

Recent Publications – Research Institutes and Centres

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

The publications information has been derived from the College's Research Support System. Every effort has been made to ensure that the information is accurate and complete. Please notify the Research Support Systems Administrator (email: rssadmin@tcd.ie) of any errors or omissions which will be corrected in next year's Calendar.

CONNECT

Kibilda, Jacek, 'Infrastructure and spectrum sharing trade-offs in mobile networks', *IEEE dynamic spectrum access networks (DySPAN)*, Stockholm, Sweden (2015), 1-10 [J. Kibilda, P. Di Francesco, F. Malandrino, L.A. Da Silva]

'Deployment of UAV-mounted access points according to spatial user locations in two-tier cellular networks', *IFIP wireless days*, Toulouse, France (2016), <http://hdl.handle.net/2262/77431> [B. Galkin, J. Kibilda, L.A. Da Silva]

'Incentives for infrastructure deployment by over-the-top service providers in a mobile network: a cooperative game theory model', *IEEE international conference on communications*, Kuala Lumpur, Malaysia (2016), <http://hdl.handle.net/2262/77433> [J. Kibilda, F. Malandrino, L.A. Da Silva]

'Modelling multi-operator base station deployment patterns in cellular networks', *IEEE Transactions on Mobile Computing*, 15, 12 (2016), 3087-3099 [J. Kibilda, B. Galkin, L.A. Da Silva]

McBride, Neal, 'Degeneracy estimation in interference models on wireless networks', *Physica A: Statistical Mechanics and Its Applications*, 469 (2017), 540-550 [N. McBride, J. Bulava, C. Galiotto, N. Marchetti, I. Macaluso, L. Doyle]

Centre for Research on Adaptive Nanostructures and Nanodevices (CRANN)

Ackland, Karl, 'Collective magnetic response of CeO₂ nanoparticles', *Nature Physics*, 12, 7 (2016), 694-699 [J.M.D. Coey, K. Ackland, M. Venkatesan, S. Sen]

Boland, Conor, 'Liquid exfoliation of solvent-stabilized few-layer black phosphorus for applications beyond electronics', *Nature Communications*, 6, (2015), 8563, <http://dx.doi.org/10.1038/ncomms9563> [D. Hanlon, C. Backes, E. Doherty (...), C. Boland *et al.*]

'High stiffness nano-composite fibres from polyvinylalcohol filled with graphene and boron nitride', *Carbon*, 99 (2016), 280-288 [C.S. Boland, S. Barwich, U. Khan, J.N. Coleman]

'Sensitive electromechanical sensors using viscoelastic graphene-polymer nanocomposites', *Science*, 354 (2016), 1257-1260 [C.S. Boland, U. Khan, G. Ryan (...), R.J. Young, J.N. Coleman]

'Guidelines for exfoliation, characterization and processing of layered materials produced by liquid exfoliation', *Chemistry of Materials*, 29, 1 (2017), 243-255 [C. Backes, T.M. Higgins, A. Kelly, C. Boland, A. Harvey, D. Hanlon, J.N. Coleman]

Caffrey, Nuala, 'Competing forces during contact formation between a tip and a single molecule', *Nano Letters*, 15, 8 (2015), 5156-60 [N.M. Caffrey, K. Buchmann, N. Hauptmann (...), S. Heinze, R. Berndt]

Recent publications – Research Institutes and Centres

Fox, Daniel, 'Ultrathin magnetite in Fe₃O₄/MgO superlattices: investigating the enhanced thin film magnetic moment', *Physical Review B*, 95 (2017), 125128 [O. Mauit, K. Fleischer, C. Ó Coileáin (...), D.S. Fox *et al.*]

Hallam, Toby, 'All-printed capacitors from graphene-BN-graphene nanosheet heterostructures', *Applied Physics Letters*, 109, 2 (2016), 023107 [A.G. Kelly, D. Finn, A. Harvey, T. Hallam, J.N. Coleman]

Maguire Ciaran, 'Cellular uptake and biocompatibility of bismuth ferrite harmonic advanced nanoparticles', *Nanomedicine*, 11, 4 (2015), 815-824 [D. Staedler, S. Passemard, T. Magouroux (...), C.M. Maguire *et al.*]

'Targeted polyethylene glycol gold nanoparticles for the treatment of pancreatic cancer: from synthesis to proof-of-concept in vitro studies', *International Journal of Nanomedicine*, 11 (2016), 791-822 [J. Spadavecchia, D. Movia, C. Moore (...), C.M. Maguire *et al.*]

McEvoy, Niall, 'Long-chain amine-templated synthesis of gallium sulfide and gallium selenide nanotubes', *Nanoscale*, 8, 22 (2016), 11698-11706 [A. Seral-Ascaso, S. Metel, A. Pokle (...), N. McEvoy *et al.*]

'A commercial conducting polymer as both binder and conductive additive for silicon nanoparticle-based lithium-ion battery negative electrodes', *ACS Nano*, 10, 3 (2016), 3702-3713 [T.M. Higgins, S.H. Park, P.J. King (...), N. McEvoy *et al.*]

'A comparison of catabolic pathways induced in primary macrophages by pristine single walled carbon nanotubes and pristine graphene', *RSC Advances*, 6, 70 (2016), 65299-65310 [J. McIntyre, N.K. Verma, R.J. Smith (...), N. McEvoy *et al.*]

'Comparison of liquid exfoliated transition metal dichalcogenides reveals MoSe₂ to be the most effective hydrogen evolution catalyst', *Nanoscale*, 8, 10 (2016), 5737-5749 [Z. Gholamvand, D. McAteer, C. Backes (...), N. McEvoy *et al.*]

'Production of Ni(OH)₂ nanosheets by liquid phase exfoliation: from optical properties to electrochemical applications', *Journal of Materials Chemistry A*, 4, 28 (2016), 11046-11059 [A. Harve, X. He, I.J. Godwin (...), N. McEvoy *et al.*]

'Raman characterization of platinum diselenide thin films', *2D Materials*, 3, 2 (2016), 021004 [M. O'Brien, N. McEvoy, C. Motta (...), S. Sanvito, G.S. Duesberg]

'Thickness dependence and percolation scaling of hydrogen production rate in MoS₂ nanosheet and nanosheet-carbon nanotube composite catalytic electrodes', *ACS Nano*, 10, 1 (2016), 672-683 [D. McAteer, Z. Gholamvand, N. McEvoy (...), G.S. Duesberg, J.N. Coleman]

'Dispersion of nonlinear refractive index in layered WS₂ and WSe₂ semiconductor films induced by two-photon absorption', *Optics Letters*, 41, 17 (2016), 3936-3939 [N. Dong, Y. Li, S. Zhang (...), N. McEvoy *et al.*]

'Direct observation of degenerate two-photon absorption and its saturation in WS₂ and MoS₂ monolayer and few-layer films', *ACS Nano*, 9, 7 (2015), 7142-7150 [S. Zhang, N. Dong, N. McEvoy (...), G.S. Duesberg, J. Wang]

'Rapid high-resolution U-Pb LA-Q-ICPMS age mapping of zircon', *J Anal At Spectrom*, 32, 2 (2017), 262-276 [D.M. Chew, J.A. Petrus, G.G. Kenny, N. McEvoy]

Nerl, Hannah, 'Long-chain amine-templated synthesis of gallium sulfide and gallium selenide nanotubes', *Nanoscale*, 8, 22 (2016), 11698-11706 [A. Seral-Ascaso, S. Metel, A. Pokle (...), H.C. Nerl *et al.*]

'A comparison of catabolic pathways induced in primary macrophages by pristine single walled carbon nanotubes and pristine graphene', *RSC Advances*, 6, 70 (2016), 65299-65310 [J. McIntyre, N.K. Verma, R.J. Smith (...), H. Nerl *et al.*]

Riffault, Mathieu, 'Label-free relative quantification applied to LC-MALDI acquisition for rapid analysis of chondrocyte secretion modulation', *Journal of Proteomics*, 114 (2015), 263-273 [M. Riffault, D. Moulin, L. Grossin, D. Mainard, J. Magdalou, J.B. Vincourt]

Recent publications – Research Institutes and Centres

'PLGA-based nanoparticles: a safe and suitable delivery platform for osteoarticular pathologies', *Pharmaceutical Research*, 32, 12 (2015), 3886-3898 [M. Riffault, J.L. Six, P. Netter, P. Gillet, L. Grossin]

Trinity Centre for Bioengineering

D'Arcy, Shona, 'The effect of providing feedback on inhaler technique and adherence from an electronic audio recording device, INCA®, in a community pharmacy setting: study protocol for a randomised controlled trial', *Trials*, 17, 1 (2016), 226 [S.M. O'Dwyer, E. MacHale, I. Sulaiman (...), S. D'Arcy *et al.*]

'A protocol for a randomised clinical trial of the effect of providing feedback on inhaler technique and adherence from an electronic device in patients with poorly controlled severe asthma', *BMJ Open*, 6, 1 (2016), e009350 [I. Sulaiman, E. MacHale, M. Holmes (...), S. D'Arcy *et al.*]

Killane, Isabelle, 'The impact of dual tasking on cognitive performance in a Parkinson's disease cohort with and without freezing of gait: an EEG and behavioral based approach', *7th international IEEE/EMBS conference on neural engineering (NER), 2015*, 1072-1075 [S.M. Waechter, S.M. Fearon, C. McDonnell (...), I. Killane *et al.*]

'A protocol for a randomised clinical trial of the effect of providing feedback on inhaler technique and adherence from an electronic device in patients with poorly controlled severe asthma', *BMJ Open*, 6, 1 (2016), e009350 [I. Sulaiman, E. MacHale, M. Holmes (...), I. Killane *et al.*]

O'Brien, Fergal, 'Stem cells display a donor dependent response to escalating levels of growth factor release from extracellular matrix-derived scaffolds', *Journal of Tissue Engineering and Regenerative Medicine* (2016), 1-9 [H.V. Almeida, K.J. Mulhall, F.J. O'Brien, D.J. Kelly]

Rapcan, Villiam, 'The effect of providing feedback on inhaler technique and adherence from an electronic audio recording device, INCA®, in a community pharmacy setting: study protocol for a randomised controlled trial', *Trials*, 17, 1 (2016), 226 [S.M. O'Dwyer, E. MacHale, I. Sulaiman (...), V. Rapcan *et al.*]

'A protocol for a randomised clinical trial of the effect of providing feedback on inhaler technique and adherence from an electronic device in patients with poorly controlled severe asthma', *BMJ Open*, 6, 1 (2016), e009350 [I. Sulaiman, E. MacHale, M. Holmes (...), V. Rapcan *et al.*]

Trinity College Institute of Neuroscience

Doherty, Colin, 'Syncope unit: rationale and requirement - the European heart rhythm association position statement endorsed by the heart rhythm society', *Europace*, 17, 9 (2015), 1328-1340 [R.A. Kenny, M. Brignole, G.A. Dan (...), C. Doherty *et al.*]

'The role of alcohol dependency in deaths among people with epilepsy recorded by the National Drug-Related Deaths Index (NDRDI) in Ireland, 2004-2013', *Seizure*, 45 (2017), 52-55 [E. Lynn, S. Lyons, Y. Langan, S. Craig, C. Doherty]

'Prescribing trends for sodium valproate in Ireland', *Seizure*, 36 (2016), 44-48 [S. Murphy, K. Bennett, C.P. Doherty]

'Blood-brain barrier dysfunction as a hallmark pathology in chronic traumatic encephalopathy', *Journal of Neuropathology and Experimental Neurology*, 75, 7 (2016), 656-662 [C.P. Doherty, E. O'Keefe, E. Wallace (...), M. Farrell, M. Campbell]

'Temporal cortex morphology in mesial temporal lobe epilepsy patients and their asymptomatic siblings', *Cerebral Cortex*, 26, 3 (2016), 1234-1241 [S. Alhusaini, C.D. Whelan, C.P. Doherty, N. Delanty, M. Fitzsimons, G.L. Cavalleri]

Recent publications – Research Institutes and Centres

- 'White matter alterations in patients with MRI-negative temporal lobe epilepsy and their asymptomatic siblings', *Epilepsia*, 56, 10 (2015), 1551-1561 [C.D. Whelan, S. Alhusaini, E. O'Hanlon (...), C.P. Doherty, G.L. Cavalleri]
- Finucane, Orla*, 'Monounsaturated fatty acid-enriched high-fat diets impede adipose NLRP3 inflammasome-mediated IL-1 β secretion and insulin resistance despite obesity', *Diabetes*, 64, 6 (2015), 2116-2128 [O.M. Finucane, C.L. Lyons, A.M. Murphy (...), F.C. McGillicuddy, H.M. Roche]
- 'High-density lipoprotein proteomic composition, and not efflux capacity, reflects differential modulation of reverse cholesterol transport by saturated and monounsaturated fat diets', *Circulation*, 133, 19 (2016), 1838-1850 [M. O'Reilly, E. Dillon, W. Guo (...), O.M. Finucane *et al.*]
- 'Interactions between differential fatty acids and inflammatory stressors - impact on metabolic health', *Prostaglandins Leukotrienes and Essential Fatty Acids*, 92 (2015), 49-55 [A.M. Murphy, C.L. Lyons, O.M. Finucane, H.M. Roche]
- Kerskens, Christian*, 'Glial fibrillary acidic protein (GFAP) immunoreactivity correlates with cortical perfusion parameters determined by bolus tracking arterial spin labelling (bt-ASL) magnetic resonance (MR) imaging in the Wistar-Kyoto rat', *Physiology and Behavior*, 160 (2016), 66-79 [S. Gormley, J. Rouine, A. McIntosh, C. Kerskens, A. Harkin]
- 'Early hippocampal volume loss as a marker of eventual memory deficits caused by repeated stress', *Scientific Reports*, 6 (2016), 29127 [M.M. Rahman, C.K. Callaghan, C.M. Kerskens, S. Chattarji, S.M. O'Mara]
- Robertson, Ian*, 'Connecting clinical and experimental investigations of awareness in traumatic brain injury', *Handbook of clinical neurology*, eds J. Grafman and A.M. Salazar, Elsevier (2015), 511–524 [P.M. Dockree, R.G. O'Connell, I.H. Robertson]
- 'Neural evidence accumulation persists after choice to inform metacognitive judgments', *eLife*, 4 (2015), e11946 [P.R. Murphy, I.H. Robertson, S. Harty, R.G. O'Connell]

Library

- Mockler, David*, 'The ability of prehabilitation to influence postoperative outcome after intra-abdominal operation: a systematic review and meta-analysis', *Surgery*, 160, 5 (2016), 1189-1201 [J. Moran, E. Guinan, P. McCormick, J. Larkin, D. Mockler, J. Hussey, J. Moriarty, F. Wilson]
- 'Pneumococcal vaccine for preventing *Streptococcus pneumoniae* infection in HIV-infected individuals', *Cochrane Database of Systematic Reviews*, 2016, 1 (2016), <http://dx.doi.org/10.1002/14651858.CD002236.pub2> [C. Sadler, K. Bennett, A. Matthews, D. Mockler, F. Wilson, C. Bergin]
- Sheaf, Greg*, 'Implementing spiritual care at the end of life in the Republic of Ireland', *European Journal of Palliative Care*, 23, 1 (2016), 42-43 [F. Timmins, M. Murphy, N. Pujol (...), G. Sheaf *et al.*]
- 'Spiritual care resources in health care in Ireland (ROI) - an exploration', *First global human caring conference*, Wuhan, China (2016), 128-129 [F. Timmins, M. Murphy, N. Pujol (...), G. Sheaf *et al.*]

Administrative, executive and other officers

- Fitzgerald, Lisa*, 'The development of a spirituality interest group in the Republic of Ireland (ROI)', *Religions*, 7, 3 (2016), 30-34 [F. Timmins, M. Murphy, S. Caldeira (...), L. Fitzgerald *et al.*]
- Gallagher, Silvia*, 'Comparing learner community behavior in multiple presentations of a massive open online course', *Journal of Computing in Higher Education*, 28, 3 (2016), <http://dx.doi.org/10.1007/s12528-016-9124-y> [S. Gallagher, T. Savage]

Recent publications – Research Institutes and Centres

'A far cry from school history: massive online open courses as a generative source for historical research', *The International Review of Research in Open and Distributed Learning*, 17, 5 (2016), 1-15 [S.E. Gallagher, C. Wallace]