

Recent Publications – Research Institutes and Centres

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

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ADAPT Centre For Digital Content Technology

[Attard, Judie](#), 'Challenges and opportunities in renovating public sector information by enabling linked data and analytics', *Information Systems Frontiers*, 19, 2 (2017), 321-336 [S. Mouzakitis, D. Papaspyros, M. Petychakis (...), J. Attard, J. Psarras]

'Exploiting the value of data through data value networks', *10th international conference on theory and practice of electronic governance, ICEGOV*, New Delhi, India (2017), 475-484 [J. Attard, F. Orlandi, S. Auer]

'Data value networks: enabling a new data ecosystem', *IEEE/WIC/ACM International conference on web intelligence*, Omaha, Nebraska, USA (2016), 453-456 [J. Attard, F. Orlandi, S. Auer]

[Caputo, Annalina](#), 'Entity attribute ranking using learning to rank', *CEUR workshop proceedings* (2017), 19-24 [E. Ali, A. Caputo, S. Lawless]

[Debruyne, Christophe](#), 'Client-side processing of GeoSPARQL functions with triple pattern fragments', *Workshop on linked data on the web co-located with 26th international world wide web conference (WWW 2017)*, eds Sören Auer, Tim Berners-Lee, Christian Bizer, Sarven Capadislı, Tom Heath, Krzysztof Janowicz, Jens Lehmann, Perth, Australia, CEUR WS (2017), 81-91 [C. Debruyne, É. Clinton, D. O'Sullivan]

'Towards a personalized query answering framework on the web of data', *Workshop on linked data on the web co-located with 26th international world wide web conference (WWW 2017)*, eds Sören Auer, Tim Berners-Lee, Christian Bizer, Sarven Capadislı, Tom Heath, Krzysztof Janowicz, Jens Lehmann, Perth, Australia, CEUR WS (2017), 131-136 [E. Rajabi, C. Debruyne, D. O'Sullivan]

'A lightweight approach to explore, enrich and use data with a geospatial dimension with semantic web technologies', *Fourth international ACM SIGMOD workshop on managing and mining enriched geo-spatial data, GeoRich 2017, co-located with SIGMOD/PODS*, Chicago, IL, USA, ACM (2017), 1-6 [C. Debruyne, L. McNerney, D. O'Sullivan]

'A method for detecting behavior-based user profiles in collaborative ontology engineering', *Journal on Data Semantics*, 6, 2 (2017), 71-82 [S. Van Laere, R. Buyl, M. Nyssen, C. Debruyne]

'An evaluation of uplift mapping languages', *International Journal of Web Information Systems (IJWIS)*, 13, 4 (2017), 405-424 [A. Crotti, C. Debruyne, R. Brennan, D. O'Sullivan]

'Juma: an editor that uses a block metaphor to facilitate the creation and editing of R2RML mappings', *The Semantic Web - ESWC 2017 Satellite Events*, eds Katja Hose, and Heiko Paulheim, Portoroz, Slovenia, Springer (2017), 87-92 [A. Crotti Junior, C. Debruyne, D. O'Sullivan]

Recent publications – Research Institutes and Centres

Centre for Research on Adaptive Nanostructures and Nanodevices (CRANN)

- Boland, Conor**, 'Surface coatings of silver nanowires lead to effective, high conductivity, high-strain, ultrathin sensors', *Nanoscale*, 9, 46 (2017), 18507-18515 [C.S. Boland, U. Khan, H. Benameur, J.N. Coleman]
- Caffrey, Nuala**, 'Distance- and spin-resolved spectroscopy of iridium atoms on an iron bilayer', *Physical Review B*, 94, 11 (2016), 115418 [J. Schoeneberg, N.M. Caffrey, P. Ferriani, S. Heinze, R. Berndt]
- 'Structural and electronic properties of Li-intercalated graphene on SiC (0001)', *Physical Review B*, 93, 19 (2016), 195421 [N.M. Caffrey, L.I. Johansson, C. Xia, R. Armiento, I.A. Abrikosov, C. Jacobij]
- 'On the interaction of toxic heavy metals (Cd, Hg, Pb) with graphene quantum dots and infinite graphene', *Scientific Reports*, 7, 1 (2017), 3934 [I. Shteplyuk, N.M. Caffrey, T. Iakimov, V. Khranovskyy, I.A. Abrikosov, R. Yakimova]
- 'Changes in work function due to NO₂ adsorption on monolayer and bilayer epitaxial graphene on SiC (0001)', *Physical Review B*, 94, 20 (2016), 205411 [N.M. Caffrey, R. Armiento, R. Yakimova, I.A. Abrikosov]
- Cummins, Cian**, 'Area selective polymer brush deposition', *Macromolecular Rapid Communications*, 38, 16 (2017), 1700252 [C. Cummins, M.T. Shaw, M.A. Morris]
- 'Creating active device materials for nanoelectronics using block copolymer lithography', *Nanomaterials*, 7, 10 (2017), 304 [C. Cummins, A.P. Bell, M.A. Morris]
- 'Large block copolymer self-assembly for fabrication of subwavelength nanostructures for applications in optics', *Nano Letters*, 17, 5 (2017), 2973-2978 [P. Mokarian-Tabari, R. Senthamaraiannan, C. Glynn, T.W. Collins, C. Cummins, D. Nugent, C. O'Dwyer, M.A. Morris]
- 'Strategies for inorganic incorporation using neat block copolymer thin films for etch mask function and nanotechnological application', *Advanced Materials*, (2016), 5586-5618 [C. Cummins, T. Ghoshal, J.D. Holmes, M.A. Morris]
- 'Solvothermal vapor annealing of lamellar poly(styrene)-block-poly(d,l-lactide) block copolymer thin films for directed self-assembly application', *ACS Applied Materials and Interfaces*, 8, 12 (2016), 8295-8304 [C. Cummins, P. Mokarian-Tabari, P. Andreatza, C. Sinturel, M.A. Morris]
- 'In-depth TEM characterization of block copolymer pattern transfer at germanium surfaces', *Nanotechnology*, 27, 48 (2016), <http://dx.doi.org/10.1088/0957-4484/27/48/484003> [C. Cummins, T.W. Collins, R.A. Kelly, E.K. McCarthy, M.A. Morris]
- 'Morphological evolution of lamellar forming polystyrene-:block-poly(4-vinylpyridine) copolymers under solvent annealing', *Soft Matter*, 12, 24 (2016), 5429-5437 [T. Ghoshal, A. Chaudhari, M.T. Cummins, M.A. Morris]
- 'Nanoscale silicon substrate patterns from self-assembly of cylinder forming poly(styrene)-block-poly(dimethylsiloxane) block copolymer on silane functionalized surfaces', *Nanotechnology*, 28, 4 (2017), <http://dx.doi.org/10.1088/1361-6528/28/4/044001> [D. Borah, C. Cummins, S. Rasappa (...), A. Avgeropoulos, M.A. Morris]
- 'Controlled solvent vapor annealing of a high χ block copolymer thin film', *Physical Chemistry Chemical Physics*, 19, 4 (2017), 2805-2815 [R. Lundy, S.P. Flynn, C. Cummins (...), M.A. Morris, R. Enright]
- Maguire, Ciaran**, 'Urinary nanovesicles captured by lectins or antibodies demonstrate variations in size and surface glycosylation profile', *Nanomedicine (London, England)*, 12, 11 (2017), 1217-1229 [J.Q. Gerlach, C.M. Maguire, L. Joshi, A. Prina-Mello, M.D. Griffin]
- 'Enantioselective cytotoxicity of ZnS:Mn quantum dots in A549 cells', *Chirality*, (2017), 403-408 [V.A. Kuznetsova, A.K. Visheratina, A. Ryan (...), C.M. Maguire *et al.*]

Recent publications – Research Institutes and Centres

- 'Benchmark of nanoparticle tracking analysis on measuring nanoparticle sizing and concentration', *Journal of Micro and Nano-Manufacturing*, 5, 4 (2017), 041002-1-041002-10 [C.M. Maguire, K. Sillescu, M. Roeslein (...), P. Hole, A. Prina-Mello]
- 'Are existing standard methods suitable for the evaluation of nanomedicines: some case studies', *Nanomedicine (London, England)*, (2018), <http://dx.doi.org/> [S. Gioria, F. Caputo, P. Urbán, C.M. Maguire, S. Bremer-Hoffmann, A. Prina-Mello, L. Calzolari, D. Mehn]
- McEvoy, Niall**, 'A new 2H-2H'/1T cophase in polycrystalline MoS₂ and MoSe₂ thin films', *ACS Applied Materials and Interfaces*, 8, 45 (2016), 31442-31448 [M. Naz, T. Hallam, N.C. Berner, N. McEvoy, R. Gatensby, J.B. McManus, Z. Akhter, G.S. Duesberg]
- 'Grain boundary-mediated nanopores in molybdenum disulfide grown by chemical vapor deposition', *Nanoscale*, 9, 4 (2017), 1591-1598 [K. Elibol, T. Susi, M. O'Brien (...), N. McEvoy *et al.*]
- 'High-performance hybrid electronic devices from layered PtSe₂ films grown at low temperature', *ACS Nano*, 10, 10 (2016), 9550-9558 [C. Yim, K. Lee, N. McEvoy (...), M.C. Lemme, G.S. Duesberg]
- '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]
- 'Enabling flexible heterostructures for Li-ion battery anodes based on nanotube and liquid-phase exfoliated 2D gallium chalcogenide nanosheet colloidal solutions', *Small*, 13, 34 (2017), 1701677 [C.J. Zhang, S.H. Park, O. Ronan (...), N. McEvoy *et al.*]
- 'Liquid exfoliation of interlayer spacing-tunable 2D vanadium oxide nanosheets: high capacity and rate handling Li-ion battery cathodes', *Nano Energy*, 39(2017), 151-161 [C.J. Zhang, S.H. Park, S.E. O'Brien (...), N. McEvoy *et al.*]
- 'Oxidation stability of colloidal two-dimensional titanium carbides (MXenes)', *Chemistry of Materials*, 29, 11 (2017), 4848-4856 [C.J. Zhang, S. Pinilla, N. McEvoy (...), Y. Gogotsi, V. Nicolosi]
- 'Transparent, flexible, and conductive 2D titanium carbide (MXene) films with high volumetric capacitance', *Advanced Materials*, 29, 36 (2017), 1702678 [C.J. Zhang, B. Anasori, A. Seral-Ascaso (...), N. McEvoy *et al.*]
- 'Optical imaging and characterization of graphene and other 2D materials using quantitative phase microscopy', *ACS Photonics*, 4, 12 (2017), 3130-3139 [S. Khadir, P. Bon, D. Vignaud (...), N. McEvoy *et al.*]
- 'Dependence of photocurrent enhancements in quantum dot (QD)-sensitized MoS₂ devices on MoS₂ film properties', *Advanced Functional Materials*, (2018), 1706149 [J.J. Gough, N. McEvoy, M. O'Brien (...), G.S. Duesberg, A.L. Bradley]
- 'Enhancing the electrical properties of MoS₂ through nonradiative energy transfer', *2017 11th international congress on engineered materials platforms for novel wave phenomena (metamaterials)*, (2017), 124-126 [J.J. Gough, M. O'Brien, N. McEvoy, A.P. Bell, G.S. Duesberg, A.L. Bradley]
- 'Controlling defect and dopant concentrations in graphene by remote plasma treatments', *Physica Status Solidi (B) Basic Research*, 254, 11 (2017), 1700214 [J.B. McManus, A. Hennessy, C.P. Cullen, T. Hallam, N. McEvoy, G.S. Duesberg]
- 'Raman spectroscopy of suspended MoS₂', *Physica Status Solidi (B) Basic Research*, 254, 11 (2017), 1700218 [M. O'Brien, N. Scheuschner, J. Maultzsch, G.S. Duesberg, N. McEvoy]
- 'Atmospheric pulsed laser deposition and thermal annealing of plasmonic silver nanoparticle films', *Nanotechnology*, 28, 44 (2017), 445601 [T.M. Khan, M.A. Mujawar, K.E. Siewerska, A. Pokle, T. Donnelly, N. McEvoy, G.S. Duesberg, J.G. Lunney]
- Saleh, Gabriele**, 'Ab initio surface properties of Ag-Sn alloys: implications for lead-free soldering', *Physical Chemistry Chemical Physics*, 20 (2018), 4277-4286 [G. Saleh, C. Xu, S. Sanvito]

Recent publications – Research Institutes and Centres

CONNECT

Dey, Indrakshi, 'Second-order statistics for indoor wireless joint fading/shadowing channels', *IEEE Antenna and Propagation Letters*, 16 (2017), 1569-1572 [I. Dey, P. Salvo Rossi]

'Probability of outage due to self-interference in indoor wireless environments', *IEEE Communications Letters*, 21, 1 (2016), 8-11 [I. Dey, P. Salvo Rossi]

'Achievable channel cut-off rate and bandwidth efficiency in indoor wireless environments', *IEEE Transactions on Vehicular Technology*, 65, 21 (2016), 10074-10079 [I. Dey, T.A. Tsiftsis, C. Rowell]

'On the capacity of joint fading and two-path shadowing channels', *IEEE Transactions on Vehicular Technology*, 65, 1 (2016), 403-408 [I. Dey, G G. Messier, S. Magierowski]

'Adaptive modulation and coding for large open office indoor wireless environments', *IEEE VTC Fall 2016*, Montreal, Canada (2016), 5 [I. Dey G.G. Messier, S. Magierowski]

'Adaptive coded modulation for mobility constrained indoor wireless environments', *IEEE PIMRC 2016*, Valencia, Spain (2016), 6 [I. Dey, R.Y. Chang]

Kibilda, Jacek, 'Radio access network and spectrum sharing in mobile networks: a stochastic geometry perspective', *IEEE Transactions on Wireless Communications*, (2017), <http://hdl.handle.net/2.262/79214> [J. Kibilda, N.J. Kaminski, L.A. DaSilva]

'Sensitivity analysis on service-driven network planning', *IEEE/ACM Transactions on Networking*, 25, 3 (2017), 1417-1430 [P. Di Francesco, J. Kibilda, F. Malandrino, N. Kaminski, L.A. DaSilva]

'Coverage analysis for low-altitude UAV networks in urban environments', *IEEE Globecom*, Singapore (2017), <https://doi.org/10.1109/GLOCOM.2017.8254658> [B. Galkin, J. Kibilda, L.A. DaSilva]

Trinity Centre for Bioengineering

O'Brien, Fergal, 'Fibrin hydrogels functionalized with cartilage extracellular matrix and incorporating freshly isolated stromal cells as an injectable for cartilage regeneration', *Acta Biomaterialia*, 36 (2016), 55-62 [H.V. Almeida, R. Eswaramoorthy, G.M. Cunniffe, C.T. Buckley, F.J. O'Brien, D.J. Kelly]

'An endochondral ossification-based approach to bone repair: chondrogenically primed mesenchymal stem cell-laden scaffolds support greater repair of critical-sized cranial defects than osteogenically stimulated constructs in vivo', *Tissue Engineering - Part A*, 22, 5-6 (2016), 556-567 [E.M. Thompson, A. Matsiko, D.J. Kelly, J.P. Gleeson, F.J. O'Brien]

'Gene delivery of TGF- β 3 and BMP2 in an MSC-laden alginate hydrogel for articular cartilage and endochondral bone tissue engineering', *Tissue Engineering - Part A*, 22, 9-10 (2016), 776-787 [T. Gonzalez-Fernandez, E.G. Tierney, G.M. Cunniffe, F.J. O'Brien, D.J. Kelly]

'Biomaterial-enhanced cell and drug delivery: lessons learned in the cardiac field and future perspectives', *Advanced Materials*, (2016), 5648-5661 [H.S. O'Neill, L.B. Gallagher, J. O'Sullivan (...), F.J. O'Brien *et al.*]

'Porous scaffolds derived from devitalized tissue engineered cartilaginous matrix support chondrogenesis of adult stem cells', *ACS Biomaterials Science and Engineering*, 3, 6 (2017), 1075-1082 [H.V. Almeida, A.D. Dikina, K.J. Mulhall, F.J. O'Brien, E. Alsberg, D.J. Kelly]

'Growth plate extracellular matrix-derived scaffolds for large bone defect healing', *European Cells and Materials*, 33 (2017), 130-142 [G.M. Cunniffe, P.J. Daz-Payno, J.S. Ramey, O.R. Mahon, A. Dunne, E.M. Thompson, F.J. O'Brien, D.J. Kelly]

'Mesenchymal stem cell fate following non-viral gene transfection strongly depends on the choice of delivery vector', *Acta Biomaterialia*, 55 (2017), 226-238 [T. Gonzalez-Fernandez, B.N. Sathy, C. Hobbs (...), F.J. O'Brien, D.J. Kelly]

Recent publications – Research Institutes and Centres

- 'A stimuli responsive liposome loaded hydrogel provides flexible on-demand release of therapeutic agents', *Acta Biomaterialia*, 48 (2017), 110-119 [H.S. O'Neill, C.C. Herron, C.L. Hastings (...), F.J. O'Brien *et al.*]
- 'Development of magnetically active scaffolds as intrinsically-deformable bioreactors', *MRS Communications*, 7, 3 (2017), 367-374 [D.A. Gilroy, C. Hobbs, V. Nicolosi, C.T. Buckley, F.J. O'Brien, C.J. Kearney]
- 'The shape and size of hydroxyapatite particles dictate inflammatory responses following implantation', *Scientific Reports*, 7, 1 (2017), 2922 [F. Lebre, R. Sridharan, M.J. Sawkins, D.J. Kelly, F.J. O'Brien, E.C. Lavelle]
- 'Infrapatellar fat pad stem cells: from developmental biology to cell therapy', *Stem Cells International*, (2017), 6843727 [R.J.F.C Do Amaral, H.V. Almeida, D.J. Kelly, F.J. O'Brien, C.J. Kearney.]
- 'Anisotropic shape-memory alginate scaffolds functionalized with either type I or type II collagen for cartilage tissue engineering', *Tissue Engineering. Part A*, 23, 1-2 (2017), 55-68 [H.V. Almeida, B.N. Sathy, I. Dudurych, C.T. Buckley, F.J. O'Brien, D.J. Kelly]
- 'Repair of large osteochondritis dissecans lesions using a novel multilayered tissue engineered construct in an equine athlete', *Journal of Tissue Engineering and Regenerative Medicine*, 11, 10 (2017), 2785-2795 [J.D. Stack, T.J. Levingstone, W. Lalor, R. Sanders, C. Kearney, F.J. O'Brien, F. David]
- 'Advances in polymeric islet cell encapsulation technologies to limit the foreign body response and provide immunoisolation', *Current Opinion in Pharmacology*, 36 (2017), 66-71 [A.J. Ryan, H.S. O'Neill, G.P. Duffy, F.J. O'Brien]
- 'An efficient, non-viral dendritic vector for gene delivery in tissue engineering', *Gene Therapy*, 24, 11 (2017), 681-691 [D.P. Walsh, A. Heise, F.J. O'Brien, S.A. Cryan]
- 'Freeze-drying as a novel biofabrication method for achieving a controlled microarchitecture within large, complex natural biomaterial scaffolds', *Advanced Healthcare Materials*, 6, 21 (2017), <http://dx.doi.org/10.1002/adhm.201700598> [C.M. Brougham, T.J. Levingstone, N. Shen, G.M. Cooney, S. Jockenhoevel, T.C. Flanagan, F.J. O'Brien]
- 'Translating the role of osteogenic-angiogenic coupling in bone formation: highly efficient chitosan-pDNA activated scaffolds can accelerate bone regeneration in critical-sized bone defects', *Biomaterials*, 149 (2017), 116-127 [R.M. Raftery, I.M. Castaño, G. Chen, B. Cavanagh, B. Quinn, C.M. Curtin, S.A. Cryan, F.J. O'Brien]
- 'Identification of stiffness-induced signalling mechanisms in cells from patent and fused sutures associated with craniosynostosis', *Scientific Reports*, 7, 1 (2017), <http://dx.doi.org/10.1038/s41598-017-11801-0> [S. Barreto, A. Gonzalez-Vazquez, R.A. Cameron, F.J. O'Brien D.J. Murray]
- 'A physicochemically optimized and neuroconductive biphasic nerve guidance conduit for peripheral nerve repair', *Advanced Healthcare Materials*, 6, 24 (2017), <http://dx.doi.org/10.1002/adhm.201700954> [A.J. Ryan, W.A. Lackington, A.J. Hibbitts, A. Matheson, T. Alekseeva, A. Stejskalova, P. Roche, F.J. O'Brien]
- 'Olfactory derived stem cells delivered in a biphasic conduit promote peripheral nerve repair in vivo', *Stem Cells Translational Medicine*, 6, 10 (2017), 1894-1904 [P. Roche, T. Alekseeva, A. Widaa, A. Ryan, A. Matsiko, M. Walsh, G.P. Duffy, F.J. O'Brien]
- 'Advances in nerve guidance conduit-based therapeutics for peripheral nerve repair', *ACS Biomaterials Science and Engineering*, 3, 7 (2017), 1221-1235 [W.A. Lackington, A.J. Ryan, F.J. O'Brien]
- 'Retinoic acid-loaded collagen-hyaluronate scaffolds: a bioactive material for respiratory tissue regeneration', *ACS Biomaterials Science and Engineering*, 3, 7 (2017), 1381-1393 [C. O'Leary, F.J. O'Brien, S.A. Cryan]

Recent publications – Research Institutes and Centres

'Formulation and evaluation of anisamide-targeted amphiphilic cyclodextrin nanoparticles to promote therapeutic gene silencing in a 3D prostate cancer bone metastases model', *Molecular Pharmaceutics*, 14, 1 (2017), 42-52 [J.C. Evans, M. Malhotra, K.A. Fitzgerald (...), F.J. O'Brien et al.]

'Scaffold-based microRNA therapies in regenerative medicine and cancer', *Advanced Healthcare Materials*, (2017), <http://dx.doi.org/10.1002/adhm.201700695> [C.M. Curtin, I.M. Castano, F.J. O'Brien]

'Innovations in gene and growth factor delivery systems for diabetic wound healing', *Journal of Tissue Engineering and Regenerative Medicine*, (2017), <http://dx.doi.org/10.1002/term.2443> [A.L. Laiva, F.J. O'Brien, M.B. Keogh]

'Tissue engineered extracellular matrices (ECMs) in urology: evolution and future directions', *Surgeon*, (2017), <http://dx.doi.org/10.1016/j.surge.2017.07.002> [N.F. Davis, E.M. Cunnane, F.J. O'Brien, J.J. Mulvihill, M.T. Walsh]

'A collagen cardiac patch incorporating alginate microparticles permits the controlled release of hepatocyte growth factor and insulin-like growth factor-1 to enhance cardiac stem cell migration and proliferation', *Journal of Tissue Engineering and Regenerative Medicine*, (2017), <http://dx.doi.org/10.1002/term.2392> [H.S. O'Neill, J. O'Sullivan, N. Porteous, E. Ruiz-Hernandez, H.M. Kelly, F.J. O'Brien, G.P. Duffy]

'Controlled release of vascular endothelial growth factor from spray-dried alginate microparticles in collagen-hydroxyapatite scaffolds for promoting vascularization and bone repair', *Journal of Tissue Engineering and Regenerative Medicine*, 11, 4 (2017), 1097-1109 [E. Quinlan, A. Lopez-Noriega, E.M. Thompson, A. Hibbitts, S.A. Cryan, F.J. O'Brien]

'Identification of the mechanisms by which age alters the mechanosensitivity of mesenchymal stromal cells on substrates of differing stiffness: implications for osteogenesis and angiogenesis', *Acta Biomaterialia*, 53 (2017), 59-69 [S. Barreto, A. Gonzalez-Vazquez, A.R. Cameron, B. Cavanagh, D.J. Murray, F.J. O'Brien]

'Multifunctional biomaterials from the sea: assessing the effects of chitosan incorporation into collagen scaffolds on mechanical and biological functionality', *Acta Biomaterialia*, 43 (2016), 160-169 [R.M. Raftery, B. Woods, A.L.P. Marques (...), R.L. Reis, F.J. O'Brien]

'Content-dependent osteogenic response of nanohydroxyapatite: an in vitro and in vivo assessment within collagen-based scaffolds', *ACS Applied Materials and Interfaces*, 8, 36 (2016), 23477-23488 [G.M. Cunniffe, C.M. Curtin, E.M. Thompson, G.R. Dickson, F.J. O'Brien]

'Towards 3D in vitro models for the study of cardiovascular tissues and disease', *Drug Discovery Today*, 21, 9 (2016), 1437-1445 [A.J. Ryan, C.M. Brougham, C.D. Garcarena, S.W. Kerrigan, F.J. O'Brien]

'DNA origami: folded DNA nanodevices that can direct and interpret cell behavior', *Advanced Materials*, (2016), 5509-5524 [C.J. Kearney, C.R. Lucas, F.J. O'Brien, C.E. Castro]

'Delivering nucleic acid based nanomedicines on biomaterial scaffolds for orthopedic tissue repair: challenges, progress and future perspectives', *Advanced Materials*, (2016), 5447-5469 [R.M. Raftery, D.P. Walsh, I.M. Castañ, A. Heise, G.P. Duffy, S.A. Cryan, F.J. O'Brien]

'Next generation bone tissue engineering: non-viral miR-133a inhibition using collagen-nanohydroxyapatite scaffolds rapidly enhances osteogenesis', *Scientific Reports*, 6, 27941 (2016), <http://dx.doi.org/10.1038/srep27941> [I.M. Castañ, C.M. Curtin, G.P. Duffy, F.J. O'Brien]

'Effect of collagen-glycosaminoglycan scaffold pore size on matrix mineralization and cellular behavior in different cell types', *Journal of Biomedical Materials Research - Part A*, 104, 1 (2016), 291-304 [C.M. Murphy, G.P. Duffy, A. Schindeler, F.J. O'Brien]

'The development of a tissue-engineered tracheobronchial epithelial model using a bilayered collagen-hyaluronate scaffold', *Biomaterials*, 85 (2016), 111-127 [C. O'Leary, B. Cavanagh, R.E. Unger, C.J. Kirkpatrick, S. O'Dea, F.J. O'Brien, S.A. Cryan]

Recent publications – Research Institutes and Centres

'Differentiation of vascular stem cells contributes to ectopic calcification of atherosclerotic plaque', *Stem Cells*, 34, 4 (2016), 913-923 [A. Leszczynska, A. O'Doherty, E. Farrell, J. Pindjakova, F.J. O'Brien, T. O'Brien, F. Barry, M. Murphy]

'Multi-layered collagen-based scaffolds for osteochondral defect repair in rabbits', *Acta Biomaterialia*, 32 (2016), 149-160 [T.J. Levingstone, E. Thompson, A. Matsiko, A. Schepens, J.P. Gleeson, F. J. O'Brien]

'Cell-free multi-layered collagen-based scaffolds demonstrate layer specific regeneration of functional osteochondral tissue in caprine joints', *Biomaterials*, 87 (2016), 69-81 [T.J. Levingstone, A. Ramesh, R.T. Brady, P.A.J. Brama, C. Kearney, J.P. Gleeson, F.J. O'Brien]

Trinity Centre for Gender Equality and Leadership

Drew, Eileen, 'Gender in Horizon 2020: the case of gender equality plans', *AboutGender International Journal of Gender Studies*, 6, 12 (2017), 326-355 [E. Drew, R. Bencivenca, B. Ratzer, B. Poggio, G. Saglamer]

Trinity College Institute of Neuroscience (TCIN)

Abautret-Daly, Aine, 'Gut brain actions underlying comorbid anxiety and depression associated with inflammatory bowel disease', *Acta Neuropsychiatrica* (2017), 1-22 [A. Abautret-Daly, E. Dempsey, A. Parra-Blanco, C. Medina, A. Harkin]

Doherty, Colin, 'Assessment of 'on-treatment platelet reactivity' and relationship with cerebral micro-embolic signals in asymptomatic and symptomatic carotid stenosis', *J Neurol Sci.*, 376 (2017), 133-139 [J.A. Kinsella, W.O. Tobin, S. Tierney (...), C.P. Doherty *et al.*]

'An exploration of the spectrum of peri-ictal MRI change; a comprehensive literature review', *Seizure*, 50 (2017), 19-32 [J.A. Williams, P. Bede, C.P. Doherty]

'The spectrum of peri-ictal MRI changes; four illustrative cases', *Seizure: European Journal of Epilepsy*, 50 (2017), 189-193 [J. Williams, G. Mullins, N. Delanty, P. Bede, C. Doherty]

'Patient safety ward round checklist via an electronic app: implications for harm prevention', *Ir J Med Sci.* (2017), <http://dx.doi.org/10.1007/s11845-017-1687-8> [C. Keller, S. Arsenault, M. Lamothe, S.R. Bostan, R. O'Donnell, J. Harbison, C.P. Doherty]

'A high prevalence rate of a positive screen for cognitive impairment in patients with human immunodeficiency virus attending an Irish clinic', *Open Forum Infectious Diseases*, 4, 1 (2017), 1-9 [P.H. McNamara, R. Coen, J. Redmond, C.P. Doherty, C. Bergin]

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