

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

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

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### School of Biochemistry and Immunology

#### BIOCHEMISTRY

**Caffrey, Martin**, 'Crystal structure of the human 5-HT<sub>1B</sub> serotonin receptor bound to an inverse agonist', *Cell Discovery*, 4, 1 (2018), 12 [W. Yin, X.E. Zhou, D. Yang (...), M. Caffrey *et al.*]

'Biophysical characterization and stabilization of detergent-solubilized lipoprotein N-acyl transferase from *P. aeruginosa* and *E. coli*', *Biochimica et Biophysica Acta - Biomembranes*, 1860, 6 (2018), 1384-1393 [M. Wiktor, M. Caffrey]

'Crystal structure of undecaprenyl-pyrophosphate phosphatase and its role in peptidoglycan biosynthesis', *Nature Communications*, 9, 1 (2018), <http://hdl.handle.net/2262/83970> [M. El Ghachi, N. Howe, C.Y. Huang (...), F. Kerff, M. Caffrey]

**Creagh, Emma**, 'Caspase-11 regulates the tumour suppressor function of STAT1 in a murine model of colitis-associated carcinogenesis', *Oncogene* (2018), <http://dx.doi.org/10.1038/s41388-018-0613-5> [Brian Flood, Joan Manils, Ciara Nulty, Ewelina Flis, Sinead Kenealy, Gillian Barber, Joanna Fay, Kingston H.G. Mills, Elaine W. Kay, Emma M. Creagh. ]

**Davey, Gavin**, 'A mechanism for bistability in glycosylation', *PLOS Computational Biology*, 14, 8 (2018), e1006348 [A.G. McDonald, K.F. Tipton, G.P. Davey]

**Fayne, Darren**, 'Synthesis, antiproliferative and pro-apoptotic effects of nitrostyrenes and related compounds in Burkitt's lymphoma', *Medicinal Chemistry*, 14, 1 (2018), 181-199 [Andrew J. Byrne, Sandra A. Bright, Darren Fayne, James P. McKeown, Thomas McCabe, Brendan Twamley, Clive Williams, Mary J. Meegan]

'Novel selective estrogen receptor ligand conjugates incorporating endoxifen-combretastatin and cyclofenil-combretastatin hybrid scaffolds: synthesis and biochemical evaluation', *Molecules (Basel, Switzerland)*, 22, 9 (2017), 1440 [P.M. Kelly, N.O. Keely, S.A. Bright, B. Yassin, G. Ana, D. Fayne, D.M. Zisterer, M.J. Meegan]

**Finlay, David**, 'Inhibitors of the NMDA-nitric oxide signaling pathway protect against neuronal atrophy and synapse loss provoked by L-alpha amino adipic acid-treated astrocytes', *Neuroscience*, 392 (2018), 38-56 [J. David, E. O'Toole, K. O'Reilly, G. Thuery, N. Assmann, D. Finlay, A. Harkin]

'Amino acid-dependent cMyc expression is essential for NK cell metabolic and functional responses in mice', *Nature Communications*, 9, 1 (2018), <http://hdl.handle.net/2262/85313> [R.M. Loftus, N. Assmann, N. Kedia-Mehta (...), L.V. Sinclair, D.K. Finlay.]

'Canonical TGF signalling pathway represses human NK cell metabolism', *Journal of Immunology*, 200, 12 (2018), 3934-3941 [Zaiatz-Bittencourt, D.K. Finlay, C.M. Gardiner]

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

- 'Metabolic reprogramming of natural killer cells in obesity prevents cytotoxicity and promotes tumor progression', *Nature Immunology*, 19, 12 (2018), 1330-1340 [X. Michelet, L. Dyck, A. Hogan (...), D.K. Finlay, L. Lynch]
- Kelly, Vincent*, 'Positioning Europe for the EPITRANSCRIPTOMICS challenge', *RNA Biology* (2018), 1-3 [M.F. Jantsch, A. Quattrone, M. O'Connell (...), J. Ule, R. Fray]
- 'The 'speed gene' effect of myostatin arises in thoroughbred horses due to a promoter proximal SINE insertion', *PLoS ONE*, 13, 10 (2018), <http://dx.doi.org/10.1371/journal.pone.0205664> [M.F. Rooney, E.W. Hill, V.P. Kelly, R.K. Porter]
- 'TRMT2A is a novel cell cycle regulator that suppresses cell proliferation', *Biochemical and Biophysical Research Communications*, 508, 2 (2019), 410-415 [Y.H. Chang, S. Nishimura, H. Oishi, V.P. Kelly, A. Kuno, S. Takahashi]
- 'Queuine links translational control in eukaryotes to a micronutrient from bacteria', *Nucleic Acids Research* (2019), <http://dx.doi.org/10.1093/nar/gkz063> [M. Müller, C. Legrand, F. Tuorto, V.P. Kelly, Y. Atlasi, F. Lyko, A.E. Ehrenhofer-Murray]
- Khan, Amir*, 'Cucurbit[7]uril-dimethyllysine recognition in a model protein', *Angewandte Chemie - International Edition*, 57, 24 (2018), 7126-7130 [F. Guagnini, P.M. Antonik, M.L. Rennie, P. O'Byrne, A.R. Khan, R. Pinalli, E. Dalcaneale, P.B. Crowley]
- McDonald, Andrew*, 'A mechanism for bistability in glycosylation', *PLOS Computational Biology*, 14, 8 (2018), e1006348 [A.G. McDonald, K.F. Tipton, G.P. Davey]
- O'Neill, Luke*, 'Itaconate is an anti-inflammatory metabolite that activates Nrf2 via alkylation of KEAP1', *Nature*, 556, 7699 (2018), 113-117 [E.L. Mills, D.G. Ryan, H.A. Prag (...), M.P. Murphy, L.A. O'Neill]
- 'Loss of microRNA-21 influences the gut microbiota causing reduced susceptibility in a murine model of colitis', *Journal of Crohns and Colitis* (2018), doi:10.1093/ecco-jcc/jjy038 [Daniel G.W. Johnston, Christoph A. Thaiss, Raul Cabrera-Rubio, Michelle A. Williams, Paul D. Cotter, Eran Elinav, L.A. O'Neill, Sinéad C. Corr]
- 'Krebs cycle reimaged: the emerging roles of succinate and itaconate as signal transducers', *Cell*, 174, 4 (2018), 780-784 [M.P. Murphy, L.A. O'Neill]
- 'A defective pentose phosphate pathway reduces inflammatory macrophage responses during hypercholesterolemia', *Cell Reports*, 25, 8 (2018), 2044-2052.e5 [J. Baardman, S.G.S. Verberk, K.H.M. Prange (...), L.A. O'Neill *et al.*]
- 'Canakinumab for atherosclerotic disease', *The New England Journal of Medicine*, 378, 2 (2018), 198-199 [L.A. O'Neill, M.A. Cooper]
- 'Characterization of dielectric barrier discharge atmospheric air plasma treated chitosan films', *Journal of Food Processing and Preservation*, 41, 1 (2017), <http://dx.doi.org/10.1111/jfpp.12889> [S.K. Pankaj, C. Bueno-Ferrer, L.A. O'Neill, B.K. Tiwari, P. Bourke, P.J. Cullen]
- 'Evidence against a role for NLRP3-driven islet inflammation in db/db mice', *Molecular Metabolism*, 10 (2018), 66-73 [H.L. Kammoun, T.L. Allen, D.C. Henstridge (...), L.A. O'Neill *et al.*]
- 'Macrophages remember cheeseburgers and promote inflammation via NLRP3', *Trends in Molecular Medicine*, 24, 4 (2018), 335-337 [L.A. O'Neill, Z. Zaslona]
- 'Effects of cold plasma on surface, thermal and antimicrobial release properties of chitosan film', *Journal of Renewable Materials*, 5, 1 (2017), 14-20 [S.K. Pankaj, C. Bueno-Ferrer, N.N. Misra, L.A. O'Neill, P. Bourke, P.J. Cullen]
- 'Dimethyl fumarate: targeting glycolysis to treat MS', *Cell Research*, 28, 6 (2018), 613-615 [S. Angiari, L.A. O'Neill]
- 'Synthesis, characterisation and DNA intercalation studies of regioisomers of ruthenium (II) polypyridyl complexes', *Journal of Inorganic Biochemistry*, 182 (2018), 71-82 [L. Perdisatt, S. Moqadasi, L.A. O'Neill, G. Hessman, A. Ghion, M.Q.M. Warraich, A. Casey, C. O'Connor]

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

**Porter, Richard**, 'The role of calcium ions for determining mitochondrial glycerol-3-phosphate dehydrogenase activity when measuring uncoupling protein 1 (UCP1) function in mitochondria isolated from brown adipose tissue', *Methods in Molecular Biology*, ed Carlos Palmiera, (2018), 325-336 [Kieran J. Clarke, Richard K. Porter ]

'The 'speed gene' effect of myostatin arises in thoroughbred horses due to a promoter proximal SINE insertion', *PLoS ONE*, 13, 10 (2018), 1-20 [Mary F. Rooney, Emmeline W. Hill, Vincent P. Kelly, Richard K. Porter]

'Uncoupling mechanism and redox regulations of mitochondrial uncoupling protein UCP1', *Biochimica Biophysica Acta*, 2728, 18 (2018), 30170-30181 [Petr Jezek, Martin Jabzrek, Richard K. Porter]

'Residual feed intake phenotype and gender affect the expression of key genes of the lipogenesis pathway in adipose tissue of beef cattle', *Journal of Animal Science Biotechnology*, 9 (2018), 68-78 [C. McKenna, R.K. Porter, K. Keogh, S.M. Waters, M. McGee, D.A. Kenny]

**Tipton, Keith**, 'A mechanism for bistability in glycosylation', *PLoS Computational Biology*, 14, 8 (2018), e1006348 [A.G. McDonald, K.F. Tipton, G.P. Davey]

**Zisterer, Daniela**, 'Effect of isouronium/guanidinium substitution on the efficacy of a series of novel anti-cancer agents', *MedChemComm*, 9, 4 (2018), 735-743 [V. Previtali, C. Trujillo, R. Amet, D.M. Zisterer, I. Rozas]

'Structure-activity relationships, biological evaluation and structural studies of novel pyrrolonaphthoxazepines as antitumor agents', *European Journal of Medicinal Chemistry* (2018), <http://dx.doi.org/10.1016/j.ejmech.2018.11.004> [Margherita Brindisi, Cristina Ulivieri, Gloria Alfano, Sandra Gemma, Francisco de Asis Balaguer, Daniela M. Zisterer, Ola Ibrahim, Ettore Novellino, Giuseppe Campiani, Lucia Altucci, Michel Steinmetz, Simone Brogi]

## IMMUNOLOGY

**Bowie, Andrew**, 'Toll-like receptor 3 L412F polymorphism promotes a persistent clinical phenotype in pulmonary sarcoidosis', *QJM* (2018), 217-224 [G. Cooke, I. Kamal, M. Strengert (...), A.G. Bowie *et al.*]

'Poxviral protein E3-altered cytokine production reveals that DEXD/H-box helicase 9 controls toll-like receptor-stimulated immune responses', *The Journal of Biological Chemistry*, 293, 39 (2018), 14989-15001 [A. Dempsey, S.E. Keating, M. Carty, A.G. Bowie]

'Non-canonical activation of the DNA sensing adaptor STING by ATM and IFI16 mediates NF-B signaling after nuclear DNA damage', *Molecular Cell*, 71, 5 (2018), 745-760.e5 [G. Dunphy, S.M. Flannery, J.F. Almine, D.J. Connolly, C. Paulus, K.L. Jonsson, M.R. Jakobsen, M.M. Nevels, A.G. Bowie, L. Unterholzner]

'SARM: from immune regulator to cell executioner', *Biochemical Pharmacology* (2019), <http://dx.doi.org/10.1016/j.bcp.2019.01.005> [M. Carty, A.G. Bowie]

**Dunne, Aisling**, 'Tissue-specific extracellular matrix scaffolds for the regeneration of spatially complex musculoskeletal tissues', *Biomaterials*, 188 (2019), 63-73 [G.M. Cunniffe, P.J. Diaz-Payno, E.J. Sheehy (...), A. Dunne *et al.*]

'Naturally derived heme-oxygenase 1 inducers attenuate inflammatory responses in human dendritic cells and T cells: relevance for psoriasis treatment', *Scientific Reports*, 8, 1 (2018), 10287 [N.K. Campbell, H.K. Fitzgerald, A. Malara, R. Hambly, C.M. Sweeney, B. Kirby, J.M. Fletcher, A. Dunne]

'Layering of tissue-specific extracellular matrix scaffolds for the regeneration of spatially complex musculoskeletal tissues', *Biomaterials*, 188 (2018), 63-73 [P. Diaz-Payno, G.M. Cunniffe, E.J. Sheehy (...), A. Dunne *et al.*]

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

- 'Astrocytes: heterogeneous and dynamic phenotypes in neurodegeneration and innate immunity', *Neuroscientist* (2018), <http://dx.doi.org/10.1177/1073858418809941> [C. Cunningham, A. Dunne, A.B. Lopez-Rodriguez]
- Fletcher, Jean**, 'The pathogenic role of dendritic cells in non-infectious anterior uveitis', *Experimental Eye Research* (2018), 121-128 [M. O'Rourke, U. Fearon, C.M. Sweeney, S.A. Basdeo, J.M. Fletcher, C.C. Murphy, M. Canavan]
- 'Naturally derived heme-oxygenase 1 inducers attenuate inflammatory responses in human dendritic cells and T cells: relevance for psoriasis treatment', *Scientific Reports*, 8, 1 (2018), 10287 [N.K Campbell, H.K. Fitzgerald, A. Malara, R. Hambly, C.M. Sweeney, B. Kirby, J.M. Fletcher, A. Dunne]
- 'Enriched CD141+ DCs in the joint are transcriptionally distinct, activated, and contribute to joint pathogenesis', *JCI Insight*, 3, 23 (2018), 95228 [M. Canavan, A.M. Walsh, V. Bhargava (...), J.M. Fletcher *et al.*]
- Gardiner, Clair**, 'Canonical TGF signalling pathway represses human NK cell metabolism', *Journal of Immunology*, 200, 12 (2018), 3934-3941 [V. Zaiatz-Bittencourt, D.K. Finlay, C.M. Gardiner]
- Lavelle, Edward**, 'Extracellular neutrophil proteases are efficient regulators of IL-1, IL-33, and IL-36 cytokine activity but poor effectors of microbial killing', *Cell Reports*, 22, 11 (2018), 2809-2817 [D.M. Clancy, G.P. Sullivan, H.B.T. Moran, C.M. Henry, E.P. Reeves, N.G. McElvaney, E.C. Lavelle, S.J. Martin]
- 'A guide to IL-1 family cytokines in adjuvanticity', *FEBS Journal*, 285, 13 (2018), 2377-2401 [N. Munoz-Wolf, E.C. Lavelle]
- 'Striking the right balance: using immunomodulators to target infectious diseases, cancer and autoimmunity', *Current Opinion in Pharmacology*, 41 (2018), vii-ix [E.C. Lavelle, J. McLachlan]
- 'Immunomodulatory properties of chitosan polymers', *Biomaterials*, 184 (2018), 1-9 [H.B.T. Moran, J. Turley, M. Andersen, E.C. Lavelle]
- 'Mechanistic study of the adjuvant effect of chitosan-aluminum nanoparticles', *International Journal of Pharmaceutics*, 552, 112 (2018), 12-15 [F. Lebre, M.C. Pedroso de Lima, E.C. Lavelle, O. Borges]
- 'Exfoliation in endotoxin-free albumin generates pristine graphene with reduced inflammatory properties', *Advanced Biosystems*, 2, 12 (2018), 1800102 [F. Lebre, D. Hanlon, J.B. Boland, J. Coleman, E.C. Lavelle]
- Lynch, Lydia**, 'Phosphorylation of beta-3 adrenergic receptor at serine 247 by ERK MAP kinase drives lipolysis in obese adipocytes', *Molecular Metabolism*, 12 (2018), 25-38 [S. Hong, W. Song, P.J.H. Zushin (...), L. Lynch *et al.*]
- 'New job for NK cells: architects of the tumor microenvironment', *Immunity*, 48, 1 (2018), 9-11 [L. Dyck, L. Lynch]
- 'Adipose dendritic cells come out of hiding', *Cell Metabolism*, 27, 3 (2018), 485-486 [N.M. LaMarche, L. Lynch]
- ' $\gamma\delta$  T cells producing interleukin-17A regulate adipose regulatory T cell homeostasis and thermogenesis', *Nature Immunology*, 19, 5 (2018), 464-474 [A.C. Kohlgruber, S.T. Gal-Oz, N.M. LaMarche (...), M.B. Brenner, L. Lynch]
- Mills, Kingston**, 'Minimum information about T regulatory cells: a step toward reproducibility and standardization', *Frontiers in Immunology*, 8, JAN (2018), 01844 [A. Fuchs, M. Gliwinski, N. Grageda (...), K.H.G. Mills *et al.*]
- 'Th17 cells,  $\gamma\delta$  T cells and their interplay in EAE and multiple sclerosis', *Journal of Autoimmunity*, 87 (2018), 16-25 [A.M. McGinley, S.C. Edwards, M. Raverdeau, K.H.G. Mills]

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

- 'IL-17-dependent SIgA-mediated protection against nasal *Bordetella pertussis* infection by live attenuated BPZE1 vaccine', *Mucosal Immunology*, 11, 6 (2018), 1753-1762 [L. Solans, A.S. Debie, L. Borkner, A. Thiriard, L. Coutte, S. Uranga, F. Trottein, K.H.G. Mills, C. Locht]
- 'Metabolic reprogramming of natural killer cells in obesity limits antitumor responses', *Nature Immunology*, 19, 12 (2018), 1330-1340 [X. Michelet, L. Dyck, A. Hogan (...), K.H.G. Mills *et al.*]
- 'Sustained protective immunity against *Bordetella pertussis* nasal colonization by intranasal immunization with a vaccine-adjuvant combination that induces IL-17-secreting T<sub>RM</sub> cells', *Mucosal Immunology*, 11, 6 (2018), 1763-1776 [A.C. Allen, M.M. Wilk, A. Misiak, L. Borkner, D. Murphy, K.H.G. Mills]
- 'CD4 T<sub>RM</sub> cells following infection and immunization: implications for more effective vaccine design', *Frontiers in Immunology*, 9, AUG (2018), 01860 [M.M. Wilk, K.H.G. Mills]
- 'Caspase-11 regulates the tumour suppressor function of STAT1 in a murine model of colitis-associated carcinogenesis', *Oncogene* (2018), <http://dx.doi.org/10.1038/s41388-018-0613-5> [Brian Flood, Joan Manils, Ciara Nulty, Ewelina Flis, Sinead Kenealy, Gillian Barber, Joanna Fay, Kingston H.G. Mills, Elaine W. Kay, Emma M. Creagh]
- O'Farrelly, Cliona**, 'HIV-1 promotes the degradation of components of the type 1 IFN JAK/STAT pathway and blocks anti-viral ISG Induction', *EBioMedicine*, 30 (2018), 203-216 [S. Gargan, S. Ahmed, R. Mahony, C. Bannan, S. Napoletano, C. O'Farrelly, P. Borrow, C. Bergin, N.J. Stevenson]
- Stevenson, Nigel**, 'HIV-1 promotes the degradation of components of the type 1 IFN JAK/STAT pathway and blocks anti-viral ISG induction', *EBioMedicine*, 30 (2018), 203-216 [S. Gargan, S. Ahmed, R. Mahony, C. Bannan, S. Napoletano, C. O'Farrelly, P. Borrow, C. Bergin, N.J. Stevenson]

## School of Chemistry

- Baker, Robert**, 'A rationally designed perfluorinated host for the extraction of PFOA from water utilising non-covalent interactions', *New Journal of Chemistry*, 42 (2018), 7956-7968 [H. Omorodion, M. Palenzuela, B. Twamley, R.J. Baker]
- 'Pseudohalide tectons within the coordination sphere of the uranyl ion: experimental and theoretical study of C-H...O, C-H...S, and chalcogenide noncovalent interactions', *Inorganic Chemistry*, 57, 7 (2018), 3699-3712 [Stefano Nuzzo, Brendan Twamley, James A. Platts, Robert J. Baker]
- 'Redox processes in solid-state uranyl (oxy)hydroxide minerals', *ChemElectroChem*, 5, 6 (2018), 958-963 [Aurora Walshe, Elaine Spain, Tia E. Keyes, Robert J. Forster, Robert J. Baker]
- 'Non-covalent interactions of uranyl complexes: a theoretical study', *Phys.Chem.Chem.Phys*, 20 (2018), 15380-15388 [J.A. Platts, R.J. Baker]
- 'Synthesis and structure of the cyclic borenium cation 1,1,3,3-tetramethyl-1,3λ4,2-diazaborolidin-1-ium chloride', *J. Chem. Cryst*, 48 (2018), 209-212 [F. Begum, M.A. Choudhary, M.A. Mirza, B. Twamley, R.J. Baker]
- '3. Synthesis, DNA binding and antibacterial activity of Zn(II), Pd(II), Cu(II) and Ni(II) complexes of a benzimidazole Schiff base', *Polyhedron*, 157 (2019), 326-334 [K. Mahmood, B. Mirza, W. Hashmi, B. Twamley, Z. Akhter, I. Rozas, R.J. Baker]
- Boland, John**, 'Transparent, flexible silicon nanostructured wire networks with seamless junctions for high-performance photodetector applications', *ACS NANO*, 12, 5 (2018), 4727-4735 [M. Hossain, G.S. Kumar, S.N.B. Prabhava, D. McCloskey, S. Acharya, K.D.M. Roa, J.J. Boland]

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

- 'Self-assembled two-dimensional supramolecular networks characterized by scanning tunneling microscopy and spectroscopy in air and under vacuum', *Langmuir* (2018), [Borislav Naydenov, Samuel Torsney, Alejandro Santana Bonilla (...), Gianaurelio Cuniberti, John J. Boland]
- 'Emergence of winner-takes-all connectivity paths in random nanowire networks', *Nature Communications*, 9 (2018), 3219 [Hugh G. Manning, Fabio Niosi, Claudia Gomes da Rocha, Allen T. Bellew, Colin O'Callaghan, Subhajit Biswas, Patrick F. Flowers, Benjamin J. Wiley, Justin D. Holmes, Mauro S. Ferreira, John J. Boland ]
- 'Collective capacitive and memristive responses in random nanowire networks: emergence of critical connectivity pathways', *Journal of Applied Physics*, 124 (2018), 152118 [C. O'Callaghan, C.G. Rocha, F. Niosi, H.G. Manning, J.J. Boland, M.S. Ferreira]
- 'Solvent-engineered stress in nanoscale materials', *ACS Appl. Mater. Interfaces*, 10 (2018), 44183-44189 [Shaun Mills, Chiara Rotella, Eoin K. McCarthy, David J. Hill, Jing-Jing Wang,]
- Colavita, Paula**, 'Emerging trends in metal oxide electrocatalysis: bifunctional oxygen catalysis, synergies and new insights from in situ studies', *Current Opinion in Electrochemistry*, 8 (2018), 208-215 [Michelle P. Browne, Carlota Domínguez, Paula E. Colavita]
- 'Experimental and computational study of dopamine as an electrochemical probe of the surface nanostructure of graphitized N-doped carbon', *Journal of Physical Chemistry C*, 122, 36 (2018), 20763-20773 [James A. Behan, Md. Khairul Hoque, Serban N. Stamatina, Tatiana S. Perova, Laila Vilella-Arribas, Max Garcia-Melchor, Paula E. Colavita]
- 'Spontaneous aryldiazonium grafting for the preparation of functional cyclodextrin-modified materials', *ACS Applied Bio Materials*, 1, 3 (2018), 825-832 [Adam Myles, James A. Behan, Brendan Twamley, Paula E. Colavita, Eoin M. Scanlan]
- 'Evolution of oxygen functionalities in graphene oxide and its impact on structure and exfoliation: an oxidation time based study', *Materials Chemistry and Physics*, 220 (2018), 417-425 [Dinidu Perera, Avishi Abeywickrama, Federico Zen, Paula E. Colavita, Dilushan R. Jayasundara]
- 'Photocatalytic initiation of radical thiol-ene reactions using carbon-Bi<sub>2</sub>O<sub>3</sub> nanocomposites', *ACS Applied Nano Materials*, 1 (2018), 4120-4126 [Viviana Maffei, Ruairi O. McCourt, Rita Petracca, Olivier Laethem, Adalberto Camisasca, Paula E. Colavita, Silvia Giordani, Eoin M. Scanlan]
- Connon, Stephen**, 'Enantioselective alkylation of 2-oxindoles catalyzed by a bifunctional phase-transfer catalyst: synthesis of (-)-debromoflustramine B', *Chemistry - A European Journal*, 24, 18 (2018), 4528-4531 [R. Craig, E. Sorrentino, S.J. Connon]
- 'Dynamic kinetic resolution of bis-aryl succinic anhydrides: enantioselective synthesis of densely functionalised  $\gamma$ -butyrolactones', *Chemical Communications*, 54, 26 (2018), 3231-3234 [R. Claveau, B. Twamley, S.J. Connon]
- 'Highly chemoselective intermolecular cross-benzoin reactions using an ad hoc designed novel N-heterocyclic carbene catalyst', *Organic and Biomolecular Chemistry*, 16, 5 (2018), 780-786 [E.G. Delany, S.J. Connon]
- Draper, Sylvia**, 'Exploiting coumarin-6 as ancillary ligands in 1,10-phenanthroline Ir(III) complexes: generating triplet photosensitisers with high upconversion capabilities', *Dalton Transactions (Cambridge, England : 2003)*, 47 (2018), 8585-8589 [Y. Lu, R. Conway-Kenny, J. Wang, X. Cui, J. Zhao, S.M. Draper]
- 'Coordination reactions of 5-(2-(4-bromophenyl)ethynyl)pyrimidine in on-surface synthesis', *The Journal of Physical Chemistry C*, 122, 16 (2018), 8954-8959 [Qian Shen, Eugene J. Larkin, Colm Delaney, Yingchun Cheng, Chunyang Miao, Xiong Zhou, Lacheng Liu, Wei Huang, Hongying Gao, Sylvia M. Draper, Harald Fuchs]



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- '1,10-phenanthroline ruthenium(ii) complexes as model systems in the search for high-performing triplet photosensitizers: addressing ligand versus metal effects', *ChemPhotoChem*, 1, 12 (2017), 532-532 [Yue Lu, Robert Conway-Kenny, Brendan Twamley, Niamh McGoldrick, Jianzhang Zhao, Sylvia M. Draper]
- 'Chemistry of 4-[(4-bromophenyl)ethynyl]pyridine at metal surfaces studied by STM', *Chemical Communications*, 54, 67 (2018), 9305-9308 [J. Ren, E. Larkin, C. Delaney, Y. Song, X. Jin, S. Amirjalayer, A. Bakker, S. Du, H. Gao, Y.Y. Zhang, S.M. Draper, H. Fuchs]
- Duesberg, Georg**, 'Template-free synthesis of mesoporous manganese oxides with catalytic activity in the oxygen evolution reaction', *Sustainable Energy Fuels*, 1 (2017), 780 [Suoyuan Lian, Michelle P. Browne, Carlota Domínguez, Serban N. Stamin, Hugo Nolan, Georg S. Duesberg, Michael E. G. Lyons, Emiliano Fonda, Paula E. Colavita]
- 'Improving the performance of porous nickel foam for water oxidation using hydrothermally prepared metal oxides.', *Sustainable Energy and Fuels*, 1 (2017), 207-216 [M.P. Browne, J.M. Vasconcelos, M. O'Brien, A.A. Rovetta, E.K. McCarthy, G.S. Duesberg, P.E. Colavita, M.E.G. Lyons]
- 'Lithium titanate/carbon nanotubes composites processed by ultrasound irradiation as anodes for lithium ion batteries', *Scientific Reports*, 7, 1 (2017), 1-11 [J. Coelho, A. Pokle, S.H. Park, N. McEvoy, N.C. Berner, G.S. Duesberg, V. Nicolosi]
- 'Induction of chirality in two-dimensional nanomaterials: chiral 2D MoS<sub>2</sub> nanostructures', *ACS Nano*, 12, 2 (2018), 954-964 [F. Purcell-Milton, R. McKenna, L.J. Brennan (...), G.S. Duesberg *et al.*]
- 'Oxide-mediated recovery of field-effect mobility in plasma-treated MoS<sub>2</sub>', *Science Advances*, 4, 3 (2018), eaao5031 [J. Jadwiszczak, C. O'Callaghan, Y. Zhou (...), G.S. Duesberg *et al.*]
- 'Field-dependent electrical and thermal transport in polycrystalline WSe<sub>2</sub>', *Advanced Materials Interfaces*, 5, 11 (2018), 1701161 [W. Kim, H. Kim, T. Hallam, N. McEvoy, R. Gatensby, H.C. Nerl]
- 'Saturation of two-photon absorption in layered transition metal dichalcogenides: experiment and theory', *ACS Photonics*, 5, 4 (2018), 1558-1565 [N. Dong, Y. Li, S. Zhang, N. McEvoy, R. Gatensby, G.S. Duesberg, J. Wang]
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- 'ORLA/OLAA: orthogonal coexistence of LAA and WiFi in unlicensed spectrum', *IEEE/ACM Transactions on Networking*, 26, 6 (2018), 2665-2678 [Andres Garcia-Saavedra, Paul Patras, Victor Valls, Xavier Costa-Perez, Douglas J. Leith]
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### TRINITY CENTRE FOR THE ENVIRONMENT

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