.net/2262/110305> [L. Ongaro, E. Huerta-Sanchez]
- Palfi, Arpad, 'AAV-ND11 therapy provides significant benefit to murine and cellular models of glaucoma', *Int. J. Mol. Sci.*, 25 (2024), 8876-8893 [S. Millington-Ward, A. Palfi, C. Shortall, L.K. Finnegan, E. Bargroff]
- Wellmer, Frank, 'Transcriptional analysis in multiple barley varieties identifies signatures of waterlogging response', *Plant Direct*, 7, 8 (2023), <http://dx.doi.org/10.1002/pld3.518> [A. Miricescu, A.J. Brazel, J. Beegan, F. Wellmer, E. Graciet]
- 'Breaking boundaries: a novel role for CUC genes in sex determination in cucurbits', *Journal of Experimental Botany*, 75, 7 (2024), 1796-1799 [M.A. Pelayo, F. Wellmer]
- MICROBIOLOGY
- Dorman, Charles, 'Parameterising a computational model of supercoiling in plasmid DNA', *Alife-2024 (MIT Press)*, 64 (2024), 1-9 [P. Faulkner Rainford, V. Velasco-Berrelleza, A. Mogre, C.J. Dorman, S. Harris]
- Fleming, Alastair, 'The influence of flocculation upon global gene transcription in a yeast CYC8 mutant', *Microbial Genomics*, 10, 1 (2024), 1-17 [B. Lee, K. Hokamp, M.M. Alhussain, A.A. Bamagoos, A.B. Fleming]
- '*Aspergillus fumigatus* mitogen-activated protein kinase MpkA is involved in gliotoxin production and self-protection', *Nature Communications*, 15, 1 (2024), 1-18 [P. Alves de Castro, C. Figueiredo Pinzan, T. Fernanda Dos Reis, G.H. Goldman]
- Kroger, Carsten, 'Lysis of *Escherichia coli* by colicin Ib contributes to bacterial cross-feeding by releasing active β -galactosidase', *The ISME Journal* (2025), [N.A. Lermينياux, J.M. Kaufman, L.J. Schnell, S.D. Workman, D.M. Suchan]
- 'CsrA-mediated regulation of a virulence switch in *Acinetobacter baumannii*', *mBio* (2025), <https://doi.org/10.1128/mbio.04058-24> [R. Singh, M. Pérez-Varela, J.M. Colquhoun, C. Kröger, F.J. Hamrock]
- 'Parameterising a computational model of supercoiling in plasmid DNA with biophysics modeling', *ALIFE 2024: proceedings of the 2024 artificial life conference*, MIT Press (2024), 9 [P.F. Rainford, V. Velasco-Berrelleza, A. Mogre, C.J. Dorman, S. Harris]
- 'Global analysis of the RNA-RNA interactome in *Acinetobacter baumannii* AB5075 uncovers a small regulatory RNA repressing the virulence-related outer membrane protein CarO', *Nucleic Acids Research* (2024), <https://doi.org/10.1093/nar/gkae668> [F.J. Hamrock, D. Ryan, A. Shaibah, A.S. Ershova, A. Mogre]
- '*Salmonella enterica* serovar Typhimurium ST313 sublineage 2.2 has emerged in Malawi with a characteristic gene expression signature and a fitness advantage', *MicroLife* (2024), <https://doi.org/10.1093/femsml/uqae005> [B. Kumwenda, R. Canals, A.V. Predeus, X. Zhu, C. Kröger]
- Martins, Marta, 'Antimicrobial activity of manganese(i) tricarbonyl complexes bearing 1,2,3-triazole ligands', *Molecules*, 28, 21 (2023), <http://dx.doi.org/10.3390/molecules28217453> [C. Trigueiros, C.S.B. Gomes, A.R. Fernandes, O.A. Lenis-Rojas, M. Martins, B. Royo]
- Ní Leathlobhair, Máire, 'Distinct immune cell infiltration patterns in pancreatic ductal adenocarcinoma (PDAC) exhibit divergent immune cell selection and immunosuppressive mechanisms', *Nature Communications*, 16, 1 (2025), 1397 [S. Sivakumar, A. Jainarayanan, E. Arbe-Barnes, R. Bashford-Rogers]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'Genomic landscape of adult testicular germ cell tumours in the 100,000 genomes project', *Nature Communications*, 15, 1 (2024), 9247 [M. Ní Leathlobhair, A. Frangou, B. Kinnersley]
- 'The genomic landscape of 2,023 colorectal cancers', *Nature*, 633, 8028 (2024), 127-136 [A.J. Cornish, A.J. Gruber, B. Kinnersley, D. Chubb, A. Frangou]
- 'Gestational trophoblastic disease: understanding the molecular mechanisms of placental tumours', *Disease Models and Mechanisms*, 18, 1 (2025), DMM052010 [A. Nicheperovich, S. Schuster-Böckler, M. Ní Leathlobhair]
- O'Boyle, Nicky*, 'Aurodox inhibits type III secretion in multiple gram-negative pathogens', *Open Biology*, 14, 11 (2024), 240240 [D.R. Mark, N. O'Boyle, K.R. Wale, S.K. Tucker, R.E. McHugh]
- 'A master regulator of central carbon metabolism directly activates virulence gene expression in attaching and effacing pathogens', *PLoS Pathogens*, 20, 10 (2024), e1012451 [K.R. Wale, N. O'Boyle, R. McHugh, E. Serrano, D. Mark]
- 'Distinct ecological fitness factors coordinated by a conserved *Escherichia coli* regulator during systemic bloodstream infection', *Proceedings of the National Academy of Sciences of the United States of America*, 120, 1 (2023), e2212175120 [N. O'Boyle, G.R. Douce, G. Farrell, N.J.W. Ratray, M.A. Schembri]
- 'D-serine reduces the expression of the cytopathic genotoxin colibactin', *Microbial cell (Graz, Austria)*, 10, 3 (2023), 63-77 [J.C. Hallam, S. Sandalli, I. Floria, N.C.A. Turner, M. Tang-Fichaux]
- 'Enhancing a multi-purpose artificial urine for culture and gene expression studies of uropathogenic *Escherichia coli* strains', *Journal of Applied Microbiology*, 135, 4 (2024), lxae067 [P.T. Rimbi, N. O'Boyle, G.R. Douce, M. Pizza, R. Rosini]

School of Mathematics

- Hahn, Marvin*, 'Subspaces fixed by a nilpotent matrix', *Orbita Mathematicae*, 1, 1 (2024), 1-15 [M.A. Hahn, G. Nebe, M. Stanojkovski, B. Sturmfels]
- 'Valued rank-metric codes', *Journal of Algebra and Its Applications* (2023), <http://dx.doi.org/10.1142/s0219498825501166> [Y. El Maazouz, M.A. Hahn, A. Neri, M. Stanojkovski]
- 'Twisted Hurwitz numbers: tropical and polynomial structures', *Algebraic Combinatorics*, 7, 4 (2024), 1075-1101 [M.A. Hahn, H. Markwig]
- Manschot, Jan*, 'Four-manifold invariants and Donaldson-Witten theory', *Encyclopedia of Mathematical Physics, second edition*, 4 (2025), 263-280 [J. Manschot]
- 'Topological twists of massive SQCD, Part II', *Letters in Mathematical Physics*, 114 (2024), 98- [J. Aspmann, E. Furrer, J. Manschot]
- 'Topological twists of massive SQCD, Part I', *Letters in Mathematical Physics*, 114 (2024), 62- [J. Aspmann, E. Furrer, J. Manschot]
- 'Topological correlators of $N=2^*$ SYM on four-manifolds', *Advances in Theoretical and Mathematical Physics*, 28 (2024), 407-597 [J. Manschot, G. Moore]
- Parnachev, Andrei*, 'Thermal stress tensor correlators near lightcone and holography', *Journal of High Energy Physics*, 11 (2023), 107 [C. Esper, K-W. Huang, R. Karlsson, A. Parnachev]
- 'Freedom near Lightcone and ANEC Saturation', *Journal of High Energy Physics*, 05 (2023), 065 [K-W. Huang, R. Karlsson, A. Parnachev, S. Valach]
- Sint, Stefan*, 'Heavy Wilson quarks and $O(a)$ improvement: nonperturbative results for b_g ', *Journal of High Energy Physics*, 2024, 1 (2024), [http://dx.doi.org/10.1007/JHEP01\(2024\)188](http://dx.doi.org/10.1007/JHEP01(2024)188) [M.D. Brida, T. Korzec, S. Sint, R. Sommer]
- Wendland, Katrin*, 'String-math 2022', *Proceedings of symposia in pure mathematics*, eds R. Donagi, A. Langer, P. Sulkowski, K. Wendland eds, American Mathematical Society, 1072024, vii+294

Recent publications – Faculty of Science, Technology, Engineering and Mathematics
School of Natural Sciences

- Connor, Thomas**, 'Movement behavior in a dominant ungulate underlies successful adjustment to a rapidly changing landscape following megafire', *Movement Ecology*, 12, 1 (2024), 53 [K.L. Calhoun, T. Connor, K.M. Gaynor, A. Van Scoyoc, A. McInturff]
 'A spatial, closed integrated population model to estimate wildlife population size and structure', *The Journal of Wildlife Management*, 87, 7 (2023), e22459 [T. Connor, E. Tripp, B.J. Saxon, J. Camarena, J.A. Goodwin]
 'Forage senescence and disease influence elk pregnancy across the Greater Yellowstone ecosystem', *Ecosphere*, 14, 12 (2023), e4694 [O.R. Bidder, T. Connor, J.M. Morales, J.M. Rickbeil, J.A. Gregory]
 'Socio-ecological factors shape the distribution of a cultural keystone species in Malaysian Borneo', *NPJ Biodiversity*, 2, 1 (2023), 4 [D.J. Kurz, T. Connor, J.F. Brodie, E.L. Baking, S.H. Szeto]
 'Social network analysis uncovers hidden social complexity in giant pandas', *Ursus*, 2023, 34e9 (2023), 1-13 [T. Connor, K. Frank, M. Qiao, K. Scribner, J. Hou]

BOTANY

- Caldararu, Silvia**, 'Modelling decadal trends and the impact of extreme events on carbon fluxes in a deciduous temperate forest using the QUINCY model', *EGUsphere*, (2024), 1-36 [T. Thum, T. Miinalainen, R. Staebler, S. Caldararu, S. Zaehle]
 'Leaf habit drives leaf nutrient resorption globally alongside nutrient availability and climate', *Biogeosciences*, 21, 18 (2024), 4169-4193 [G. Sophia, S. Caldararu, B.D. Stocker, S. Zaehle]
 'Nitrogen availability and summer drought, but not N: P imbalance drive carbon use efficiency of a mediterranean tree-grass ecosystem', *Global Change Biology*, 30 (2024), e17486 [R. Nair, Y. Luo, T.S. El-Madany, V. Rolo, J. Pacheco-Labrador]
Collier, Marcus, 'Exploring urban novel ecosystems: understandings, insights and recommendations for future research and practice', *Futures* (2024), 103487 [M. Pineda-Pinto, M.J. Collier, C. Cooper, M. O'Donnell, F. Nulty]
 'Leverage points for improving urban biodiversity conservation in the Anthropocene: a novel ecosystem lens for social-ecological transformation', *Environmental Science and Policy*, 162 (2024), 103926 [M. Pineda-Pinto, C. Kennedy, F. Nulty, M.J. Collier]
 'Exploring the restorative capacity of urban green spaces and their biodiversity through an adapted One Health approach: a scoping review', *Urban Forestry and Urban Greening* (2024), 128489 [N. Rodriguez Castañeda, M. Pineda-Pinto, N.M. Gulsrud, C. Cooper, M. O'Donnell]
Gray, Nicholas, 'Microbial theory and kinetics', *Activated sludge: developments and sustainable solutions*, ed N.F. Gray, 2023, World Scientific (2023), 13-43
 'Introduction', *Activated sludge: developments and sustainable solutions*, ed N.F. Gray, London, World Scientific (2023), 1-12 [N.F. Gray]
Hodkinson, Trevor, 'Piper', *Flora of Thailand*, 16, 3 (2024), 896-964 [C. Suwanphakdee, D.A. Simpson, T.R. Hodkinson]
 'Piperaceae', *Flora of Thailand* 16 (3), 875-965, 16, 3 (2024), 875-965 [C. Suwanphakdee, D.A. Simpson, T.R. Hodkinson]
 'A nuclear phylogenomic tree of grasses (*Poaceae*) recovers current classification despite gene tree incongruence', *New Phytologist* (2024), 1-17
 'Taxonomic revision of *Disporum* (*Colchicaceae*) from Thailand including four new species', *Blumea*, 69, 2 (2024), 139-160 [A. Sarapan, V. Chamchumroon, T.R. Hodkinson]
 'An integrated mitigation approach to diffuse agricultural water pollution-a scoping review', *Frontiers in Environmental Science*, 12 (2024), 1-17 [L. Quill, D. Ferreira, B. Joyce, G. Coleman, C. Harper]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'Chemotaxonomy of Southeast Asian *Peperomia* (Piperaceae) using high-performance thin-layer chromatography colour scale fingerprint imaging and gas chromatography-mass spectrometry', *Plants*, 13, 19 (2024), 2751 [Y. Banchong, T. Leepasert, P. Jarupund, T.R. Hodgkinson, F. Boylan]
- 'Phylogenomics and the rise of the angiosperms', *Nature* (2024), <https://doi.org/10.1038/s41586> [A.R. Zuntini, T. Carruthers, O. Maurin]
- Kavanagh, Mark**, 'Utilization of radiometric data for mapping primary and secondary sources of gamma radiation and radon/thoron release potentials in Ireland', *Frontiers in Public Health*, 12 (2024), <http://hdl.handle.net/2262/109245> [M. Aghdam Mirsina, M. Kavanagh, Q. Crowley]
- Kelly, Daniel**, 'Climate change increases threat to plant diversity in tropical forests of Central America and southern Mexico', *PLoS ONE*, 19, 2 February (2024), <http://dx.doi.org/10.1371/journal.pone.0297840> [M.A. Ortega, L. Cayuela, D.M. Griffith]
- McElwain, Jennifer**, 'Functional traits of fossil plants', *New Phytologist*, 242, 2 (2024), 392-423 [J.C. McElwain, W.J. Matthaues, C. Barbosa, C. Chondrogiannis, K. O' Dea]
- 'Stomata are driving the direction of CO₂-induced water-use efficiency gain in selected tropical trees in Fiji', *Biology*, 13, 9 (2024), <http://dx.doi.org/10.3390/biology13090733> [W.K. Soh, C. Yiotis, M. Murray, S. Pene, A. Naikatin]
- Mitchell, Fraser**, 'Vegetation history of County Monaghan', *Flora of County Monaghan*, ed A.A. Fitzgerald, Dublin, Wordwell (2024), 25-33 [F.J.G. Mitchell]
- 'Palaeoecological records as a guide for fire management in Killarney National Park, Ireland', *Proceedings of the Geologists' Association*, 134 (2023), 403-415 [D. Hawthorne, D. Colombaroli, F.J.G. Mitchell]
- Moonlight, Peter**, 'Small and in-country herbaria are vital for accurate plant threat assessments: a case study from Peru', *Plants, People, Planet*, 6, 1 (2024), 174-185 [J. Delves, J. Albán'Castillo, Asunción Cano, C. Fernández Aviles, E. Gagnon, P. Gonzáles]
- 'Twenty years of big plant genera', *Proceedings of the Royal Society B*, 291 (2024), 20240702 [P.W. Moonlight, L. Baldaszti, D. Cardoso, A. Elliott, T. Särkinen]
- 'Functional and ecological diversification of underground organs in Solanum', *Frontiers in Genetics*, 14, 1231413 (2023), <https://doi.org/10.3389/fgene.2023.1231413> [E. Gagnon, L. Baldaszti, P. Moonlight, S. Knapp, C.E.R. Lehmann]
- 'Underground trees inhabit varied environmental extremes across the Afrotropics', *Annals of Botany*, mcad124 (2023), <https://doi.org/10.1093/aob/mcad124> [A.P. Courtenay, P.W. Moonlight, R.T. Pennington, C.E.R. Lehmann]
- Nair, Richard**, 'Correcting land surface temperature from thermal imager by considering heterogeneous emissivity', *International Journal of Applied Earth Observation and Geoinformation*, 129, 103824 (2024), <http://dx.doi.org/10.1016/j.jag.2024.103824> [W. Yan, J. Jiang, L. He, W. Zhao, R. Nair]
- 'Functional traits of fossil plants', *New Phytologist*, 242, 2 (2024), 392-423 [J.C. McElwain, W.C. Matthaues, C. Barbosa, C. Chondrogiannis, K. O' Dea]
- 'Nitrogen availability and summer drought, but not N: P imbalance drive carbon use efficiency of a mediterranean tree-grass ecosystem', *Global Change Biology*, 30 (2024), e17486 [R. Nair, Y. Luo, T.S. El-Madany, V. Rolo, J. Pacheco-Labrador, S. Caldararu]
- Saunders, Matthew**, 'The boglands are breathing' (2023), [S. McDonald]
- 'Upscaling methane fluxes from peatlands across a drainage gradient in Ireland using PlanetScope imagery and machine learning tools', *Nature Scientific Reports*, 13, 11997 (2023), <https://doi.org/10.1038/s41598-023-38470-6> [R. Ingle, W. Habib, J. Connolly, M. McCorry, S. Barry]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

Stout, Jane, 'Beekeeping improves shea pollination and fruit set in West African agroforestry parklands', *Ecological Solutions and Evidence*, 5, 2 (2024), <http://dx.doi.org/10.1002/2688-8319.12348> [L.I. Nasare, J.C. Stout, P.K. Kwapong]

'Spatial analysis of cultural ecosystem services using data from social media: a guide to model selection for research and practice', *One Ecosystem*, 8, e95685 (2023), <http://dx.doi.org/10.3897/oneeco.8.e95685> [A.M. Neill, C. O'Donoghue, J.C. Stout]

'Pollinator responses to farmland habitat features: one-size does not fit all', *Journal of Pollination Ecology*, 36, 3 (2024), 29-46 [S. Maher, R. Kelly, S. Hodge, E. O'Hora, S. Ruas]

'A decision methodology for site-level ecosystem accounting', *Journal of Environmental Management*, 366, 121814 (2024), <http://dx.doi.org/10.1016/j.jenvman.2024.121814> [C.E. Gorman, F. Martini, K. Conroy, E. King, R. Mcleod]

Waldren, Stephen, 'Broken chords: the music of grief', *BMJ*, 387 (2024), q2512 [D. O'Neill]

'Personal reflections on working between Germanistik, medical/health humanities and cultural gerontology', *Germanistik in Ireland: Jahrbuch der/Yearbook of the German Studies Association of Ireland (GSAI)*, 18(2024), 99-108 [D. O'Neill]

'Long-term residential care and the built environment: improving quality of life and resilience through a universal design approach', *Stud Health Technol Inform*, 320 (2024), 207-214 [T. Grey, J. O'Donoghue, D. Xidous, D. O'Neill]

'Arts, humanities, and occupational therapy with older people: an aesthetic lens on practice', *Occupational Therapy with Aging Adults*, Second, eds K.F. Barney, M. Perkinson, New York, Elsevier (2024), 380-387, 387.e1-4 [S. Coppola, D. O'Neill]

"Excellent for mind, body and spirit": participant, facilitator, and community stakeholder experiences of music and movement for health', *Complementary Therapies in Clinical Practice* (2024), <https://doi.org/10.1016/j.ctcp.2024.101917> [N. O'Malley, S. O'Reilly, S. Byrne, P.S. Cheung, C. Fitzell]

"Ageing well": discursive constructions of ageing and health in the public reach of a national longitudinal study on ageing', *Social Science and Medicine*, 341, 116518 (2024), <http://dx.doi.org/10.1016/j.socscimed.2023.116518> [G. Fealy, M. Di Placido, D. O'Donnell, J. Drennan]

'A systematic review of the risks of motor vehicle crashes associated with psychiatric disorders [Une revue systematique des risques d'accidents de vehicules automobiles associes a des troubles psychiatriques]', *Canadian Journal of Psychiatry*, 68, 4 (2023), 221-240 [M.J. Rapoport, J.N. Chee, T. Prabha, J. Dow, I. Gillespie]

'von Willebrand factor antigen, von Willebrand factor propeptide and ADAMTS13 activity in TIA or ischaemic stroke patients changing antiplatelet therapy', *Journal of the Neurological Sciences*, 463, 123118 (2024), <http://dx.doi.org/10.1016/j.jns.2024.123118> [D.R. Smith, S.T. Lim, S.J.X. Murphy, F.B. Hickey, C. Offiah]

'From the ground up: stakeholders' representations of The Irish Longitudinal Study on Ageing (TILDA)', *Psychology, Health and Medicine* (2024), 1-16 [Y.S. Üzar-Özçetin, M. Connolly, T. Frawley, J. Drennan, F. Timmins]

'Interdisciplinarity in cultural gerontology and geriatric medical humanities - a bibliometric survey', *European Geriatric Medicine* (2024), <https://doi.org/10.1007/s41999-024-01053-3> [E. Waldron, K. Wakefield, D. O'Neill]

'Ageing in Dr Erich Kästner's poetic medicine cabinet', *European Geriatric Medicine* (2024), <https://doi.org/10.1007/s41999-024-01057-z> [D. O'Neill]

'Continuing challenges to health equity in Ireland', *Lancet*, 404, 10451 (2024), P431 [D. O'Neill]

'Cultural gerontology: recent developments and future challenges', *Framing Ageing: Interdisciplinary Perspectives for Humanities and Social Science Research*, eds J. Langbein, M. Cosgrove, A. Fuchs, London, Bloomsbury Academic (2024), 13-21 [D. O'Neill]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- Waterman, Jamie**, 'Leaf size determines damage-and herbivore-induced volatile emissions in maize', *Plant, Cell and Environment* (2025), [J.M. Waterman, T.M. Cofer, O.M. Von Laue, P. Mateo, L. Wang]
- 'Plant silicon defences suppress herbivore performance, but mode of feeding is key', *Ecology Letters*, 27, 10 (2024), e14519 [S.N. Johnson, J.M. Waterman, S.E. Hartley, J. Cooke, J.M.W. Ryalls]
- 'Immature leaves are the dominant volatile-sensing organs of maize', *Current Biology: CB*, 33, 17 (2023), 3679-3689.e3 [L. Wang, S. Jäggi, T.M. Cofer, J.M. Waterman, M. Walthert]
- 'High-resolution kinetics of herbivore-induced plant volatile transfer reveal clocked response patterns in neighboring plants', *eLife*, 12 (2024), RP89855 [J.M. Waterman, T.M. Cofer, L. Wang, G. Glauser, M. Erb]

GEOGRAPHY

- Akers, Pete**, 'The pivotal role of evaporation in lake water isotopic variability across space and time in a high Arctic periglacial landscape', *Water Resources Research*, 60, 10 (2024), e2023WR036121 [P.D. Akers, B.G. Kopec, E.S. Klein, H. Bailey, J.M. Welker]
- 'Aquatic moss $\delta^{18}\text{O}$ as a proxy for seasonally resolved lake water $\delta^{18}\text{O}$, northwest Greenland', *Quaternary Science Reviews*, 334 (2024), 108682 [P.J.K. Puleo, P.D. Akers, B.G. Kopec, J.M. Welker, H. Bailey]
- Carmody, Pdraig**, 'China-Africa spillovers: the literature review', *International Political Economy Series*, Part F1639 (2023), 93-122 [D. Kopiński, P. Carmody]
- "Digital provide' or product consumption diffusion cycle? The diffusion impact and potential of digital technology in the Global South', *Information Technology for Development* (2024), <http://dx.doi.org/10.1080/02681102.2024.2368539> [P. Carmody]
- 'The political economy of FDI and spillovers in Africa: can China deliver on Hirschman's ideas', *International Political Economy Series*, Part F1639 (2023), 15-45 [D. Kopiński, P. Carmody]
- 'The geopolitics of health science research: commentary on the roles of regional organisations in strengthening health research systems in Africa: activities, gaps and future perspectives', *International Journal of Health Policy and Management*, 12 (2023), 7515-7516 [P. Carmody]
- "Digital provide' or product consumption diffusion cycle? The diffusion impact and potential of digital technology in the global south', *Information Technology for Development* (2024), <http://hdl.handle.net/2262/109097> [P. Carmody]
- The political economy of Chinese FDI and spillover effects in Africa*, eds D. Kopinski, P Carmody, I. Taylor, Cham, Palgrave MacMillan (2023), 276
- 'Between energy and politics: ruin, renewal, and the contours of state power in post-apartheid South Africa', *Environment and Planning D: Society and Space* (2024), <http://hdl.handle.net/2262/109096> [R. Reboredo, P. Carmody]
- 'China-Zambia engagements: is there change, what has changed and why?', *Journal of Contemporary East Asian Studies*, 12, 1 (2024), 179-198 [G. Hampwaye, P. Carmody, P. Ramaloko]
- Connolly, John**, 'Mapping artificial drainage on peatlands - a national scale assessment of Irish raised bogs using sub-meter aerial imagery and deep learning methods', *Remote Sensing in Ecology and Conservation* (2024), <https://doi.org/10.1002/rse2.387> [W. Habib, R. Cresson, K. McGuinness, J. Connolly]
- 'Mapping and monitoring peatland conditions from global to field scale', *Biogeochemistry* (2023), <https://doi.org/10.1007/s10533-023-01084-1> [B. Minasny, D. Vigah Adetsu, R.R.E. Artz, M. Aitkenhead, N. Baggaley]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'Upscaling methane fluxes from peatlands across a drainage gradient in Ireland using PlanetScope imagery and machine learning tools', *Nature Scientific Reports*, 13, 11997 (2023), <https://doi.org/10.1038/s41598-023-38470-6> [R. Ingle, W. Habib, J. Connolly, M. McCorry, S. Barry]
- Cugurullo, Federico, 'When AIs become oracles: generative artificial intelligence, anticipatory urban governance, and the future of cities', *Policy and Society* (2025), <https://doi.org/10.1093/polsoc/puae025> [F. Cugurullo, Y. Xu]
- 'Fear of AI: an inquiry into the adoption of autonomous cars in spite of fear, and a theoretical framework for the study of artificial intelligence technology acceptance', *AI and Society*, 39, 4 (2024), 1569-1584 [F. Cugurullo, R.A. Acheampong]
- 'The emergence of artificial intelligence in anticipatory urban governance: multi-scalar evidence of China's transition to city brains', *Journal of Urban Technology* (2024), <http://dx.doi.org/10.1080/10630732.2023.2292823> [Y. Xu, F. Cugurullo, H. Zhang, A. Gaio, W. Zhang]
- 'Design culture for sustainable urban artificial intelligence: Bruno Latour and the search for a different AI urbanism', *Ethics and Information Technology*, 26, 1 (2024), <http://dx.doi.org/10.1007/s10676-024-09752-y> [O. Palmmini, F. Cugurullo]
- 'Artificial intelligence and the local government: a five-decade scientometric analysis on the evolution, state-of-the-art, and emerging trends', *Cities*, 152 (2024), <http://dx.doi.org/10.1016/j.cities.2024.105151> [T. Yigitcanlar, S. Senadheera, R. Marasinghe, S.E. Bibri, T. Sanchez]
- Davies, Anna, 'Engaging futures: scenario visualisation for sustainable urban food sharing', *Futures*, 164(2024), 103462 [L.M. Fitzgerald, A.R. Davies]
- 'Critical geographies of the circular economy', *Cambridge Journal of Regions, Economy and Society*, 17, 3 (2024), 431-442 [A.R. Davies, E. Evenhuis, J. Williams, E. Avoyan, P. Tyler]
- 'LLM-based automated web retrieval and text classification of food sharing initiatives', *Proceedings of the 33rd ACM international conference on information and knowledge management* (2024), 4983 - 4990 [H. Wu, H. Cho, A.R. Davies, G.J.F. Jones]
- 'The potential of urban food governance to transform lives, cities, and the planet', *Global Food Security*, 40 (2024), 100751 [A. Moragues-Faus, J.K. Clark, J. Battersby, A.R. Davies]
- 'Expanding adaptive capacity: innovations in education for place-based climate change adaptation planning', *Geoforum*, 150 (2024), 103-978 [S. Hügel, A.R. Davies]
- Edwards, Robin, 'A multi-proxy modern training set for reconstructing Holocene relative sea level using salt-marsh sediment (Prince Edward Island, Canada)', *Canadian Journal of Earth Sciences* (2025), [dx.doi.org/10.1139/cjes-2024-0166](https://doi.org/10.1139/cjes-2024-0166) [A. Kemp, R. Edwards, F. Alvarez-Agoues, Fermin, E. Bustamante]
- 'Sedimentary indicators of relative sea-level changes low energy', *Encyclopedia of Quaternary Science*, Third, ed S. Elias, Elsevier (2025), 78-93 [R. Edwards]
- Habib, Wahaj, 'Mapping artificial drainage on peatlands - a national scale assessment of Irish raised bogs using sub-meter aerial imagery and deep learning methods', *Remote Sensing in Ecology and Conservation* (2024), <https://doi.org/10.1002/rse2.387> [W. Habib, R. Cresson, K. McGuinness, J. Connolly]
- 'Quantifying peatland land use and CO₂ emissions in Irish raised bogs: mapping insights using Sentinel-2 data and Google earth engine', *Scientific Reports*, 14, 1 (2024), 1171 [W. Habib, R. Ingle, M. Saunders, J. Connolly]
- 'Mapping and monitoring peatland conditions from global to field scale', *Biogeochemistry* (2023), <https://doi.org/10.1007/s10533-023-01084-1> [B. Minasny, D. Vigah Adetsu, R.R.E. Artz, D. Zak]
- 'Upscaling methane fluxes from peatlands across a drainage gradient in Ireland using PlanetScope imagery and machine learning tools', *Nature Scientific Reports*, 13, 11997 (2023), <https://doi.org/10.1038/s41598-023-38470-6> [R. Ingle, W. Habib, J. Connolly, M. McCorry, S. Barry]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- Krueger, Erica**, 'Development and physical characteristics of the Irish shelf-edge Macnas Mounds, Porcupine Seabight, NE Atlantic', *International Journal of Earth Sciences (Geologische Rundschau)*, 113 (2024), 861-874 [E.T. Krueger, V. Mouchi, X. Monteys, S. McCarron, A. Lim]
- 'Wanted dead or alive: skeletal structure alteration of cold-water coral *Desmophyllum pertusum* (*Lophelia pertusa*) from anthropogenic stressors', *Oceans*, 4, 1 (2023), 68-79 [E.T. Krueger, J.V. Büscher, D.A. Hoey, D. Taylor, P.J. O'Reilly]
- Murphy, Susan**, *Gender-inclusive higher education in Tanzania: transforming academia*, 1, eds S.P. Murphy, P. Urío, New York, Routledge Studies on Gender and Sexuality in Africa (2024), 1-218
- 'The Routledge Handbook of Philosophy and Poverty', eds G. Schweiger, C. Sedmak, New York, Routledge (2023), 9781003162926476-491 [S.P. Murphy]
- O'Callaghan, Cian**, 'Resisting root shock in the collapsed city: constructing community and the fight to stay put through tenant organizing in Dublin', *Built Environment*, 50, 2 (2024), 360-372 [T. Gavin, C. O'Callaghan]
- 'Rethinking vacancy within the urbanization process: towards a new research agenda', *Urban Geography*, 45, 5 (2024), 863-882 [C. O'Callaghan]
- 'Vacancy as precarious property in Dublin's temporary urbanism moment', *Antipode*, 56, 4 (2024), 1399-1418 [C. O'Callaghan]

GEOLOGY

- Cabral, Alex**, 'Carbon and mercury burial in mangrove soils across an anthropogenic gradient', *Estuarine, Coastal and Shelf Science*, 318 (2025), 109226 [A.A. Jatobá-Junior, V. Hatje, P. Masque, C.E. de Rezende, A. Cabral]
- 'Global fjords as minor sources of nitrous oxide to the atmosphere', *Geophysical Research Letters*, 52, 4 (2025), <http://dx.doi.org/10.1029/2024GL111624> [T. Politi, Y.Y. Yau, I.R. Santos, A. Cabral, H.L.S. Cheung]
- 'Groundwater releases CO₂ to diverse global coastal ecosystems', *Science Advances*, 11, 2 (2025), <http://dx.doi.org/10.1126/sciadv.adr3240> [A.S. Tomer, T. McKenzie, C. Majtényi-Hill, A. Cabral, Y.Y.Y. Yau]
- 'Drivers of seasonal and diel methane emissions from a seagrass ecosystem', *Journal of Geophysical Research: Biogeosciences*, 129, 11 (2024), <http://dx.doi.org/10.1029/2024JG008079> [L. Henriksson, Y.Y.Y. Yau, C. Majtényi-Hill, W. Ljungberg, A.S. Tomer]
- 'Tidally driven porewater exchange and diel cycles control CO₂ fluxes in mangroves on local and global scales', *Geochimica et Cosmochimica Acta*, 374 (2024), 121-135 [A. Cabral, Y.Y.Y. Yau, G.M.S. Reithmaier, L.C. Cotovicz, J. Barreira]
- 'Fresh and saline submarine groundwater discharge as sources of carbon and nutrients to the Japan Sea', *Marine Chemistry*, 249 (2023), <http://dx.doi.org/10.1016/j.marchem.2023.104209> [A. Cabral, R. Sugimoto, M. Taniguchi, D. Tait, T. Nakajima]
- 'Carbonate chemistry and carbon sequestration driven by inorganic carbon outwelling from mangroves and saltmarshes', *Nature Communications*, 14, 1 (2023), <http://dx.doi.org/10.1038/s41467-023-44037-w> [G.M.S. Reithmaier, A. Cabral, A. Akhand, M.J. Bogard, A.V. Borges]
- 'Carbon outwelling and uptake along a tidal glacier-lagoon-ocean continuum', *Journal of Geophysical Research: Biogeosciences*, 129, 6 (2024), <http://dx.doi.org/10.1029/2023JG007895> [W. Ljungberg, Y.Y.Y. Yau, A. Cabral, C. Majtényi-Hill, L. Henriksson]
- 'Efficient oxidation attenuates porewater-derived methane fluxes in mangrove waters', *Limnology and Oceanography* (2024), <http://dx.doi.org/10.1002/lno.12639> [Y.Y.Y. Yau, A. Cabral, G. Reithmaier, L.C. Cotovicz, J. Barreira]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'Large porewater-derived carbon outwelling across mangrove seascapes revealed by radium isotopes', *Journal of Geophysical Research: Oceans*, 129, 9 (2024), <http://dx.doi.org/10.1029/2024JC021319> [A. Cabral, G.M.S. Reithmaier, Y.Y.Y. Yau, L.C. Cotovicz, J. Barreira]
- Chew, David**, 'Connecting east with west: constraining polygenetic Variscan- to post-Variscan metamorphism in the Marmarosh/Maramuresh Massif, Ukraine/Romania', *Geological Magazine*, 162 (2025), e4 [A. Gaweda, M. Munteanu, L. Siliuskas, K. Kupczak, D. Chew]
- 'Exhumation and preservation of the Baixintan magmatic Ni-Cu sulphide deposit: insights from (U-Th)/He and fission track thermochronology', *Ore Geology Reviews*, 176 (2025), 106411 [D. Xiang, Q. Mao, W. Xiao, J. Wei, D. Chew]
- 'Excess ^{40}Ar in alkali feldspar and ^{206}Pb in apatite arising from fluid-induced recrystallisation in a semi-closed environment in Proterozoic (meta)granites of the Mt Isa Inlier, NE Australia', *Geoscience Frontiers*, 14, 12 (2024), 358 [D. Popov, R. Spikings, A.N. Paul, M. Ovtcharova, M. Chiaradia]
- 'Sourcing of the Oligocene to Pliocene sediments of the Ningnan Basin: evidence for Tibetan Plateau growth and local faulting unraveled by detrital apatite fission-track and U-Pb double dating', *Basin Research*, 36, 6 (2024), e70004 [X. Jiao, M. Zattin, V. Olivetti, J. Wang, H. Peng]
- 'Detrital zircon U-Pb geochronology of the Moatize and N'Condézi coalfields, Zambezi Karoo Basin of Mozambique: implications for provenance, sediment dispersal and basin evolution', *Journal of African Earth Sciences*, 220 (2024), 105458 [P. Fernandes, R.C.G.S. Jorge, L. Albardeiro, D. Chew, F. Drakou]
- 'Repeated structural reworking in the basement of the Central Colombian Andes unraveled by a multi-chronometric approach', *Tectonics*, 43, 10 (2024), e2024TC008340 [S. Zapata, A. Cardona, J.S. Jaramillo-Ríos, A. Siachoque, V. Peverelli]
- 'The relationships between Greenstone Belts and the Kryvyi Rih-Kremenchuk Basin in the Middle Dnieper domain of the Ukrainian shield revealed by detrital zircon', *Geosciences*, 14(2024), 254 [H. Artemenko, L. Shumlyanskyy, D. Chew, F. Drakou, B. Dhume]
- 'Optimizing SEM-EDX for fast, high-quality and non-destructive elemental analysis of glass', *Journal of Analytical Atomic Spectrometry*, 43, 10 (2024), 2565-2579 [P.C. Guyett, D. Chew, V. Azevedo, L. Blennerhassett, C. Rosca]
- 'Episodic intensification of marine phosphorus burial over the last 80 million years', *Nature Communications*, 15, 1 (2024), 7446 [J. Peng, D. Li, S.W. Poulton, G.J. O'Sullivan, D. Chew]
- 'Interpreting and reporting fission-track chronology data', *GSA Bulletin*, 136, 9-10 (2024), 3891-3920 [B. Kohn, R. Ketcham, P. Vermeesch, S. Boone, N. Hasebe]
- 'Detrital multi-mineral provenance constraints on the reconstruction of the South China Block within Gondwana', *Earth-Science Reviews*, 253 (2024), 104798 [E-K. Xue, D. Chew, F. Drakou, W. Wang]
- 'Cenozoic pulsed rise and growth of the Chinese south Tianshan revealed by zircon and apatite provenance analyses: implications for stepwise aridification in the Tarim basin', *Tectonics*, 43, 8 (2024), e2023TC008211 [D. Xiang, Z. Zhang, D. Chew, M. Jolivet, M.G. Malusa]
- 'Sedimentary provenance of the Upper Devonian Old Red Sandstone of southern Ireland: an integrated multi-proxy detrital geochronology study', *Journal of the Geological Society*, 181, 6 (2024), jgs2023-110 [B.J. Fairey, A. Kerrison, P.A. Meere, K.F. Mulchrone, M. Zieger-Hofmann]
- 'Uplift and denudation history of the Ellsworth Mountains: insights from low-temperature thermochronology', *Solid Earth*, 15, 4 (2024), 555-566 [J. Bastias-Silva, D. Chew, F. Poblete, P. Castillo, W. Guenther, A. Grunow]
- 'Rutile and zircon U-Pb dating as a constraint on sedimentary provenance of the Jianchuan Basin: Implications for paleo-drainage evolution', *Geomorphology*, 456 (2024), 109208 [R. Guo, X. Sun, C. Li, D. Chew, F. Drakou]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'The evolution of Archean crust undisturbed for three billion years: a case study from the Bahalda Pluton, Singhbhum Craton, eastern India', *Precambrian Research*, 406 (2024), 107385 [A. Gumsley, E. Slaby, S. Dey, D. Chew, W. Gmochowska]
- 'U-Th-Pb phosphate geochronology by LA-ICP-MS', *Methods and Applications for Geochronology*, eds J.G. Shellnutt, S.W. Denyszyn, K. Suga, Elsevier (2024), 169-209 [D. Chew]
- 'A temporal control on the isotopic compositions of the Antarctic Peninsula arc', *Communications Earth and Environment*, 5, 1 (2024), 157 [J. Bastias-Silva, A. Burton-Johnson, D. Chew, T. Riley, W. Jara]
- 'The Bajo Grande Basin: Late Jurassic-Early Cretaceous syn-orogenic depocenters in southwestern Gondwana', *Tectonophysics*, 874 (2024), 230241 [M.J. Perez Frassetto, C. Navarrete, J. Bastias-Silva, M. Valle, D. Chew]
- 'Apatite trace element composition as an indicator of ore deposit types: a machine learning approach', *American Mineralogist*, 109, 2 (2024), 303-314 [K-F. Qiu, T. Zhou, D. Chew, Z-L. Hou, A. Muller]
- 'Revisiting the stratigraphical, sedimentological and provenance evolution of Lingshan Island, offshore of east China: implications for the destruction of the north China craton', *Marine and Petroleum Geology*, 161 (2024), 106701 [T. Deng, A. Ma, D. Chew, X. Hu, P. Wang]
- 'Recurrent E - W oscillations of the ice flow confluence of the East and West Antarctic ice sheets in the central Ross Sea, Antarctica, from the Middle Miocene to the present day', *Palaeogeography, Palaeoclimatology, Palaeoecology*, 633 (2024), 111885 [M.L. Balestrieri, V. Olivetti, D. Chew, L. Zurli, M. Zattin]
- 'Paleogeographical reconstruction of the south China block during Gondwana assembly using detrital apatite: Pan-African source affinity concealed by detrital zircon', *Bulletin of the Geological Society of America*, 136, 5-6 (2024), 2063-2074 [E-K. Xue, D. Chew, F. Drakou, W. Wang]
- 'Late Paleozoic-Jurassic tectonic evolution of the eastern Deseado massif in central-southern Patagonia', *Journal of Geodynamics*, 158 (2023), 101997 [C. Navarrete, J. Bastias-Silva, G. Gianni, G. Jalfin, G. Guerra]
- 'Mesozoic-Cenozoic topographic evolution of the south Tianshan (NW China): insights from detrital apatite geo-thermochronological and geochemical analyses', *Lithosphere*, 2023, Special Issue14 (2023), lithosphere_2023_190 [D. Xiang, Z. Zhang, D. Chew, M. Jolivet, M.G. Malusa]
- 'Apatite laser ablation Lu-Hf geochronology: a new tool to date mafic rocks', *Chemical Geology*, 636(2023), 121630 [M.B.K. Kharkongor, S. Glorie, J. Mulder, C.L. Kirkland, D. Chew]
- 'Late Mesozoic impact of paleo-Pacific subduction on the north China craton revealed by apatite U-Pb and fission-track double dating and trace element analysis in the eastern Yanshan fold belt, northeastern Asia', *Bulletin of the Geological Society of America*, 136, 3-4 (2024), 1329-1355 [N. Wang, Z. Zhang, M.G. Malusa, D. Chew, L. Wu, D. Xiang]
- 'Magmatic arc evolution during the tectonic closure of the Rocas Verdes basin: insights from Cretaceous-earliest Paleocene intrusive rocks of Navarino Island (55°S), Fuegian Andes', *Journal of the Geological Society*, 180, 5 (2023), jgs2022-163 [R. Velásquez, J. Bastías, E. Salazar, F. Poblete, M. González Guillot]
- 'An early Cretaceous thermal event in the Sakar Unit (Strandja Zone, SE Bulgaria/NW Turkey) revealed based on U-Pb rutile geochronology and Zr-in-rutile thermometry', *Lithos*, 448-449(2023), 107186 [A. Gumsley, K. Szopa, D. Chew, I. Gerdjikov, P. Jokubauskas]
- 'Ice volume variations and provenance trends in the Oligocene-early Miocene glaciomarine sediments of the central Ross Sea, Antarctica (DSDP Site 270)', *Global and Planetary Change*, 221 (2023), 104042 [V. Olivetti, M.L. Balestrieri, D. Chew, L. Zurli, M. Zattin]
- 'U-Pb dating of apatite from the Silvermines deposit, Ireland: a model for hydrothermal ore genesis', *Economic Geology*, 118, 6 (2023), 1521-1527 [N.A. Vafeas, P. Slezak, D. Chew, M. Brodbeck, M.W. Hitzman]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'Dating rare earth element enrichment in deep-sea sediments using U-Pb geochronology of bioapatite', *Geology*, 51, 5 (2023), 428-433 [D. Li, J. Peng, D. Chew, Y. Liang, P. Hollings]
- 'The south Shetland Islands, Antarctica: lithostratigraphy and geological map', *Frontiers in Earth Science*, 10 (2023), 1002760 [J. Bastias, D. Chew, C. Villanueva, T. Riley, J. Manfroij]
- 'Miocene volcanism in the Slovenský Raj mountains: magmatic, space, and time relationships in the western Carpathians', *Minerals*, 14, 1 (2024), 9 [R. Demko, M. Putiš, Q.-L. Li, D. Chew, L. Ackerman]
- 'Sedimentological evidence for pre-Early Permian continental subduction in the Dabie Orogen, central-east China', *Tectonics*, 43, 1 (2024), e2023TC007839 [T. Deng, X. Hu, D. Chew, Q. Wang, J. Yu]
- 'Evolution of an accretionary complex (LeMay Group) and terrane translation in the Antarctic Peninsula', *Tectonics*, 42, 2 (2023), e2022TC007578 [T. Riley, I. Millar, A. Carter, M. Flowerdew, A. Burton-Johnson]
- 'A two phase escarpment evolution of the Red Sea margin of southwestern Saudi Arabia. Insights from low-temperature apatite thermochronology', *Earth and Planetary Science Letters*, 603 (2023), 117990 [S.A. Turab, K. Stüwe, F.M. Stuart, N. Cogné, D.M. Chew]
- 'Multidimensional scaling of variatal data in sedimentary provenance analysis', *Journal of Geophysical Research: Earth Surface*, 128, 3 (2023), e2022JF006992 [P. Vermeesch, A.G. Lipp, D. Hatzenbühler, L. Caracciolo, D. Chew]
- 'The importance of Eurekan mountains on Cenozoic sediment routing on the western Barents Shelf', *Geosciences*, 13, 3 (2023), 91 [M.J. Flowerdew, E.J. Fleming, D.M. Chew, A.C. Morton, D. Frei]
- 'Coupling between exhumation and subduction: a case study from the southern great Xing'an range, NE Asia', *Geophysical Research Letters*, 50, 24 (2023), e2023GL105321 [D. Wu, S. Li, A.N.C. Dias, D. Chew]
- 'Early Jurassic initiation of the modern drainage pattern of the Dabie Orogen (East China) revealed by a multi-proxy provenance approach', *Basin Research*, 36, 1 (2024), e12834 [T. Deng, X. Hu, D. Chew, J. Schöning, A. Ma]
- 'The petrology and geochronology of the gabbro-dioritoid rocks from Vel'ké Železné (Nízke Tatry Mts., Western Carpathians)', *Geologica Carpathica*, 75, 1 (2024), <https://doi.org/10.31577/GeolCarp.2024.02> [J. Spišiak, M. Kohút, J. Butek, Š. Ferenc, V. Šimonová]
- 'Episodic water-fluxed anatexis recorded by migmatites from the Paleozoic Wuyi-Yunkai Orogeny in South China', *Gondwana Research*, 126 (2024), 96-111 [E.-K. Xue, W. Wang, D. Chew, M.K. Pandit, X. Deng]
- 'From source to surface: clues from garnet-bearing carboniferous silicic volcanic rocks, Iberian Pyrite Belt, Portugal', *Contributions to Mineralogy and Petrology*, 179, 4 (2024), 32 [A. Cravinho, D. Rosa, J.M.R.S. Relvas, A.R. Solá, I. Pereira]
- 'A large-scale transcontinental river system crossed west Antarctica during the Eocene', *Science Advances*, 10, 23 (2024), eadn6056 [M. Zundel, C. Spiegel, C. Mark, I. Millar, D. Chew]
- 'Precise U-Pb dating of incremental calcite slickenfiber growth: evidence for far-field Eocene fold reactivation in Ireland', *Geology*, 51, 7 (2023), 611-615 [V. Monchal, K. Drost, D. Chew]
- 'The influence of Cenozoic Eurasia-Arabia convergence on the southeast Arabian foreland basin: new geochronological and geochemical constraints from syn-kinematic carbonate mineralization', *Scientific Reports*, 13, 1 (2023), 4387 [F. Arboit, K. Drost, A. Decarlis, D. Chew, D. Hennhoefer]
- 'Constraining the tectonic evolution of rifted continental margins by U-Pb calcite dating', *Scientific Reports*, 13, 1 (2023), 7826 [Å. Hestnes, K. Drost, T.O. Sømme, D. Gasser, T. Scheiber]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- Coxon, Catherine**, 'Back to the future: comparing yeast as an outmoded artificial tracer for simulating microbial transport in karst aquifer systems to more modern approaches', *Environmental Pollution*, 123942 (2024), <http://hdl.handle.net/2262/108642> [L. Vucinic, D. O'Connell, C. Coxon, L.W. Gill]
- Crowley, Quentin**, 'Addressing the demand for green skills: bridging the gap between university outcomes and industry requirements', *Sustainability*, 17 (2025), 2732 [T. da Costa, L.I. Aranda Lopez, C. Perussello, F. Quinn, Q.G. Crowley]
- 'Utilization of radiometric data for mapping primary and secondary sources of gamma radiation and radon/thoron release potentials in Ireland', *Frontiers in Public Health*, 12 (2024), <http://hdl.handle.net/2262/109245> [M.M. Aghdam, M. Kavanagh, Q. Crowley]
- 'Examining fish scale biomineral from Atlantic salmon populations', *Journal of Fish Biology* (2024), <http://hdl.handle.net/2262/109122> [E. Tray, D. Brophy, E. de Eyto, N. Ó'Maoileidigh, T. Sheehan]
- 'A detailed investigation and modeling of natural radioactivity levels and radon/thoron release potentials in southeastern Ireland', *EGU general assembly conference abstracts, EGU general assembly* (2023), 2821 [M.M. Aghdam, C. Rocha, Q. Crowley]
- 'Understanding the impacts of human wastewater effluent pollution on karst springs using chemical contamination fingerprinting techniques', *EGU General Assembly 2024*, Vienna, Austria (2024), <https://doi.org/10.5194/egusphere-egu24-11063> [L. Vucinic, D. O'Connell, D. Dubber, P. Behan, Q. Crowley]
- 'Development and physical characteristics of the Irish shelf-edge Macnas mounds, Porcupine Seabight, NE Atlantic', *International Journal of Earth Sciences (Geologische Rundschau)*, 113 (2024), 861-874 [E.T. Krueger, V. Mouchi, X. Monteys, S. McCarron, A. Lim]
- Graham, John**, 'Linkage between tectonic events in Connemara and the evolution of the South Mayo Trough', *Irish Journal of Earth Sciences*, 42 (2024), 61-96 [M.E. Badley, J.R. Graham, B.E. Leake]
- Philcox, Michael**, 'Namurian succession at Ballahaccommane, Killarney, Ireland', *Irish Journal of Earth Sciences*, 42, (2024), 249-272 [M. Philcox]
- Rodriguez-Blanco, Juan**, 'The role of fluocerite in the genesis of bastnäsite: mechanistic insights and transformation pathways', *Nanoscale*, 16, 27 (2024), 13183-13196 [L. Terribili, R. Rateau, M. Maddin, J.D. Rodriguez-Blanco]
- 'Utilization of eggshell waste calcite as a sorbent for rare earth element recovery', *ACS Omega* (2024), <http://dx.doi.org/10.1021/acsomega.4c00931> [R. Rateau, M. Maddin, A.M. Szucs, L. Terribili, K. Drost]
- 'Chemical textures on rare earth carbonates: an experimental approach to mimic the formation of bastnäsite', *Global Challenges* (2024), <http://dx.doi.org/10.1002/gch2.202400074> [M. Maddin, R. Rateau, A.M. Szucs, L. Terribili, B. Hoare]
- 'A quantitative description of barite thermodynamics, nucleation and growth for reactive transport modelling', *Applied Geochemistry*, 106033 (2024), <http://dx.doi.org/10.1016/j.apgeochem.2024.106033> [K. Dideriksen, B.Y. Zhen-Wu, J.D. Rodriguez-Blanco, P.J. Raahauge, E. Ataman]
- Sinnesael, Matthias**, 'Eccentricity curve estimation from geological data using sinusoidal modeling', *Computers and Geosciences* (2025), 105866 [M. Zivanovic, M. Sinnesael]
- 'A new method to evaluate the power ratio distributions of astronomical signals: a case study from Upper Cretaceous terrestrial sediments', *Geological Society of America Bulletin*, 136, 7-8 (2024), 3377-3390 [H. Huang, H. Zhong, C. Ma, M. Sinnesael, Y. Gao]
- 'Deep marine records of Deccan trap volcanism before the Cretaceous-Paleogene (K-Pg) mass extinction', *Geological Society of America Bulletin*, 137, (3-4) (2025), 1116-1132 [M. Sinnesael, L.M.E. Percival, T. Schulz, J. Vellekoop, S. Goderis]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'Geological evidence reveals a staircase pattern in earth's rotational deceleration evolution', *Proceedings of the National Academy of Sciences*, 121, 33 (2024), <http://dx.doi.org/10.1073/pnas.2317051121> [H. Huang, C. Ma, J. Laskar, M. Sinnesael, M. Farhat]
- 'Cosmogenic ³He anomaly K1 vs. the early Campanian isotopic event (ECE) as recorded in pelagic limestones of the Umbria-Marche succession (Italy)', *Bulletin of the Geological Society of America*, 136, 3-4 (2024), 1753-1767 [A. Montanari, K. Farley, R. Coccioni, N. Sabatino, D. Bice]
- 'Ordovician cyclostratigraphy and astrochronology', *Geological Society Special Publication*, 532, 1 (2023), 63-78 [M. Sinnesael]
- Stock, Michael**, 'Magmatic volatile content and the overpressure 'sweet spot': implications for volcanic eruption triggering and style', *Journal of Volcanology and Geothermal Research*, 444 (2023), 107916 [A. Brookfield, M. Cassidy, R-G. Popa, O. Bachmann, M.J. Stock]
- 'A new calibration of the OPAM thermobarometer for anhydrous and hydrous mafic systems', *Journal of Petrology*, 65, 5 (2024), egae043 [O. Higgins, M.J. Stock]
- 'The microbial lipid signature in sediments and chimneys within a back-arc basin hydrothermal system south of the Antarctic Polar Front', *Deep-Sea Research Part I: Oceanographic Research Papers*, 206 (2024), 104247 [M.T. Hernández-Sánchez, L. Hepburn, M.J. Stock, D.P. Connelly, R.D. Pancost]
- 'A systematic review and characterization of the major and most studied urban soil threats in the European Union', *Water, Air, and Soil Pollution*, 235 (2024), 494 [B. Binner, P. Wojda, F. Yunta, T. Breure, A. Schievano]
- Tomlinson, Emma**, 'Tephra identification without pre-separation in ashed peat', *Journal of Quaternary Science*, 39, 5 (2024), 816-830 [L.C. Blennerhassett, P.C. Guyett, E.L. Tomlinson]
- 'Discussion of the unique 'eclogitic' clast reported from Northwest Africa 801 (CR2) and the possibility of ejection of founded crust from deep in a molten moon-sized projectile', *Meteoritics and Planetary Science*, 59, 4 (2023), 910-920 [E.R.D. Scott, I.S. Sanders, E. Asphaug, E.L. Tomlinson]
- 'Optimizing SEM-EDX for fast, high-quality and non-destructive elemental analysis of glass', *Journal of Analytical Atomic Spectrometry*, 43, 10 (2024), 2565-2579 [P.C. Guyett, D. Chew, V. Azevedo, L. Blennerhassett, C. Rosca]
- Wyse Jackson, Patrick**, *The Making of Ireland's geology 1740-1940*, Abingdon, Oxon and New York, Routledge (2025), 286 [P.N. Wyse Jackson]
- The decorative and building stones of Dublin: a walking guide*, Dublin, Department of Geology, Trinity College Dublin (2025), 1-319 [P. Wyse Jackson, L. Caulfield]
- 'Carboniferous evolution of the Burren and Cliffs of Moher, Ireland', *The second 100 IUGS Geological Heritage Sites*, eds G. Lozano, L. Carcavilla, S. Finney, A. Hilario, J. Vegas, International Union of Geological Sciences (2024), 62-63 [E. Doyle, C. Glanville, P.N. Wyse Jackson, D.A.T. Harper]
- 'Valentia Slate, Ireland: versatile paving and roofing slate', *The First 55 IUGS Heritage Stones*, eds A. Ehling, G. Kaur, P.N. Wyse Jackson, J. Cassar, E. Aparecida del Lama, Berlin, International Union of Geological Sciences (2024), 182-185 [P.N. Wyse Jackson, L. Caulfield]
- 'Connemara Marble, Ireland: an iconic Irish decorative stone', *The First 55 IUGS Heritage Stones*, eds A. Ehling, G. Kaur, P.N. Wyse Jackson, J. Cassar, E. Aparecida del Lama, Berlin, International Union of Geological Sciences (2024), 138-141 [L. Caulfield, P.N. Wyse Jackson]
- 'Villamayor Stone, Spain: a singularly beautiful arkose sandstone', *The first 55 IUGS Heritage stones*, eds A. Ehling, G. Kaur, P.N. Wyse Jackson, J. Cassar, E. Aparecida del Lama, Berlin, International Union of Geological Sciences (2024), 110-113 [J. Garcia-Tallegon, A.C. Inigo, P.N. Wyse Jackson]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- The first 55 IUGS heritage stones*, First, Berlin, International Union of Geological Sciences (2024), 1-256 [A. Ehling, G. Kaur, P.N. Wyse Jackson, J. Cassar, E. Aparecida del Lama]
- 'Permian Bryozoa of southern Gondwana-thriving in a cold climate', *Alcheringa*, 48 (2024), 224 [C.M. Reid, Y. Tamberg, P.N. Wyse Jackson, M.M. Key, Jr.]
- 'An exceptional assemblage of *Maccoya sphaerica* (Echinoidea) from the Mississippian of Hook Head, Co. Wexford, Ireland', *Irish Journal of Earth Sciences*, 42 (2024), 125-136 [É. Stephenson, J.R. Thompson, P.N. Wyse Jackson, J. Murray]
- 'A new chiton (Mollusca: Polyplacophora: Paleoloricata) from the Mississippian of Hook Head, Co. Wexford, Ireland', *Irish Journal of Earth Sciences*, 42 (2024), 119-124 [J. Sigwart, P.N. Wyse Jackson, M.A. Parkes]
- 'An appreciation: George Demetrius Sevastopulo (1941-2021)', *Irish Journal of Earth Sciences*, 42 (2024), 1-14 [P.N. Wyse Jackson, J. Murray]
- Irish Journal of Earth Sciences*, eds J. Murray, P.N. Wyse Jackson, 42 (2024), 1-349
- Irish Journal of Earth Sciences*, eds J. Murray, P.N. Wyse Jackson, 41 (2023), 1-110
- 'Volgia (Bryozoa, Cystoporata): a rare occurrence from the Mississippian of Ireland', *Bryozoan Studies 2022*, eds M.M. Key, Jr., J.S. Porter, P.N. Wyse Jackson, Abingdon, CRC Press (2023), 183-190 [P.N. Wyse Jackson, A. Ernst, M. Shaikh-Horajska, J. Murray]
- 'Skeletonisation in the stenolaemate bryozoan orders Cryptostomata (suborder Rhabdomesina) and Trepostomata: the role of the Bryozoan Skeletal Index (BSI) as a taxonomic character', *Bryozoan Studies 2022*, eds M.M. Key, Jr., J.S. Porter, P.N. Wyse Jackson, Abingdon, CRC Press (2023), 169-181 [P.N. Wyse Jackson, M.M. Key, Jr., C.M. Reid]
- 'Enigmatic structures in Palaeozoic fenestrate bryozoans: the case of *Fenestella sculptilis*', *Bryozoan Studies 2022*, eds M.M. Key, Jr., J.S. Porter, P.N. Wyse Jackson, Abingdon, CRC Press (2023), 137-141 [J. Luis Suárez Andrés, P.N. Wyse Jackson, C. Sendino Lara]
- 'Bryozoans from the Pennsylvanian of the Ixtaltepec Formation, Oaxaca, Mexico', *Bryozoan Studies 2022*, eds M.M. Key, Jr., J.S. Porter, P.N. Wyse Jacksons, Abingdon, CRC Press (2023), 25-40 [S. González-Mora, P.N. Wyse Jackson, S. Alicia Quiroz Barroso, F. Sour-Tovar]
- Bryozoan Studies 2022*, First, Abingdon, CRC Press (2023), i-xii; 1-191 [M.M. Key, Jr., J.S. Porter, P.N. Wyse Jackson]

ZOOLOGY

- Albery, Greg**, 'Behavioural defences against parasites across host social structures', *Functional Ecology*, 37, 4 (2023), 809-820 [S. Stockmaier, Y. Ulrich, G.F. Albery, S. Cremer, P.C. Lopes]
- 'Behavioural ecology at the spatial-social interface', *Biological Reviews*, 98, 3 (2023), 868-886 [M.R. Quinn Webber, G.F. Albery, D.R. Farine, N. Pinter-Wollman, N. Sharma]
- 'The coevolutionary mosaic of bat betacoronavirus emergence risk', *Virus Evolution*, 10, 1 (2024), <https://doi.org/10.1093/ve/vead079> [N.R. Forero-Muñoz, R.L. Muiylaert, S.N. Seifert, G.F. Albery, D.J. Becker]
- 'Sex-specific social aging in wild African lions', *Current Biology*, 34, 17 (2024), 4039-4046.e2 [L.F. Rudd, C. Packer, D. Biro, J.A. Firth, G.F. Albery]
- 'Understanding spatiotemporal effects of food supplementation on host-parasite interactions using community-based science', *Journal of Animal Ecology*, 93, 12 (2024), 1830-1840 [S.A. Knutie, R. Bahouth, M.A. Bertone, C. Webb, M. Mehta]
- 'Comparative approaches in social network ecology', *Ecology Letters*, 27, 1 (2024), <http://dx.doi.org/10.1111/ele.14345> [G.F. Albery, S. Bansal, M.J. Silk]
- 'Expanding theory, methodology and empirical systems at the spatial-social interface', *Philosophical Transactions of the Royal Society B: Biological Sciences*, 379, 1912 (2024), <http://dx.doi.org/10.1098/rstb.2022.0534> [G.F. Albery, Q.M.R. Webber, D. Farine, S. Picardi, W. Vander]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'Understanding age and society using natural populations', *Philosophical Transactions of the Royal Society B: Biological Sciences*, 379, 1916 (2024), <http://dx.doi.org/10.1098/rstb.2022.0469> [J.A. Firth, G.F. Albery, S. Bouwhuis, L.J.N. Brent, R. Salguero-Gómez]
- 'Divergent age-related changes in parasite infection occur independently of behaviour and demography in a wild ungulate', *Philosophical Transactions of the Royal Society B: Biological Sciences*, 379, 1916 (2024), <http://dx.doi.org/10.1098/rstb.2023.0508> [G.F. Albery, A.Z. Hasik, S. Morris, A. Morris, F. Kenyon]
- 'Fine-scale spatial variation in fitness, inbreeding, and inbreeding depression in a wild ungulate', *Evolution Letters* (2025), <http://dx.doi.org/10.1093/evlett/qrae073> [A.M. Hewett, S.E. Johnston, G.F. Albery, A. Morris, S.J. Morris]
- 'A natural disaster exacerbates and redistributes disease risk among free-ranging macaques by altering social structure', *Ecology Letters*, 28, 1 (2025), <https://doi.org/10.1111/ele.70000> [A. Motes-Rodrigo, G.F. Albery, J.E. Negron-Del Valle, D. Philips, M.L. Platt]
- 'Social familiarity and spatially variable environments independently determine reproductive fitness in a wild bird', *American Naturalist*, 201, 6 (2023), 813-824 [S. Gokcekus, J.A. Firth, C. Regan, E.F. Cole, B.C. Sheldon]
- 'Novel pathogen introduction triggers rapid evolution in animal social movement strategies', *eLife*, 12 (2023), <http://dx.doi.org/10.7554/eLife.81805> [P.R. Gupte, G.F. Albery, J. Gismann, A. Sweeny, F.J. Weissing]
- 'Network embedding unveils the hidden interactions in the mammalian virome', *Patterns*, 4, 6 (2023), <http://dx.doi.org/10.1016/j.patter.2023.100738> [T. Poisot, M-A. Ouellet, N. Mollentze, M.J. Farrell, D.J. Becker]
- 'How behavioural ageing affects infectious disease', *Neuroscience and Biobehavioral Reviews*, 155 (2023), <http://dx.doi.org/10.1016/j.neubiorev.2023.105426> [G.F. Albery, A.R. Sweeny, Q. Webber]
- 'Ecological drivers of sustained enzootic yellow fever virus transmission in Brazil, 2017-2021', *PLoS Neglected Tropical Diseases*, 17, 6 June (2023), <http://dx.doi.org/10.1371/journal.pntd.0011407> [N.I.O. Silva, G.F. Albery, M.S. Arruda, G.F.G. Oliveira, T.A. Costa]
- 'Host phylogeny and ecological associations best explain *Wolbachia* host shifts in scale insects', *Molecular Ecology*, 32, 9 (2023), 2351-2363 [E. Sanaei, G.F. Albery, Y.K. Yeoh, Y-P. Lin, L.G. Cook]
- 'Glycosylation and the global virome', *Molecular Ecology*, 32, 1 (2023), 37-44 [C.L. Pegg, B.L. Schulz, B.A. Neely, G.F. Albery]
- Barnett, James**, 'Behavioural mimicry among poison frogs diverges during close-range encounters with predators', *Journal of Evolutionary Biology* (2025), <https://doi.org/10.1093/jeb/voaf038> [J.B. Barnett, B.L. McEwen, I. Kinley, H.M. Anderson, J. Yeager]
- 'Animal transparency: how should we define form and function?', *Functional Ecology*, 39 (2025), 929-941 [J.B. Barnett, J., Yeager, K. Kjærsmo]
- 'Detectability of a poison frog and its Batesian mimic depends on body posture and viewing angle', *Behavioral Ecology*, 35 (2024), arae077 [B.L. McEwen, J. Yeager, I. Kinley, H.M. Anderson, J.B. Barnett]
- 'Imperfections in transparency and mimicry do not increase predation risk for clearwing butterflies with educated predators', *Ecology and Evolution*, 14 (2024), e70307 [J. Yeager, A. Robison, C.D. Wade, J.B. Barnett]
- Buckley, Yvonne**, 'Compositional variation in grassland plant communities', *Ecosphere*, 14, 6 (2023), e4542 [J.D. Bakker, J.N. Price, J.A. Henning, E.E. Batzer, G.M. Wardle]
- 'Widening global variability in grassland biomass since the 1980s', *Nature Ecology and Evolution*, 8, 10 (2024), 1877-1888 [A.S. MacDougall, E. Esch, Q. Chen, E.W. Seabloom]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'Erratum: author correction: Widening global variability in grassland biomass since the 1980s (Nature ecology and evolution (2024) 8 10 DOI: 10.1038/s41559-024-02500-x)', *Nature Ecology and Evolution*, 8, 10 (2024), 2003 [A.S. MacDougall, E. Esch, Q. Chen, O. Carroll, C. Bonner]
- 'Using dynamic documents to mend cracks in the reproducible research pipeline', *Journal of Ecology*, 113, 2 (2025), 270-274 [Y.M. Buckley, R. Bardgett, R. Gordon, A. Iler, P. Mariotte]
- 'The plant ecology of nature-based solutions for people, biodiversity and climate', *Journal of Ecology*, 112, 11 (2024), 2424-2431 [Y.M. Buckley, A. Austin, R. Bardgett, J.A. Catford, A. Hector]
- Luijckx, Pepijn**, 'Increased virulence due to multiple infection in *Daphnia* leads to limited growth in 1 of 2 co-infecting microsporidian parasites', *Parasitology*, 151, 1 (2024), 58-67 [F.E. O'Keeffe, R.C. Pendleton, C.V. Holland, P. Luijckx]
- 'Experimental evidence of size-selective harvest and environmental stochasticity effects on population demography, fluctuations and non-linearity', *Ecology Letters*, 26, 4 (2023), 586-596 [L.A. Rogers, Z. Moore, A. Daigle, P. Luijckx, M. Krkosek]
- McKeon, Caroline**, 'Reconciling climate action with the need for biodiversity protection, restoration and rehabilitation', *Science of the Total Environment*, 857, 1 (2023), 159316 [C.E. Gorman, A. Torsney, A. Gaughran, C. McKeon, C. Farrell]
- Murphy, Paula**, 'Structural determinants of tendon multiscale mechanics and their sensitivity to mechanical stimulation during development in an embryonic chick model', *Acta Biomaterialia*, 190 (2024), 303-316 [B.E. Peterson, M.L. Canonicco Castro, H.O. McCarthy, N. Buckley, N. Dunne]
- 'Embryo movement is required for limb tendon maturation', *Frontiers in Cell and Developmental Biology* (2024), <https://doi.org/10.3389/fcell.2024.1466872> [R.A. Rolfe, E.B. Basturkmen, L. Sliney, G. Hayden, N. Dunne]
- 'Building a co-ordinated musculoskeletal system: the plasticity of the developing skeleton in response to muscle contractions', *Roles of skeletal muscle in organ development*, ed B. Kablar, Springer Nature (2023), <http://hdl.handle.net/2262/108775> [P. Murphy, R. Rolfe]
- O'Connor, Nessa**, 'Key benthic species are affected by predicted warming in winter but show resistance to ocean acidification', *Ecology and Evolution*, 14, 9 (2024), <http://dx.doi.org/10.1002/ece3.70308> [K.S.H. Schertenleib, T. Davey, D. Taylor, N.E. O'Connor]
- "Quantifying the Impacts of Multiple Stressors' (QIMS) - a new experimental platform for robust multifactorial experiments in benthic ecosystems', *Limnology and Oceanography: Methods* (2024), <http://dx.doi.org/10.1002/lom3.10633> [K. Schertenleib, R. Fitzpatrick, N.E. O'Connor]
- 'Species contributions to ecosystem stability change with disturbance type', *Oikos* (2024), doi.org/10.1111/oik.10077 [L. White, N.E. O'Connor, A. Gilson, I. Donohue]
- Payne, Nicholas**, 'Estuarine movements in a sparid hybrid complex', *Marine and Freshwater Research*, 74, 7 (2023), 625-640 [D.E. Van Der Meulen, C.T. Walsh, I.V. Reinfelds, N.L. Payne, M.C. Ives]
- 'A review of elasmobranch catch-and-release science: synthesis of current knowledge, implications for best practice and future research directions', *Conservation Physiology*, 11, 1 (2023), coad100 [L.W.J. Cameron, W.K. Roche, K. Beckett, N.L. Payne]
- 'Tail shape and the swimming speed of sharks', *Royal Society Open Science*, 10, 10 (2023), 231127 [A.S. Iliou, W. Vanderwright, L. Harding, D.M.P. Jacoby, N.L. Payne]
- 'Northerly range expansion and first confirmed records of the smalltooth sand tiger shark, *Odontaspis ferox*, in the United Kingdom and Ireland', *Journal of Fish Biology*, 103, 6 (2023), 1549-1555 [D.J. Curnick, R. Deaville, J.R. Bortoluzzi, L. Cameron, J.E.L. Carlsson]
- 'Behavioral response of megafauna to boat collision measured via animal-borne camera and IMU', *Frontiers in Marine Science*, 11 (2024), 1430961 [T.K. Chapple, D.E. Cade, J. Goldbogen, N. Massett, N. Payne]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

'How strongly does diet variation explain variation in isotope values of animal consumers?', *PLoS ONE*, 19, 6 (2024), e0301900 [J-F. Arnoldi]

'Seasonal variability of high-latitude foraging grounds for Atlantic bluefin tuna (*Thunnus thynnus*)', *Diversity and Distributions* (2024), e13865 [G.E. McNicholas, A.L. Jackson, S. Brodie, R. O'Neill]

'Transboundary movements of porbeagle sharks support need for continued cooperative research and management approaches', *Fisheries Research*, 275 (2024), 107007 [J.R. Bortoluzzi, G.E. McNicholas, A.L. Jackson]

'Environmental drivers of yellowtail kingfish, *Seriola lalandi*, activity inferred through a continental acoustic tracking network', *Aquatic Conservation: Marine and Freshwater Ecosystems*, 34, 1 (2024), e4019 [T.M. Clarke, S.K. Whitmarsh, F.R.A. Jaine, M.D. Taylor, S. Brodie]

Rolfe, Rebecca, 'Structural determinants of tendon function during development and their sensitivity to mechanical stimulation', *Acta Biomaterialia* (2024), <https://doi.org/10.1016/j.actbio.2024.10.011> [B.E. Peterson, M.L. Canonico Castro, H. McCarthy, N. Buckley, N. Dunne]

'Embryo movement is required for limb tendon maturation', *Frontiers in Cell and Developmental Biology* (2024), <https://doi.org/10.3389/fcell.2024.1466872> [R.A. Rolfe, E.B. Basturkmen, L. Sliney, G. Hayden, N. Dunne]

'Building a co-ordinated musculoskeletal system: the plasticity of the developing skeleton in response to muscle contractions', *Roles of Skeletal Muscle in Organ Development*, ed B. Kablar, Springer Nature (2023), <http://hdl.handle.net/2262/108775> [P. Murphy, R. Rolfe]

School of Physics

Ayarde Henriquez, Leandro, 'Revisiting the bonding evolution theory: a fresh perspective on the ammonia pyramidal inversion and bond dissociations in ethane and borazane', *Physical Chemistry Chemical Physics*, 25, 40 (2023), 27394-27408 [L. Ayarde-Henriquez, C. Guerra, M. Duque-Norena, E. Chamorro]

'Elucidating the N-N and C-N bond-breaking mechanism in the photoinduced formation of nitrile imine', *ChemPhysChem*, 24, 11 (2023), <http://hdl.handle.net/2262/108722> [C. Guerra, L. Ayarde-Henriquez, Y.A. Rodríguez-Núñez, A. Ensuncho, E. Chamorro]

'Uncovering triradicaloid structures in S₁ benzene photochemistry', *ChemPhotoChem*, 7, 5 (2023), <http://hdl.handle.net/2262/108721> [C. Guerra, L. Ayarde-Henriquez, E. Chamorro, A. Ensuncho]

'Hemicellulose pyrolysis: mechanism and kinetics of functionalized xylopyranose', *Physical Chemistry Chemical Physics* (2024), 12820-12837 [L. Ayarde-Henriquez, J. Lupi, S. Dooley]

Binder, Felix, 'Nonideal measurement heat engines', *Physical Review A*, 108 (2023), 062214 [A. Panda, F.C. Binder, S. Vinjanampathy]

'Gillespie algorithm for quantum jump trajectories', *Physical Review A*, 110 (2024), 062212 [M. Radaelli, G.T. Landi, F.C. Binder]

'Trade-offs between precision and fluctuations in charging finite-dimensional quantum systems', *Physical Review E*, 109 (2024), 014131 [F. Bakhshinezhad, B.R. Jablonski, F.C. Binder, N. Friis]

Bradley, Louise, 'Reprogrammable metasurface design for NIR beam steering and active filtering', *Journal of Physics D: Applied Physics*, 57, 41 (2024), <http://dx.doi.org/10.1088/1361-6463/ad626c> [H. Hajian, M. Proffit, E. Ozbay, P. Landais, A.L. Bradley]

'Chiroptically active quantum nanonails', *Nanoscale Horizons*, 9, 6 (2024), 1013-1022 [F. Purcell-Milton, V.A. Kuznetsova, X. Bai, A.L. Bradley, Y.K. Gounko]

'Direct laser writing of silica nanoparticle nanocomposites: probing mechanical reinforcement and understanding structural color from design parameters', *Small* (2024), <http://dx.doi.org/10.1002/smll.202310058> [A. Augustine, J. Qian, T. Faraone, S. Kolagatla, N. Prochukhan]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'Supercavity modes in stacked identical Mie-resonant metasurfaces', *Physical Review B*, 108, 19 (2023), <http://dx.doi.org/10.1103/PhysRevB.108.195404> [X. Zhang, X. Zhang, A.L. Bradley]
- 'Spectral tuning of a nanoparticle-on-mirror system by graphene doping and gap control with nitric acid', *ACS Applied Materials and Interfaces*, 15, 32 (2023), 38901-38909 [J. Lawless, O. McCormack, J. Pepper, N. McEvoy, A.L. Bradley]
- 'Quasi-bound states in the continuum for electromagnetic induced transparency and strong excitonic coupling', *Optics Express*, 32, 11 (2024), 19163-19174 [H. Hajian, X. Zhang, O. McCormack, Y. Zhang, J. Dobie]
- Coe, J.M.D., 'Mn₄-xGa_xN thin films for ferrimagnetic spintronics', *2023 IEEE International Magnetic Conference - Short Papers (INTERMAG Short Papers)*, Sendai, Japan (2023), 1-2 [L. Prendeville, Y. He, P.J. Caverio, S. Lenne, J.M.D. Coe]
- Coleman, Jonathan, 'Using electrical impedance spectroscopy to separately quantify the effect of strain on nanosheet and junction resistance in printed nanosheet networks', *Small*, 21, 5 (2025), <http://hdl.handle.net/2262/111084> [E. Caffrey, T. Carey, L. Doolan, A. Dawson, E. Coleman]
- 'Production of ultrathin and high-quality nanosheet networks via layer-by-layer assembly at liquid-liquid interfaces', *ACS Nano*, 18, 47 (2024), 32589-32601 [J. Neilson, E. Caffrey, O. Cassidy, C. Gabbett, K. Synnatschke]
- 'Extracting the temperature dependence of both nanowire resistivity and junction resistance from electrical measurements on printed silver nanowire networks', *ACS Applied Electronic Materials*, 7, 2 (2025), 806-815 [E. Coleman, A. Kelly, C. Gabbett, L. Doolan, S. Liu]
- 'Exfoliated molybdenum disulfide nanosheet networks as sensing materials for nitrogen dioxide detection', *ACS Applied Nano Materials*, 8, 5 (2025), 2141-2152 [K. Urs, T. Carey, L. Tsetseris, S. Liu, K. Synnatschke]
- 'Inert liquid exfoliation and langmuir-type thin film deposition of semimetallic metal diborides', *ACS Nano*, 18, 42 (2024), 28596-28608 [K. Synnatschke, U. Kaiser, J.N. Coleman]
- 'Liquid processed nano As₄S₄/SWCNTs composite electrodes for high-performance Li-ion and Na-ion battery anodes', *Energy and Fuels*, 38, 21 (2024), 21521-21534 [M. McCrystall, C. Gabbett, H. Kaur, T. Carey, J. Munera]
- 'Liquid-phase exfoliation of arsenic trisulfide (As₂S₃) nanosheets and their use as anodes in potassium-ion batteries', *ACS Nano*, 18, 31 (2024), 20213-20225 [H. Kaur, B. Konkena, M. McCrystall, K. Synnatschke, C. Gabbett]
- 'Quantifying the effect of nanosheet dimensions on the piezoresistive response of printed graphene nanosheet networks', *Nanoscale Horizons* (2024), <http://hdl.handle.net/2262/111094> [E. Caffrey, J.M. Munuera, T. Carey, J.N. Coleman]
- 'Defect-engineering of liquid-phase exfoliated 2D semiconductors: stepwise covalent growth of electronic lateral hetero-networks', *Materials Horizons* (2024), <http://hdl.handle.net/2262/111093> [A.G. Ricciardulli, C.E. Petoukhoff, A. Zhuravlova, A.G. Kelly, C. Ma]
- 'Tuning deposition conditions for VN thin films electrodes for microsupercapacitors: influence of the thickness', *Journal of the Electrochemical Society*, 171, 9 (2024), <http://hdl.handle.net/2262/111088> [A. Lebreton, J.N. Coleman, T. Brousse]
- 'Video frame interpolation neural network for 3D tomography across different length scales', *Nature Communications*, 15, 1 (2024), <http://hdl.handle.net/2262/111086> [L. Gambini, C. Gabbett, L. Doolan, L. Jones, J.N. Coleman]
- 'Pressure dependent mechanical properties of thin films under uniaxial strain via the layer compression test', *Journal of Materials Research* (2023), <http://hdl.handle.net/2262/102970> [A.D. Sinnott, A. Kelly, C. Gabbett, M. Mobius, J. Coleman]
- 'Near room temperature production of segregated network composites of carbon nanotubes and regolith as multifunctional, extra-terrestrial building materials', *Small* (2024), <http://hdl.handle.net/2262/111092> [J. Garcia, E. Caffrey, L. Doolan, D.V. Horvath, T. Carey]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'Knot architecture for biocompatible and semiconducting 2D electronic fiber transistors', *Small Methods* (2024), <http://hdl.handle.net/2262/111091> [T. Carey, J. Maughan, L. Doolan, E. Caffrey, J. Garcia]
- 'Long lived photogenerated charge carriers in few-layer transition metal dichalcogenides obtained from liquid phase exfoliation', *Nanoscale Advances*, 6, 4 (2023), 1074-1083 [F. Morabito, K. Synnatschke, J.D. Mehew, S. Varghese, C.J. Sayers]
- 'Two-dimensional MoS₂ nanosheets derived from cathodic exfoliation for lithium storage applications', *Nanomaterials*, 14, 11 (2024), <http://hdl.handle.net/2262/111095> [S. Villar-Rodil, J.M. Munuera, J.N. Coleman, J.I. Paredes]
- 'Understanding how junction resistances impact the conduction mechanism in nano-networks', *Nature Communications*, 15, 1 (2024), <http://hdl.handle.net/2262/109848> [C. Gabbett, A.G. Kelly, E. Coleman, J.N. Coleman]
- Cross, Graham**, 'Pressure dependent mechanical properties of thin films under uniaxial strain via the layer compression test', *Journal of Materials Research* (2023), <http://hdl.handle.net/2262/102970> [A.D. Sinnott, A. Kelly, C. Gabbett, M. Mobius, J. Coleman]
- Dooley, Stephen**, 'The effect of used cooking oil composition on the specific CO₂e emissions embodied in HEFA-SPK production', *Biofuels, Bioproducts and Biorefining*, 18, 4 (2024), 837-854 [L.A. Mannion, C. Redington, M. Kelly, A. Bell, S. Dooley]
- 'A physics constrained methodology for the life cycle assessment of sustainable aviation fuel production', *Biomass and Bioenergy*, 185 (2024), [L.A. Mannion, A. Bell, T. Watson-Murphy, M. Kelly, M.R. Ghaani]
- 'Steady states and kinetic modelling of the acid-catalysed ethanolysis of glucose, cellulose, and corn cob to ethyl levulinate', *Energy Advances*, 3, 6 (2024), 1439-1458 [C. McNamara, A. O'Shea, P. Rao, A. Ure, L. Ayarde-Henriquez]
- 'CO₂ loss into solution: an experimental investigation of CO₂ electrolysis with a membrane electrode assembly cell', *ACS Applied Energy Materials* (2024), [W. Liu, H. Dunne, B. Ballotta, A.A. Massie, M.R. Ghaani]
- 'Sensitivity analysis of one-dimensional multiphysics simulation of CO₂ electrolysis cell', *Journal of Physical Chemistry C*, 128, 27 (2024), 11131-11144 [H. Dunne, W. Liu, M.R. Ghaani, K. McKelvey, S. Dooley]
- 'Hemicellulose pyrolysis: mechanism and kinetics of functionalized xylopyranose', *Physical Chemistry Chemical Physics* (2024), 12820-12837 [L. Ayarde-Henriquez, J. Lupi, S. Dooley]
- Eastham, Paul**, 'Overcoming temperature limitations in laser cooling using dressed states and diamond vacancies', *Proc. SPIE, OPTO 2025 (SPIE Photonics West)*, eds D.V. Seletskiy, M.K. Kuno, P.J. Pauzauskie, SPIE (2025), 133790G [P. Eastham, C. Murphy, L. Toledo Tude]
- 'Unifying methods for optimal control in non-Markovian quantum systems via process tensors', *The Journal of Chemical Physics*, 161, 12 (2024), 124119 [C. Ortega-Taberner, E. O'Neill, E. Butler, G.E. Fux, P.R. Eastham]
- 'OQuPy: a python package to efficiently simulate non-Markovian open quantum systems with process tensors', *Journal of Chemical Physics*, 161, 12 (2024), 124108 [G.E. Fux, P. Fowler-Wright, J. Beckles, E.P. Butler, P.R. Eastham]
- 'Quantum thermodynamics of driven-dissipative condensates', *APL Quantum*, 1 (2024), 036108 [L. Toledo Tude, P.R. Eastham]
- 'Overcoming temperature limits in the optical cooling of solids using light-dressed states', *Phys. Rev. Lett.*, 132 (2024), 266901 [L. Toledo Tude, C.N. Murphy, P.R. Eastham]
- Espey, Brian**, 'Correction to: Monitoring, trends and impacts of light pollution (Nature Reviews Earth and Environment, (2024), 5, 6, (417-430), 10.1038/s43017-024-00555-9)', *Nature Reviews Earth and Environment*, 5, 8 (2024), 605 [H. Linares Arroyo, A. Abascal, T. Degen, A. Simoneau, K. Walczak]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'Monitoring, trends and impacts of light pollution', *Nature Reviews Earth and Environment* (2024), <http://dx.doi.org/10.1038/s43017-024-00555-9> [H. Linares Arroyo, A. Abascal, A. Simoneau, K. Walczak, C.C.M. Kyba]
- 'Real-world urban light emission functions and quantitative comparison with spacecraft measurements', *Remote Sensing*, 15 (2023), 16 [B.R. Espey, X. Yan, K. Patrascu]
- Ferreira, Mauro**, 'Self-assembled clusters of magnetically tilted dipoles', *Physical Review E*, 110, 6 (2024), 064134- [P.D.S. de Lima, A. Lyons, A. Irannezhad, J.M. de Araujo, S. Hutzler]
- 'Decoding disorder signatures of AuCl₃ and vacancies in MoS₂ films: from synthetic to experimental inversion', *Journal of Physics Condensed Matter*, 36, 49 (2024), <http://dx.doi.org/10.1088/1361-648X/ad7568> [F.R. Duarte, F. Matusalem, D. Grasseschi, A.R. Rocha, L. Seixas]
- 'Bayesian time-lapse full waveform inversion using Hamiltonian Monte Carlo', *Geophysical Prospecting*, 72, 9 (2024), 3381-3398 [P.D.S. de Lima, M.S. Ferreira, G. Corso]
- 'Inverse design from the catenary problem', *European Journal of Physics*, 45, 3 (2024), <http://dx.doi.org/10.1088/1361-6404/ad3c80> [de Lima, P.D.S. and Ferreira, M.S.]
- 'Identifying winner-takes-all emergence in random nanowire networks: an inverse problem', *Physical Chemistry Chemical Physics* (2024), <http://dx.doi.org/10.1039/d4cp03242j> [F.R. Duarte, S. Mukim, M.S. Ferreira, C.G. Rocha]
- 'Thermo-electro-optical properties of seamless metallic nanowire networks for transparent conductor applications', *Nanoscale*, 15, 24 (2023), 10394-10411 [K. Esteki, D. Curic, H.G. Manning, E. Sheerin, M.S. Ferreira]
- Fleischer, Karsten**, 'Investigating the morphology, hardness, and porosity of spherical and dendritic copper powder filters produced via cold isostatic pressing', *Minerals, Metals and Materials Series* (2023), 207-218 [H. Ayub, L.A. Khan, L. McCarthy, I.U. Ahad, S. Sreenilayam]
- 'Investigating the local bonding structure of amorphous zinc tin oxide to elucidate the effect of altering the intercation ratio', *Journal of Physical Chemistry C*, 128, 39 (2024), 16733-16739 [P.J. Callaghan, K. Fleischer, D. Caffrey, K. Zhussupbekov, S. Ansell]
- 'Investigation on optical absorption and reflection of carbon nanotubes mixed copper composites for laser sintering process improvement', *Metals*, 13, 12 (2023), <http://dx.doi.org/10.3390/met13121984> [H. Ayub, L.A. Khan, E. McCarthy, I.U. Ahad, K. Fleischer]
- 'Bimetallic oxide Mg-Cu nanoparticles synthesis and application in photometric sensing of trypsin in the presence of tap water, ammonia, and glutamine', *Materials Today Communications*, 37, 107015 (2023), <http://dx.doi.org/10.1016/j.mtcomm.2023.107015> [A. Nyabadza, A. Plouze, K. Fleischer, M. Vazquez, D. Brabazon]
- 'Tailored CuCl₂ nanoparticles for glutamine and ammonia biochemical sensing applications', *Solid State Sciences*, 139, 107171 (2023), <http://dx.doi.org/10.1016/j.solidstatesciences.2023.107171> [A. Nyabadza, S. Sreenilayam, A. Al-Hamaoy, M. Vazquez, D. Brabazon]
- 'High-performance p-type V₂O₃ films by spray pyrolysis for transparent conducting oxide applications', *Scientific Reports*, 14, 1 (2024), <http://hdl.handle.net/2262/108743> [A. Ainabayev, B. Walls, D. Mullarkey, D. Caffrey, K. Fleischer]
- Goold, John**, 'Identifying vegetation patterns for a qualitative assessment of land degradation using a cellular automata model and satellite imagery', *Physical Review E*, 110, 2 (2024), <http://dx.doi.org/10.1103/PhysRevE.110.024136> [H. Yarahmadi, Y. Desille, J. Goold, F. Pietracaprina]
- 'Entropy production in the mesoscopic-leads formulation of quantum thermodynamics', *Physical Review E*, 110, 1 (2024), <http://dx.doi.org/10.1103/PhysRevE.110.014125> [A.M. Lacerda, M.J. Kewming, M. Brenes, C. Jackson, S.R. Clark]
- 'Calculating the many-body density of states on a digital quantum computer', *Physical Review Research*, 6, 1 (2024), <http://dx.doi.org/10.1103/PhysRevResearch.6.013106> [A. Summer, C. Chiaracane, M.T. Mitchison, J. Goold]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'Powering an autonomous clock with quantum electromechanics', *New Journal of Physics*, 26, 2 (2024), <http://dx.doi.org/10.1088/1367-2630/ad202b> [O. Culhane, M.J. Kewming, A. Silva, J. Goold, M.T. Mitchison]
- 'Variational Gibbs state preparation on noisy intermediate-scale quantum devices', *Physical Review A*, 110, 1 (2024), <http://dx.doi.org/10.1103/PhysRevA.110.012445> [M. Consiglio, J. Settino, A. Giordano, C. Mastroianni, F. Plastina]
- Hegner, Martin**, 'Silicon microresonator arrays: a comprehensive study on fabrication techniques and pH-controlled stress-induced variations in cantilever stiffness', *Microelectronic Engineering* (2024), 112154 [G. Brunetti, A. Departing, C. Rotella, V. Usov, G. Villanueva]
- Hess, Ortwin**, 'Near-field strong coupling and entanglement of quantum emitters for room-temperature quantum technologies', *PhotonIX*, 5, 1 (2024), <http://dx.doi.org/10.1186/s43074-024-00148-1> [D.D.A. Clarke, O. Hess]
- 'Substrate engineering of plasmonic nanocavity antenna modes', *Optics Express*, 31, 2 (2023), 2345-2358 [X. Xiong, D. Clarke, Y. Lai, P. Bai, C.E. Png]
- 'How to read out the phonon number statistics via resonance fluorescence spectroscopy of a single-photon emitter', *Advanced Quantum Technologies* (2023), <http://dx.doi.org/10.1002/qute.202300153> [D. Groll, F. Paschen, P. Machnikowski, O. Hess, D. Wigger]
- 'Designed semiconductor network random lasers', *Laser and Photonics Reviews* (2024), <http://dx.doi.org/10.1002/lpor.202400623> [D. Saxena, A. Fischer, J. Dranczewski, W.K. Ng, N.V. Trivino]
- 'Ultrafast photoluminescence and multiscale light amplification in nanoplasmonic cavity glass', *Nature Communications*, 15, 1 (2024), <http://dx.doi.org/10.1038/s41467-024-47539-3> [P. Piotrowski, M. Buza, R. Nowaczyński, N. Kongsuwan, H.B. Surma]
- 'Room-temperature quantum nanoplasmonic coherent perfect absorption', *Nature Communications*, 15, 1 (2024), <http://dx.doi.org/10.1038/s41467-024-50574-9> [Y. Lai, D.D.A. Clarke, P. Grimm, A. Devi, D. Wigger]
- 'Electrochemically switchable multimode strong coupling in plasmonic nanocavities', *Nano Letters*, 24, 1 (2024), 238-244 [Y. Yang, R. Chikkaraddy, Q. Lin, D.D.A. Clarke, D. Wigger]
- 'Nanoscale gap-plasmon-enhanced superconducting photon detectors at single-photon level', *Nano Letters* (2023), <http://hdl.handle.net/2262/104166> [J-W. Yang, T-Y. Peng, D.D.A. Clarke, F.D. Bello, J-W. Chen]
- Hutzler, Stefan**, 'Self-assembled clusters of magnetically tilted dipoles', *Physical Review E*, 110, 6 (2024), 064134 [P.D.S. de Lima, A. Lyons, A. Irannezhad, J.M. de Araujo, S. Hutzler]
- Jones, Lewys**, 'New poisson denoising method for pulse-count STEM imaging', *Ultramicroscopy*, 264, 113996 (2024), <http://dx.doi.org/10.1016/j.ultramic.2024.113996> [T. Kusumi, S. Katakami, R. Ishikawa, K. Kawahara, T. Mullarkey]
- 'Event-responsive scanning transmission electron microscopy', *Science (New York, N.Y.)*, 385, 6708 (2024), 549-553 [J.J.P. Peters, B.W. Reed, Y. Jimbo, K. Noguchi, D.J. Masiel]
- 'On the temporal transfer function in STEM imaging from finite detector response time', *Ultramicroscopy*, 267, 114056 (2024), <http://dx.doi.org/10.1016/j.ultramic.2024.114056> [J.J.P. Peters, T. Mullarkey, J.M. Bekkevold, M. Geever, R. Ishikawa]
- 'Liquid-phase exfoliation of arsenic trisulfide (As₂S₃) nanosheets and their use as anodes in potassium-ion batteries', *ACS Nano*, 18, 31 (2024), 20213-20225 [H. Kaur, B. Konkena, M. McCrystall, K. Synnatschke, C. Gabbett]
- 'Video frame interpolation neural network for 3D tomography across different length scales', *Nature Communications*, 15, 1 (2024), <http://hdl.handle.net/2262/111086> [L. Gambini, C. Gabbett, L. Doolan, L. Jones, J.N. Coleman, P. Gilligan]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- Keane, Evan, 'TRAPUM search for pulsars in supernova remnants and pulsar wind nebulae-I. Survey description and initial discoveries', *Monthly Notices of the Royal Astronomical Society*, 531, 3 (2024), 3579-3594 [J.D. Turner, B.W. Stappers, E. Carli, E.D. Barr, W. Becker]
- 'Comparing recent pulsar timing array results on the nanohertz stochastic gravitational-wave background', *The Astrophysical Journal*, 966, 1 (2024), 105 [G. Agazie, J. Antoniadis, A. Anumalapudi, A.M. Archibald, P. Arumugam,]
- 'The second data release from the European pulsar timing array-IV. Implications for massive black holes, dark matter, and the early Universe', *Astronomy and Astrophysics*, 685 (2024), A94 [J. Antoniadis, P. Arumugam, S. Arumugam, S. Babak, M. Bagchi]
- 'VizieR online data catalog: TESS candidate exoplanet hosts observed with LOFAR (Johnson+, 2023)', *VizieR Online Data Catalog*, 516 (2024), J-AJ [O.A. Johnson, V. Gajjar, E.F. Keane, D.J. McKenna, C. Giese]
- 'A simultaneous dual-site technosignature search using international LOFAR stations', *The Astronomical Journal*, 166, 5 (2023), 193 [O.W. Johnson, V. Gajjar, E.F. Keane, D.J. McKenna, C. Giese]
- 'Riptide: pulsar searching with the fast folding algorithm', *Astrophysics Source Code Library* (2023), ascl-2310 [V. Morello, E.D. Barr, B.W. Stappers, E.F. Keane, A.G. Lyne]
- 'clfd: Clean folded data', *Astrophysics Source Code Library* (2023), ascl-2310 [V. Morello, E.D. Barr, S. Cooper, M. Bailes, S. Bates]
- 'A Gaussian-processes approach to fitting for time-variable spherical solar wind in pulsar timing data', *Monthly Notices of the Royal Astronomical Society*, 528, 2 (2024), 3304-3319 [I.C. Nițu, M.J. Keith, C. Tiburzi, M. Brüggen, D.J. Champion]
- 'The second data release from the European pulsar timing array-I. The dataset and timing analysis', *Astronomy and Astrophysics*, 678 (2023), A48 [J. Antoniadis, S. Babak, A-S. Nielsen, C.G. Bassa, A. Berthureau]
- 'Second data release from the European pulsar timing array: challenging the ultralight dark matter paradigm', *Physical Review Letters*, 131, 17 (2023), 171001 [C. Smarra, B. Goncharov, E. Barausse, J. Antoniadis, S. Babak]
- 'The second data release from the European pulsar timing array-III. Search for gravitational wave signals', *Astronomy and Astrophysics*, 678 (2023), A50 [J. Antoniadis, P. Arumugam, S. Arumugam, S. Babak, M. Bagchi]
- 'Practical approaches to analyzing PTA data: Cosmic strings with six pulsars', *arXiv e-prints* (2023), arXiv-2306 [H. Quelquejay Leclerc, P. Auclair, S. Babak]
- 'Practical approaches to analyzing PTA data: cosmic strings with six pulsars', *Physical Review D*, 108, 12 (2023), 123527 [H. Quelquejay Leclerc, P. Auclair, S. Babak]
- 'The second data release from the European pulsar timing array-II. Customised pulsar noise models for spatially correlated gravitational waves', *Astronomy and Astrophysics*, 678 (2023), A49 [J. Antoniadis, P. Arumugam, S. Arumugam, S. Babak, M. Bagchi]
- 'A census of rotating radio transients at 150 MHz with the Irish LOFAR station', *Monthly Notices of the Royal Astronomical Society*, 527, 3 (2024), 4397-4419 [D.J. McKenna, E.F. Keane, P.T. Gallagher, J. McCauley]
- 'Missing for 20 yr: MeerKAT redetects the elusive binary pulsar M30B', *The Astrophysical Journal Letters*, 942, 2 (2023), L35 [V. Balakrishnan, P.C.C. Freire, S.M. Ransom, A. Ridolfi, E.D. Barr]
- 'Systematic performance of the ASKAP fast radio burst search algorithm', *Monthly Notices of the Royal Astronomical Society*, 523, 4 (2023), 5109-5119 [H. Qiu, E.F. Keane, K.W. Bannister, C.W. James, R.M. Shannon]
- 'Timing of pulsars in the globular cluster omega centauri', *Monthly Notices of the Royal Astronomical Society*, 521, 2 (2023), 2616-2622 [S. Dai, S. Johnston, M. Kerr, J. Berteaud, B. Bhattacharya]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'Propagation effects at low frequencies seen in the LOFAR long-term monitoring of the periodically active FRB 20180916B', *Monthly Notices of the Royal Astronomical Society*, 527, 4 (2024), 9872-9891 [A. Gopinath, C.G. Bassa, Z. Pleunis, J.W.T. Hessels, P. Chawla]
- 'The TRAPUM L-band survey for pulsars in Fermi-LAT gamma-ray sources', *Monthly Notices of the Royal Astronomical Society*, 519, 4 (2023), 5590-5606 [C.J. Clark, R.P. Breton, E.D. Barr, M. Burgay, T. Thongmeearkom]
- Konkena, Bharathi**, 'Liquid-phase exfoliation of arsenic trisulfide (As_2S_3) nanosheets and their use as anodes in potassium-ion batteries', *ACS Nano*, 18, 31 (2024), 20213-20225 [H. Kaur, B. Konkena, M. McCrystall, K. Synnatschke, C. Gabbett]
- 'Polyaniline wrapped graphene quantum dot decorated strontium titanate for robust high-performance flexible symmetric supercapacitors', *New Journal of Chemistry*, 47, 48 (2023), 22215-22225 [R. Joy, M.K. Wilson, A. Antony, B. Konkena, S.C. Padmanabhan]
- 'Cobalt oxide 2D nanosheets formed at a polarized liquid|liquid interface toward high-performance Li-ion and Na-ion battery anodes', *ACS Applied Materials and Interfaces*, 15, 50 (2023), 58320-58332 [B. Konkena, C. Kalapu, H. Kaur, A. Holzinger, H. Geaney]
- 'Exfoliability, magnetism, energy storage and stability of metal thiophosphate nanosheets made in liquid medium', *2D Materials*, 10, 2 (2023), <http://hdl.handle.net/2262/103947> [K. Synnatschke, J. van Dinter, S.J. Haigh, C. Backes]
- 'Amorphous 2D-nanoplatelets of red phosphorus obtained by liquid-phase exfoliation yield high areal capacity Na-ion battery anodes', *Advanced Energy Materials*, 13, 6 (2023), <http://hdl.handle.net/2262/102240> [H. Kaur, B. Konkena, C. Gabbett, R. Smith, M. McCrystall]
- Lunghi, Alessandro**, 'Charting regions of cobalt's chemical space with maximally large magnetic anisotropy: a computational high-throughput study', *Journal of the American Chemical Society*, 146, 49 (2024), 34158-34166 [L.A. Mariano, V.H.A. Nguyen, V. Briganti, A. Lunghi]
- '35+1 challenges in materials science being tackled by Pls under 35(ish) in 2023', *Matter*, 6, 8 (2023), 2480-2487 [M. Allen, K. Bediako, W.J. Bowman, S. Cranford]
- 'Spin-vibronic dynamics in open-shell systems beyond the spin Hamiltonian formalism', *Journal of Chemical Theory and Computation*, 20, 1 (2024), 323-332 [L.A. Mariano, S. Mondal, A. Lunghi]
- 'Self-consistent field approach for the variational quantum eigensolver: orbital optimization goes adaptive', *The Journal of Physical Chemistry A*, 128, 14 (2024), 2843-2856 [A. Fitzpatrick, A. Nykänen, N. Walter Talarico, A. Lunghi, S. Maniscalco]
- 'Spin-vibronic dynamics in open-shell systems beyond the spin Hamiltonian formalism', *Journal of Chemical Theory and Computation*, 20, 1 (2024), 323-332 [L.A. Mariano, S. Mondal, A. Lunghi]
- McCloskey, David**, 'Extreme dewetting resistance and improved visible transmission of Ag layers using sub-nanometer Ti capping layers', *ACS Omega*, 9, 8 (2024), 9714-9719 [A.L. Lynch, C.P. Murray, E. Roy, C. Downing, D. McCloskey]
- 'Enhanced and spectrally selective near infrared photothermal conversion in plasmonic nanohelices', *Advanced Functional Materials*, 34, 32 (2024), <http://dx.doi.org/10.1002/adfm.202401599> [J.A. Delgado-Notario, D. López-Díaz, D. McCloskey, J.M. Caridad]
- 'Investigation of field effect tuning of refractive index in transparent conducting oxide thin film Fabry-Perot cavity structures', *International Conference on Metamaterials, Photonic Crystals and Plasmonics* (2023), 1609-1610 [E. Roy, N. Shelly, C. Murray, D. McCloskey]
- 'Analysis of energy, economic and environmental performance of solar water heaters for domestic hot water supply in northern European climate', *36th international conference on Efficiency, Cost, Optimization, Simulation and environmental impact of energy systems, ECOS 2023* (2023), 2468-2479 [A. Parthiban, E. Cotter, D. McCloskey]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

'Field effect modulation using transparent conductive oxides and multilayer transition metal dichalcogenides', *CLEO: Science and Innovations, CLEO:S and I 2023* (2023), http://dx.doi.org/10.1364/CLEO_AT.2023.JW2A.97 [N. Shelly, E. Roy, C. Murray, D. McCloskey]

'Monolayer capping provides close to optimal resistance to laser dewetting of Au films', *ACS Applied Electronic Materials*, 5, 8 (2023), 4080-4093 [C.P. Murray, D. Mamyrainov, M. Ali, C. Downing, I.M. Povey]

Milz, Simon, 'Characterising transformations between quantum objects, 'completeness-of quantum properties, and transformations without a fixed causal order', *Quantum*, 8 (2024), 1415 [S. Milz, M. Túlio Quintino]

'Characterising the hierarchy of multi-time quantum processes with classical memory', *Quantum*, 8 (2024), 1328 [P. Taranto, M. Túlio Quintino, M. Murao, S. Milz]

'Witnessing environment dimension through temporal correlations', *Quantum*, 8 (2024), <http://hdl.handle.net/2262/110799> [L.B. Vieira, S. Milz, G. Vitagliano, C. Budroni]

Mitchison, Mark, 'Entanglement signature in quantum work statistics in the slow-driving regime', *Physical Review Research*, 6, 3 (2024), <http://dx.doi.org/10.1103/PhysRevResearch.6.033297> [J. Li, M.T. Mitchison, S.V. Moreira]

'Impact of imperfect timekeeping on quantum control', *Physical Review Letters*, 131, 16 (2023), <http://dx.doi.org/10.1103/PhysRevLett.131.160204> [J. Xuereb, P. Erker, F. Meier, M.T. Mitchison, M. Huber]

'Current fluctuations in open quantum systems: bridging the gap between quantum continuous measurements and full counting statistics', *PRX Quantum*, 5, 2 (2024), <http://dx.doi.org/10.1103/PRXQuantum.5.020201> [G.T. Landi, M.J. Kewming, M.T. Mitchison, P.P. Potts]

'Powering an autonomous clock with quantum electromechanics', *New Journal of Physics*, 26, 2 (2024), <http://dx.doi.org/10.1088/1367-2630/ad202b> [O. Culhane, M.J. Kewming, A. Silva, J. Goold, M.T. Mitchison]

'Entropy production in the mesoscopic-leads formulation of quantum thermodynamics', *Physical Review E*, 110, 1 (2024), <http://dx.doi.org/10.1103/PhysRevE.110.014125> [A.M. Lacerda, M.J. Kewming, M. Brenes, C. Jackson, S.R. Clark]

'Calculating the many-body density of states on a digital quantum computer', *Physical Review Research*, 6, 1 (2024), <http://dx.doi.org/10.1103/PhysRevResearch.6.013106> [A. Summer, C. Chiaracane, M.T. Mitchison, J. Goold]

'Thermometry by correlated dephasing of impurities in a one-dimensional Fermi gas', *Physical Review A*, 109, 2 (2024), 023309 [S. Brattegard, M.T. Mitchison]

Moebius, Matthias, 'Spreading of graphene oxide suspensions droplets on smooth surfaces', *Physics of Fluids*, 36, 11 (2024), <http://dx.doi.org/10.1063/5.0231547> [J.A. Quirke, M.E. Moebius]

'Versatile, extrudable and luminescent tripodal BTA-terpyridine (tpy) gel cross-linked with d- and f-block metal ions', *Chemistry - A European Journal* (2025), <http://dx.doi.org/10.1002/chem.202403919> [O. Kotova, S. Barwich, M.E. Moebius, T. Gunnlaugsson]

'Exerting control of self-assembly pathways via morphological switching and patterning in amino-acid-based benzene-1,3,5-tricarboxamide conjugates', *Chem*, 11, 2 (2025), <http://dx.doi.org/10.1016/j.chempr.2024.09.020> [A.J. Savyasachi, O. Kotova, E.T. Luis, A.D. Lynes, S. Mills]

'Development of a novel powder sheets printing process towards the next generation of additive manufacturing: the role of laser defocusing', *Virtual and Physical Prototyping (NVPP)*, 19, 1 (2024), 1-20 [W. Zhang, R. Lupoi]

'Pressure dependent mechanical properties of thin films under uniaxial strain via the layer compression test', *Journal of Materials Research* (2023), <http://hdl.handle.net/2262/102970> [A.D. Sinnott, A. Kelly, C. Gabbett, M. Mobius, J. Coleman]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'Hometronics - accessible production of graphene suspensions for health sensing applications using only household items', *npj 2D Materials and Applications*, 8, 1 (2024), <http://dx.doi.org/10.1038/s41699-024-00467-8> [A.K.A. Aljarid, J. Winder, C. Wei, A. Venkatraman, O. Tomes]
- 'Mechanical properties of conducting printed nanosheet network thin films under uniaxial compression', *Advanced Materials* (2023), <http://hdl.handle.net/2262/111096> [A.D. Sinnott, A. Kelly, C. Gabbett, J. Munuera, L. Doolan]
- 'Alveolar type II epithelial cell FASN maintains lipid homeostasis in experimental COPD', *JCI Insight*, 8, 16 (2023), e163403 [L.C. Fan, K. McConn, M. Plataki, S. Kenny, N.C. Williams]
- O'Regan, David, 'Evaluation of first-principles Hubbard and Hund corrected DFT for defect formation energies in non-magnetic transition metal oxides', *RSC Advances*, 14, 52 (2024), 38645-38659 [D.S. Lambert, D.D. O'Regan]
- 'Minimum tracking linear response Hubbard and Hund corrected density functional theory in CP2K', *Journal of Chemical Theory and Computation*, 20, 20 (2024), 8984-9002 [Z. Chai, R. Si, M. Chen, G. Teobaldi, D.D. O'Regan]
- 'Flat plane based double-counting free and parameter free many-body DFT+U', *Physical Review B*, 110, 20 (2024), <https://doi.org/10.1103/PhysRevB.110.205150> [A.C. Burgess, D.D. O'Regan]
- 'Tilted-plane structure of the energy of finite quantum systems', *Physical Review Letters*, 133, 2 (2024), <http://dx.doi.org/10.1103/PhysRevLett.133.026404> [A.C. Burgess, L. Linscott, D.D. O'Regan]
- 'Facilities and practices for linear response Hubbard parameters U and J in Abinit', *Electronic Structure*, 6, 3 (2024), <http://dx.doi.org/10.1088/2516-1075/ad610f> [L. MacEnulty, M. Giantomassi, B. Amadon, G-M. Rignanese, D.D. O'Regan]
- Patterson, Charles, 'Excited states from GW/BSE and Hartree-Fock theory: effects of polarizability and transition type on accuracy of excited state energies', *Journal of Chemical Physics*, 161, 22 (2024), <http://dx.doi.org/10.1063/5.0236385> [D.T. Waide, C.H. Patterson]
- 'Positron annihilation and binding in aromatic and other ring molecules', *Physical Review A*, 109, 6 (2024), <http://hdl.handle.net/2262/108706> [E. Arthur-Baidoo, J.R. Danielson, C.M. Surko, J.P. Cassidy, S.K. Gregg]
- 'Many-body theory calculations of positron binding to halogenated hydrocarbons', *Physical Review A*, 109, 4 (2024), <http://hdl.handle.net/2262/108727> [J.P. Cassidy, J. Hofierka, B. Cunningham, C.M. Rawlins, C.H. Patterson]
- Rode, Karsten, 'Mn₄-xGaN thin films for ferrimagnetic spintronics', *2023 IEEE International Magnetic Conference - Short Papers (INTERMAG Short Papers)*, Sendai, Japan (2023), 1-2 [L. Prendeville, Y. He, P.J. Caverio, S. Lenne, J.M.D. Coey]
- Sanvito, Stefano, 'Origin of the reversed conductance decay in radical cationic molecular wires: a molecular orbital perspective', *The Journal of Physical Chemistry C*, 128, 50 (2024), 21498-21507 [Y. Jiang, Y. Wang, P. Yang, H. Pan, Y. Wang]
- 'Towards quantifying (meta-)stability of multi-principal element alloys: from configurational entropy to characteristic temperatures', *Acta Materialia*, 281 (2024), 120415 [Y. Zhang, L. Dong, L-M. Wang, R-P. Liu, S. Sanvito]
- 'Half-metallic transport and spin-polarized tunneling through the van der Waals ferromagnet Fe₄GeTe₂', *Nano Letters*, 24, 30 (2024), 9221-9228 [A. Halder, D. Nell, A. Sihi, A. Bajaj, S. Sanvito]
- 'MagBERT: magnetism knowledge aware language model coupled with a question answering pipeline for Curie temperature extraction task', *Journal of Physical Chemistry C*, 128, 31 (2024), 13217-13229 [A. Zhumabayeva, N. Ranjan, S. Sanvito, H. Ucar]
- 'Video frame interpolation neural network for 3D tomography across different length scales', *Nature Communications*, 15, 1 (2024), <http://hdl.handle.net/2262/111086> [L. Gambini, C. Gabbett, L. Doolan, L. Jones, J.N. Coleman]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'Predicting the one-particle density matrix with machine learning', *Journal of Chemical Theory and Computation* (2024), <http://dx.doi.org/10.1021/acs.jctc.4c00042> [S. Hazra, U. Patil, S. Sanvito]
- 'Ab initio transport theory for the intrinsic spin Hall effect applied to 5D metals', *Physical Review B*, 109, 19 (2024), <http://dx.doi.org/10.1103/PhysRevB.109.195132> [A. Bajaj, R. Gupta, I.V. Tokatly, S. Sanvito, A. Droghetti]
- 'Computational demystification of iron carbonyls formation under syngas environment', *NPJ Materials Degradation*, 8, 1 (2024), <http://dx.doi.org/10.1038/s41529-024-00429-x> [E.T. Bentría, P.M. Shenai, S. Sanvito, H. Park, N. Laycock]
- 'Au-thiolate interfacial coordination: the key to determining the spin state of a blatter radical when incorporated into gold-molecule-gold junctions', *Journal of Physical Chemistry C*, 128, 12 (2024), 5288-5299 [Y. Jiang, S. Li, Y. Wang, S. Sanvito, S. Hou]
- 'Oxazine: an anchoring group serving as functional kernels to construct single-molecule switches', *Journal of Materials Chemistry C*, 12, 6 (2024), 2194-2202 [S. Li, Y. Jiang, Y. Wang, D. Lin, H. Pan]
- 'Computational demystification of iron carbonyls formation under gas reforming conditions, npj material degradation', *NPJ Materials Degradation*, 8 (2024), 19 [E.T. Bentría, P. Mahesh Shenai, S. Sanvito, H. Park, L. Karim Bland]
- 'Theoretical perspective on the modification of the magnetocrystalline anisotropy at molecule-cobalt interfaces', *Physical Review Materials*, 7, 6 (2023), 064409 [A. Halder, S. Bhandary, D.D. O'Regan, S. Sanvito, A. Droghetti]
- Shvets, Igor*, 'High-rate iron sulfide and sulfur-coupled autotrophic denitrification system: nutrients removal performance and microbial characterization', *Water Research*, 231, 119619 (2023), <http://dx.doi.org/10.1016/j.watres.2023.119619> [Y. Bai, S. Wang, A. Zhussupbekova, I.V. Shvets, P-H. Lee]
- 'Effect of rapid thermal annealing on Si-based dielectric films grown by ICP-CVD', *ACS Omega*, 8, 33 (2023), 30768-30775 [I. Parkhomenko, L. Vlasukova, F. Komarov, N. Kovalchuk, S. Demidovich]
- 'Terbium-doped carbon dots (Tb-CDs) as a novel contrast agent for efficient x-ray attenuation', *RSC Advances*, 13, 22 (2023), 14974-14979 [A. Molkenova, L. Serik, A. Ramazanova, K. Zhumanova, B. Duisenbayeva]
- 'Revealing the influence of edge states on the electronic properties of PtSe₂', *Applied Materials Today*, 35, 101926 (2023), <http://dx.doi.org/10.1016/j.apmt.2023.101926> [K. Zhussupbekov, L. Ansari, K. Elibol, A. Zhussupbekova, J. Kotakoski]
- 'Broad infrared absorption band through ion beam hyperdoping of silicon with selenium', *Applied Surface Science*, 639, 158168 (2023), <http://dx.doi.org/10.1016/j.apsusc.2023.158168> [F. Komarov, I. Parkhomenko, A. Alzhanova, T. Wang, K. Zhussupbekov]
- 'Nitrate removal in iron sulfide-driven autotrophic denitrification biofilter: biochemical and chemical transformation pathways and its underlying microbial mechanism', *Science of the Total Environment*, 901, 165908 (2023), <http://dx.doi.org/10.1016/j.scitotenv.2023.165908> [Y. Bai, H. Hu, P-H. Lee, A. Zhussupbekova, I.V. Shvets]
- 'Tailoring epitaxial VO₂ thin films with tunable properties via spray pyrolysis', *Journal of Physical Chemistry C*, 127, 50 (2023), 24432-24442 [A. Ainabayev, B. Walls, D. Casey, D. Caffrey, D. Mullarkey.]
- 'Examining the desirable properties of ZnSnOy by annealing treatment with a real-time observation of resistivity', *ACS Omega* (2024), <http://dx.doi.org/10.1021/acsomega.4c01857> [A. Kaisha, D. Caffrey, A. Ainabayev, O. Toktarbailuly, M. Ibraimov]
- 'Miniaturized spectrometer with intrinsic long-term image memory', *Nature Communications*, 15, 1 (2024), <http://hdl.handle.net/2262/108742> [G. Wu, M. Abid, M. Zerara, J. Cho, M. Choi]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'High-performance p-type V_2O_3 films by spray pyrolysis for transparent conducting oxide applications', *Scientific Reports*, 14, 1 (2024), <http://hdl.handle.net/2262/108743> [A. Ainabayev, B. Walls, D. Mullarkey, D. Caffrey, K. Fleischer]
- 'The topological soliton in peierls semimetal Sb', *Scientific Reports*, 14, 1 (2024), <http://hdl.handle.net/2262/108744> [S.V. Chekmazov, A.S. Ksenz, A.M. Ionov, A.A. Mazilkina, A.A. Smirnov]
- 'Variation in the bandgap of amorphous zinc tin oxide: investigating the thickness dependence via in situ STS', *ACS Omega*, 9, 6 (2024), 7262-7268 [P.J. Callaghan, D. Caffrey, K. Zhussupbekov, S. Berman, A. Zhussupbekova]
- 'Reconciling the theoretical and experimental electronic structure of NbO_2 ', *Physical Review B*, 108, 15 (2023), 155141 [S. Berman, A. Zhussupbekova, J.E. Boschker, J. Schwarzkopf, D.D. O'Regan]
- 'Single walled carbon nanotube functionalisation in printed supercapacitor devices and shielding effect of Tin(II) oxide', *Electrochimica Acta*, 448(2023), <http://dx.doi.org/10.1016/j.electacta.2023.142168> [S. Ryan, M.P. Browne, A. Zhussupbekova, D. Spurling, L. McKeown]
- 'Surface reduced manganese states as a source of oxygen reduction activity in $BaMnO_3$ ', *Advanced Functional Materials*, 33, 24 (2023), <http://dx.doi.org/10.1002/adfm.202214883> [L. Hughes, A. Roy, C. Downing, M.P. Browne, A. Zhussupbekova]
- '3D printing of multifunctional conductive polymer composite hydrogels', *Advanced Functional Materials*, 33, 37 (2023), <http://hdl.handle.net/2262/103944> [J. Liu, J. Garcia, L.M. Leahy, R. Song, D. Mullarkey]
- 'Unraveling the atomic and electronic structure of nanocrystals on superconducting Nb(110): impact of the oxygen monolayer', *Physical Review B*, 107, 16 (2023), <http://dx.doi.org/10.1103/PhysRevB.107.165425> [S. Berman, A. Zhussupbekova, B. Walls, K. Walshe, S.I. Bozhko]
- Stamenov, Plamen**, 'The influence of exchange-bias on the resonance frequencies and damping in $IrMn_3/Co/Pt$ multilayers', *Journal of Magnetism and Magnetic Materials*, 606, 172324 (2024), <http://dx.doi.org/10.1016/j.jmmm.2024.172324> [B. Shortall, P. Stamenov]
- Venkatesan, Munuswamy**, 'Magnetism, transport and atomic structure of amorphous binary $YxCo1-x$ alloys', *Physical Review B*, 109(2024), 014409-1-014409-9 [Z. Hu, J. Besbas, K. Siewierska, R. Smith, P. Stamenov]
- 'Influence of large magnetic field gradients at the electrochemical interface', *Topics in Applied Physics*, 120 (2024), 111-130 [J. Kurian, P. Dunne, V. Vivier, G. Atcheson, R. Salikhov]
- 'Interaction and stability of nanobubbles and prenucleation calcium clusters during ultrasonic treatment of hard water', *ACS Omega* (2023), <http://dx.doi.org/10.1021/acsomega.3c07305> [E. Fitzgerald, A. Kumar, S. Poulouse, J.M.D. Coey]
- 'Magnetism, transport, and atomic structure of amorphous binary $YxCo1-x$ alloys', *Physical Review B*, 109, 1 (2024), <http://dx.doi.org/10.1103/PhysRevB.109.014409> [Z. Hu, J. Besbas, K. Siewierska, R. Smith, P. Stamenov]
- Vos, Johanna**, 'Retrieved atmospheric properties of the sub-stellar object VHS 1256 b with HST, VLT, and JWST spectra', *Astronomy and Astrophysics*, 690 (2024), <http://dx.doi.org/10.1051/0004-6361/202451301> [A. Lueber, K. Heng, B.P. Bowler, D. Kitzmann, J.M. Vos]
- 'Global weather map reveals persistent top-of-atmosphere features on the nearest brown dwarfs', *Monthly Notices of the Royal Astronomical Society*, 533, 3 (2024), 3114-3143 [X. Chen, B.A. Biller, J.M. Vos, I.J.M. Crossfield, G.N. Mace]
- 'Retrieving young cloudy L dwarfs: a nearby planetary-mass companion BD+60 1417B and its isolated red twin W0047', *Astrophysical Journal*, 972, 2 (2024), <http://dx.doi.org/10.3847/1538-4357/ad5d57> [C.L. Phillips, J.K. Faherty, B. Burningham, J.M. Vos, E.C. Gonzales]

Recent publications – Faculty of Science, Technology, Engineering and Mathematics

- 'The JWST weather report from the nearest brown dwarfs I: multiperiod JWST NIRSpec + MIRI monitoring of the benchmark binary brown dwarf WISE 1049AB', *Monthly Notices of the Royal Astronomical Society*, 532, 2 (2024), 2207-2233 [B.A. Biller, J.M. Vos, Y. Zhou, A.M. McCarthy, X. Tan]
- 'Discovery of the remarkably red L/T transition object VHS J183135.58-551355.9', *Astronomical Journal*, 168, 2 (2024), <http://dx.doi.org/10.3847/1538-3881/ad4b16> [T.P. Bickle, A.C. Schneider, J. Gagne, J.K. Faherty, A. Rothermich]
- 'Exomoons and exorings with the habitable worlds observatory. I. On the detection of Earth-moon analog shadows and eclipses', *Astronomical Journal*, 168, 2 (2024), <http://dx.doi.org/10.3847/1538-3881/ad4a75> [M.A. Limbach, J. Lustig-Yaeger, A. Vanderburg, J.M. Vos, R. Heller]
- 'Occurrence rates of exosatellites orbiting 3-30 M jup hosts from 44 spitzer light curves', *Astronomical Journal*, 168, 2 (2024), <http://dx.doi.org/10.3847/1538-3881/ad4ed5> [M.A. Limbach, J.M. Vos, A. Vanderburg, F. Dai]
- 'An informed and systematic method to identify variable mid-L dwarfs', *Astrophysical Journal*, 967, 2 (2024), <http://dx.doi.org/10.3847/1538-4357/ad39e4> [N. Oliveros-Gomez, E. Manjavacas, D.C. Bardalez Gagliuffi, T. Karalidi, J.M. Vos]
- 'The JWST early release science program for direct observations of exoplanetary systems. V. Do self-consistent atmospheric models represent JWST spectra? A showcase with VHS 1256-1257 b', *The Astrophysical Journal Letters*, 966, 1 (2024), L11 [S. Petrus, N. Whiteford, P. Patapis, B.A. Biller, Y. Zhou]
- 'High-resolution spectroscopic reconnaissance of a temperate sub-Neptune', *The Astrophysical Journal Letters*, 966, 1 (2024), L10 [S.H.C. Cabot, N. Madhusudhan, S. Constantinou, D. Valencia, J.M. Vos]
- 'Methane emission from a cool brown dwarf', *Nature*, 628, 8008 (2024), 511-514 [J.K. Faherty, B. Burningham, J. Gagné, G. Suárez, J.M. Vos]
- 'The initial mass function based on the full-sky 20 pc census of ~3600 stars and brown dwarfs', *The Astrophysical Journal Supplement Series*, 271, 2 (2024), 55 [J. Kirkpatrick, F. Marocco, C.R. Gelino, Y. Raghu, D. Zurek]
- 'Multiple patchy cloud layers in the planetary-mass object SIMP 0136+0933', *Astrophysical Journal*, 965, 1 (2024), <http://dx.doi.org/10.3847/1538-4357/ad2c76> [A.M. McCarthy, P.S. Muirhead, P. Tamburo, J.M. Vos, C.V. Morley]
- Weaire, Denis**, 'From bombs to bubbles: the extraordinary career of Cyril Stanley Smith', *Institute of Physics History of Physics Group* (2023), 33-35 [D. Weaire]
- Zhang, Hongzhou**, 'Understanding substrate effects on 2D MoS₂ growth: a kinetic Monte Carlo approach', *Advanced Materials Interfaces* (2024), 2400209 [S. Aldana, L. Wang, I.A. Spiridon, H. Zhang]