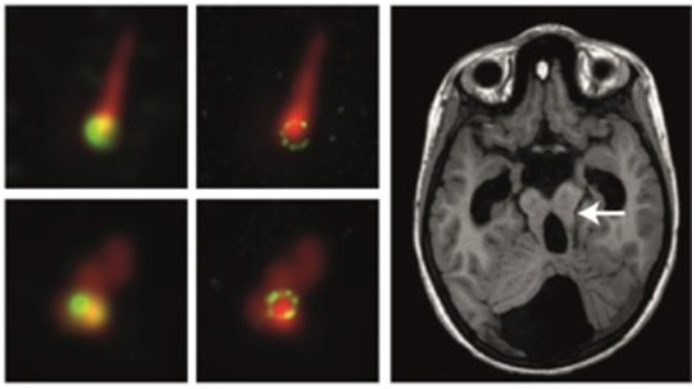
Issue 29, Winter 2015

SBBS News

Newsletter of UCD School of Biomolecular and Biomedical Science

International study uncovers mechanism behind Joubert syndrome



The results of an international study published in *Nature Cell Biology* have identified a gene (TMEM107) associated with Joubert syndrome, and crucially uncovered the mechanism by which it functions in cells, leading to a better understanding of the cause of this brain disorder.

The study was led by SBBS Principal Investigator, Dr Oliver Blacque with researchers at Burgundy University (France) and Radboud University Medical Centre (The Netherlands)

Joubert syndrome is a relatively rare genetic disease affecting 1 in 80,000 individuals. Symptoms include problems with mid-brain formation, breathing, balance and muscle control, as well as kidney defects, blindness, obesity, and bone malformation.

The syndrome is one of a number of increasingly common disorders called 'ciliopathies', caused by defects in a part of the cell called the cilium. This hair-like structure on the surface of most human cells functions as an 'antenna' for sensory perception (e.g., odour detection) and cell-cell communication during embryo development.

Recent research has focused on the base of the cilium, where it attaches to the cell. This part of the cilium is thought to act as a 'gate', controlling which molecules are allowed to enter and exit the ciliary antenna. By making sure that the cilium contains the correct molecules, the gate safeguards the normal functions of the cilium.

In this study, the researchers reveal a new gene, associated with the ciliary gate, called TMEM107 and show that mutations in this gene cause Joubert syndrome. In pioneering experiments, the scientists used sophisticated (super-resolution) microscopy to establish that TMEM107 associates with discrete sub-regions of the gate, rather than the entire structure. This finding provides new insight into the architecture of the gate at the molecular level, and provides new leads for further understanding the mechanism by which the gate operates. These observations were made not only in human cells, but also in tiny worms (*C. elegans),* indicating the general relevance of the findings in nature.

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SBBS PhD Student awarded for presentation

Professor Thomas Walther presents the joint prize for Best Oral Presentation to Clare Butler at the 16th Annual Conference of the Irish Association of Pharmacologists.

Ph. D. student, Clare Butler, was jointly awarded the young investigator award for best oral presentation at the Irish Association of Pharmacologists Annual Conference on October 16th in UCC. This year's conference event included contributions from Early-Career Researchers who gave short oral and poster presentations. The standard of these talks was very high, such that the prize for Best Oral Presentation was awarded jointly to Clare Butler of SBBS and to Dr Alice O'Farrell of the Royal College of Surgeons in Ireland

Clare, who is a member of Dr Breandán Kennedy's group, spoke about "Phenotype based development of novel therapies for the treatment of colorectal cancer".

Scholarships offered for Toxicology students

All SBBS Taught Graduate programmes are now open for application. These include MSc programmes in Biotechnology and Biotherapeutics either of which can be undertaken with a Business component run in collaboration with the Michael Smurfit Graduate School of Business.

New to the SBBS portfolio, and building on the existing certificate and diploma programmes is a fulltime, one year, MSc programme in Toxicology and Regulatory Affairs. Two 50% EU fee scholarships are offered for the first year of intake . The deadline for scholarship application is 30th April, 2016.

For further details and applications see www.ucd.ie/graduatestudies/

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The work was conducted by a multidisciplinary group of researchers from UCD Conway Institute, Burgundy University (France), Radboud University Medical Centre (The Netherlands), University of Leeds (UK), University Medical Centre Utrecht (The Netherlands) and Trinity College Dublin (Ireland) with expertise in bioinformatics, human genetics, cell biology and animal models.

Dr Oliver Blacque, UCD School of Biomolecular and Biomedical Science and lead senior author said, "This research expands our understanding of how the cilium gate is organised and has implications for understanding 'gates' in other parts of the cell. For patients with certain ciliopathies, it may be possible to design future intervention strategies to fine-tune the gate, and therefore alleviate some of the progressive symptoms."

He added, "This work also demonstrates how research in relatively simple worms can uncover basic principles of biology and disease."

Professor Martijn Huynen, Radboud University Medical Centre, and co-senior author of the study, said, "This work is a wonderful example of a multicentre collaboration across research disciplines, stemming from our initial computational prediction that TMEM107 serves a function related to cilia." He added, "This work also shows the power of bioinformatics for disease gene discovery."

Professor Christel Thauvin-Robinet, Burgundy University, and co-senior author of the study, said, "This study is another big step forward in our 10-year quest to identify the genes causing Joubert syndrome-associated disorders."

First author on the paper on the publication is SBBS PhD student, Nils Lambacher.

The paper entitled 'TMEM107 recruits ciliopathy proteins to subdomains of the ciliary transition zone and causes Joubert syndrome' is available to download via http://dx.doi.org/10.1038/ncb3273.

The study was funded by multiple grant agencies including the EU Framework 7 programme (Syscilia), Science Foundation Ireland and the French Ministry of Health.

Reference: **Lambacher NJ,** *et al.,* (2016). TMEM107 recruits ciliopathy proteins to subdomains of the ciliary transition zone and causes Joubert syndrome' *Nature Cell Biology 18: 122 - 131.*

(Produced by UCD Innovation)

Dr Antoinette Perry: a new face for UCD Pharmacology

Dr Antoinette Perry joins the school from Trinity College's Institute of Molecular Medicine, where she was a Senior Research Fellow and led the Prostate Molecular Oncology Research Group. Dr Perry joins UCD to work with Professor Liam Gallagher and co-lead the Cancer Biology and Therapeutics Laboratory at the Conway Institute of Biomolecular and Biomedical Research. Her major research interests are focused on translational prostate cancer epigenetics; understanding the role of epigenomic aberrations in the pathogenesis of prostate cancer and harnessing these aberrations to develop prognostic and predictive biomarkers. Dr Perry has a particular interest in studying DNA methylation changes in the prostate gland and in "liquid biopsies" that can act as surrogates for non-invasive tumour detection and monitoring. To this end, Dr Perry is a funded investigator in the Movember GAP1 urine biomarker project and in the Irish Programme for Stratified Prostate Cancer Therapies (iPROSPECT). Dr Perry's research has highlighted the importance of epigenetic dysregulation of the Wnt and IGF axis in prostate cancer, and has identified a number of potential biomarkers for aggressive prostate cancer.

Dr Perry will lecture on undergraduate and post-graduate modules in pharmacology.

Amy Buckley wins the British Pharmacology Society BSc Prize

Amy Buckley, who topped the BSc Pharmacology Class of 2015, has won a British Pharmacology Society (BPS) BSc Pharmacology Prize. Amy was the only student from an Irish university to win the prize this year, sharing it with 11 other exceptional students from British Pharmacology departments and schools.

Amy's final year project looked at the inhibition of multiple signalling pathways to inhibit blood vessel growth *in-vivo,* which was supervised by Dr. Breandán Kennedy. She is currently pursuing a PhD in cancer biology, funded by the Irish Cancer Society, in Trinity College Dublin supervised by Dr. Jacintha O'Sullivan. Her PhD project is focused on enhancing treatment response to neo-adjuvant radiation therapy in oesophageal cancer through the inhibition of tumour metabolism and angiogenesis with novel small molecule drugs.

Each university pharmacology department may nominate one final year BSc or one final year MSc student for the prize.

The British Pharmacological Society assesses nominees for the prize based on performance in the final year of their degrees. At least 50% of the student's final year modules should be in pharmacology and the student should have completed a final year experimental project in pharmacology.

Amy was nominated for the BPS award by then Head of Pharmacology Dr. Breandán Kennedy, who commented on Amy's award:

"As the joint recipient of the SBBS Roddy Monks Prize for best Third Year practical results, and winner of The Regan Medal for Pharmacology 2015 upon graduation, Amy was a deserving nominee. The School and Pharmacology staff are delighted that her hard work and accomplishment in her undergraduate studies has been recognised by the BPS with this prize. We wish her the best in her post-graduate research and future endeavours."

Phision Therapeutics Wins UCD's 2015 Start-Up Award

Phision Therapeutics is developing novel small drug molecules to more effectively treat vision loss to prevent blindness associated with retinal disease. This new venture emerging from research carried out over several years by founder Dr Breandán Kennedy (*pictured right)* with Dr Alison Reynolds at the UCD School of Biomolecular and Biomedical Science and the UCD Conway Institute.

Dr Breandán Kennedy (founder) and Dr Alison Reynolds (researcher), who won UCD's 2015 VentureLaunch Accelerator Award for their venture company Phision Therapeutics, which aims to supply novel small drug molecules to treat vision loss associated with retinal degeneration

The retinal disease age-related macular degeneration (AMD) is a leading cause of vision loss in Western societies. In the US alone, the retinal therapeutic market, to treat such diseases, is valued at $3.5 billion annually.

The current treatment for patients experiencing vision loss due to AMD involves up to 12 eye injections per year. It is recognised that patients are also at risk of eye infections or retinal detachments due to the injections. In addition, up to 30% of AMD patients do not respond to these injections, and for them there is currently no effective alternative treatment.

To address such issues and using an unbiased, systems-pharmacology approach Phision Therapeutics has identified, and is developing, novel small molecule drugs with novel mechanisms of action to curb the undesired growth of 'leaky' new blood vessels in the eye which lead to vision loss and blindness.

Dr Breandán Kennedy said, "It is a great honour for Phision Therapeutics to have won the 2015 UCD VentureLaunch Accelerator Programme and it is a great endorsement for our new venture going forward."

He added, "Looking to the future, we are currently seeking €400,000 in seed funding to enable us to formulate and manufacture our novel small molecule drugs. Thereafter, following additional fund raising, we plan to proceed with pre-clinical and clinical studies to validate that our drugs offer a better treatment option, including a reduction in the number of eye injections, for patients experiencing vision loss associated with AMD."

Funders of this research to date include; Enterprise Ireland; Science Foundation Ireland; Irish Research Council; Health Research Board and the European Commission's Marie Skłodowska-Curie Actions Programme.Speaking after the Awards evening Professor Orla Feely, UCD Vice-President for Research, Innovation and Impact said, "Excellent research and innovation are central to all that we do in UCD delivering impact in areas of importance and opportunity. This was clearly displayed by the early-stage ventures which participated on this year's VentureLaunch Accelerator Programme. Through this programme we are supporting our researchers to accelerate the establishment of research-based companies providing value-added products and services for the global market."

She added, "Phision Therapeutics is an excellent example of a new venture, emerging from research carried out at UCD, which is being established to address a worldwide need, in this case to more effectively treat patients experiencing AMD-related vision loss."

She concluded, "I would like to congratulate Dr Breandán Kennedy on winning this year's VentureLaunch Accelerator Award and I wish Phision Therapeutics every commercial success for the future."

In addition to the 2015 UCD VentureLaunch Accelerator Award, Phision Therapeutics was presented with a cheque for €10,000, and a professional services package to the value of €15,000. The prizes are sponsored by AIB, Bryan Maguire Business Consulting, Deloitte, and NovaUCD.

About UCD VentureLaunch Accelerator Programme

The annual UCD VentureLaunch Accelerator Programme, which is held at NovaUCD, the Centre for New Ventures and Entrepreneurs, uses the Business Model Canvas approach to start-up development. The programme consists of ten 3-hour workshops, delivered over a 3-month period, and a series of one-to-one sessions with external experts in areas such as finance, marketing and customer validation.

The overall objective of the UCD VentureLaunch Accelerator Programme is to support the creation, and to accelerate the launch, of sustainable and profitable new ventures based on intellectual property emerging from UCD. The programme aims is to equip UCD researchers with the knowledge, skills and understanding that is required to work as part of a team successfully leading a new commercial venture.

The 2015 UCD VentureLaunch Accelerator Programme evaluation panel, which selected the overall winner, was chaired by Brendan Cremen, UCD Director of Enterprise and Commercialisation. The other members of the panel were Dr Sharon O'Kane and Dr Sean Baker, NovaUCD Entrepreneurs in Residence in Life Sciences and ICT respectively; Dr Helen McBreen, Investment Director at Atlantic Bridge Capital and Dr Edward McDonnell, Director, CeADAR, the Centre for Applied Data Analytics Research.

(Produced by UCD Innovation)

Conferring of higher degrees

The MSc Biotechnology and MSc Biotechnology and Business students 2015, were conferred with their degrees on Wednesday 2nd December. The MSc classes were the largest to date with 35 and 38 graduates from the respective programmes. As the highest achieving student in the MSc Biotechnology class, Fionnuala McLoughney was awarded the Catherine Renée Kelly medal. The Biotechnology and Business medal was awarded to Joseph Taylor.

Two students graduated with the degree of MSc by Research, Kevin Granville (Patricia Maguire's group) and Barry McCarthy (Margaret McGee's group). Three PhD students graduated from the school, Feidhlim Dervin (Patricia Maguire's group), Eric Brown (Jana Haase's group) and Adam Cantlon (Prof Dominc Walsh's group, currently based in Harvard Medical School, USA).

Clockwise from top: MSc Biotechnology graduates of 2015 with Dr David O'Connell director of MSc programmes, 2014/15 and Dr Cormac Murphy, current director of MSc programmes; Dr David O'Connell with Ms Fionnuala McLoughney, winner of the Catherine Renée Kelly medal for Biotechnology; the MSc Biotechnology and Business class of 2015 with Dr David O'Connell and Dr Cormac Murphy; Joseph Taylor, who was awarded the Biotechnology and Business medal, pictured with Dr David O'Connell.

Launch of MSc programme in Toxicology

Applications are now open for the new fulltime MSc programme in Toxicology and Regulatory Affairs beginning September 2016. This follows on from the part-time MSc, Diploma, and certificate courses in toxicology currently offered by the school.

The courses have been developed in close collaboration with the Irish Register of Toxicologists and are approved for accreditation towards becoming a registered toxicologist. The course covers subjects such as environmental, occupational, food and medical toxicology. The students will cover practical aspects of toxicology along with theoretical aspects, including regulatory affairs

The director of the Toxicology programmes , Dr Tara McMorrow, is President of the Irish Society of Toxicology and an Irish and European Registered Toxicologist

To highlight the programme, two 50% EU fee scholarships are offered for the first year of intake. The deadline for scholarship application is 30th April, 2016.

Launch of SPHERE; a new UCD-based vascular research group

(Pictured L-R: Dr Fionnuala Ní Áinle, UCD; Minister for Health, Dr Leo Varadkar T.D.; Prof Saskia Middeldorp, Academic Medical Centre, the Netherlands; Dr Patricia Maguire, UCD)

A new UCD-based research group, SPHERE aims to harness unique haematological tools to diagnose and understand a host of inflammatory-based diseases.

The officially launch of SPHERE coincided with the Venous Thromboembolism (VTE) Dublin 2015 conference that took place at the Croke Park Conference Centre in Dublin on Friday 18 and Saturday 19 September 2015.

Minister for Health, Dr Leo Varadkar T.D. welcomed the launch of SPHERE and spoke of the enormous worldwide burden posed by venous thromboembolism during his address to delegates at the inaugural international thrombosis conference, supported by Science Foundation Ireland.

The acronym SPHERE describes the state-of the art translational interests of this group that will focus on '***S**ystemic inflammatory disorders: role of blood **P**articles, **H**aemostatic factors and **E**xt**R**ac**E**llular vesicles'*.

Current research projects investigate the impact of blood particles, haemostatic factors and extracellular vesicles in a wide range of diseases including acute ischaemic stroke, early onset preeclampsia, multiple sclerosis, liver disease, Eisenmenger syndrome and schizophrenia.

SPHERE, since its inception, has attracted significant funding from industry collaborators through investigator-initiated innovation awards granted by LEO Pharma and Actelion.

SPHERE Co-Directors:

Dr Maguire is an SFI-funded Principal Investigator and Fellow of the UCD Conway Institute. She is also a Senior Lecturer in Biochemistry in the UCD School of Biomolecular & Biomedical Science. Over the past ten years, her research has focused on a comprehensive assessment of the anucleate platelet proteome based on a sequential series of analyses that included fractional proteomics, characterisation of specific interactomes and recently detailed description and functional analyses of novel platelet pathways. Recently, she has focused on the release of various extracellular vesicles (EVs) from platelets, the contents of these vesicles and their powerful paracrine effects. She has also shown that circulating levels of these EVs can be altered in inflammatory disease.

Dr Ní Áinle was appointed Consultant Haematologist in the Mater Misericordiae University Hospital (MMUH), UCD School of Medicine and Rotunda Maternity Hospital, Dublin in 2012. She subsequently established a translational research group based at the UCD Conway Institute where she holds an Associate Clinical Fellowship and is a Principal Investigator. Dr Ní Áinle has undergone specialist training in haematology and subsequently haemostasis, thrombosis and obstetric haematology. She has been awarded several competitive research funding awards including a prestigious Health Research Award from the Health Research Board of Ireland. Dr Ní Áinle treats patients affected with disorders of blood clotting with major interests in thrombosis and maternal haematology. She has published in high impact journals of her field,

SPHERE Collaborators:

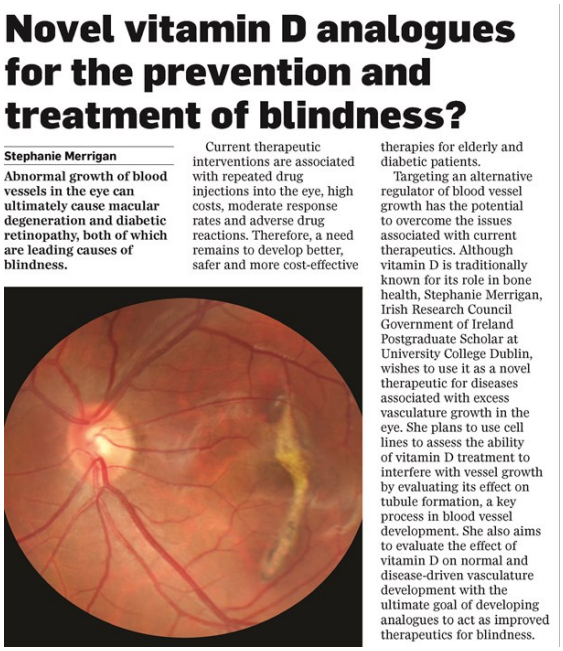
Currently include Prof. Peter Kelly and Prof. Sean Murphy, MMUH Dept. of Stroke Medicine; Dr Chris McGuigan, Consultant Neurologist, SVUH; Dr Orina Belton, UCD Conway Institute; Prof Des Fitzgerald, Professor of Molecular Medicine, UCD; Prof Willem Ouwehand, Professor of Experimental Haematology, University of Cambridge; Dr Stephen Stuart, Consultant Hepatologist, MMUH; Prof. Kevin Walsh, Consultant Cardiologist, MMUH; Prof Saskia Middeldorp, Academic Medical Centre, the Netherlands and Prof. Beverley Hunt, King's College, London; Prof Jogin Thakore, Consultant Psychiatrist, St. Vincent's Hospital Fairview, Dr Alastair Poole, Bristol University; Prof Johan Heemskeerk, Maastricht University and Prof. Denisa Wagner, Harvard Medical School, all of whom have outstanding academic track records and are recognised leaders in their respective fields.

Article courtesy of Elaine Quinn, Conway Institute

Dr Patricia Maguire (left) with members of her SBBS/Conway Institute based research group

SBBS students and staff hit the headlines

PhD student Jennifer Cleary was asked 10 questions by "TV Now" as she took on her new role as presenter for "Insiders", a new RTE TV programme aimed at bringing aspects of science to the nation's children.



Novel vitamin D analogues for the prevention and treatment of blindness?

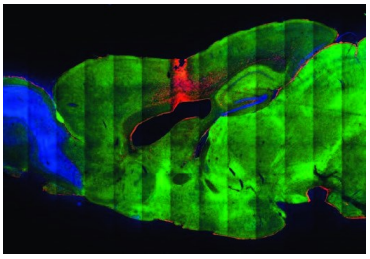
Stephanie Merrigan

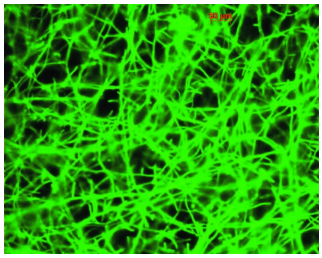
Abnormal growth of blood vessels in the eye can ultimately cause macular degeneration and diabetic retinopathy, both of which are leading causes of blindness.

Current therapeutic interventions are associated with repeated drug injections into the eye, high costs, moderate response rates and adverse drug reactions. Therefore, a need remains to develop better, safer and more cost-effective therapies for elderly and diabetic patients.

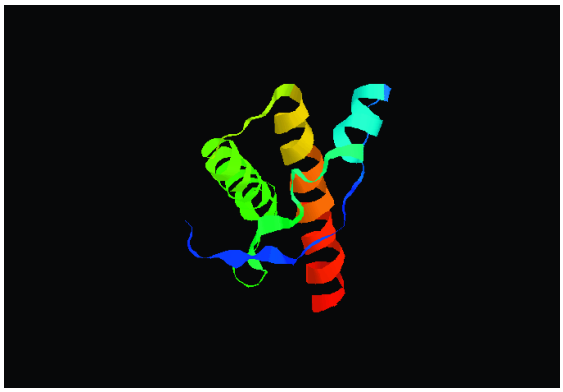
Targeting an alternative regulator of blood vessel growth has the potential to overcome the issues associated with current therapeutics. Although vitamin D is traditionally known for its role in bone health, Stephanie Merrigan, Irish Research Council Government of Ireland Postgraduate Scholar at University College Dublin, wishes to use it as a novel therapeutic for diseases associated with excess vasculature growth in the eye. She plans to use cell lines to assess the ability of vitamin D treatment to interfere with vessel growth by evaluating its effect on tubule formation, a key process in blood vessel development. She also aims to evaluate the effect of vitamin D on normal and disease-driven vasculature development with the ultimate goal of developing analogues to act as improved therapeutics for blindness.

Stephanie Merrigan, PhD student in Dr Breandán Kennedy's group had her research highlighted by the Irish Independent. The full text of the article is reproduced on page 7.





Volume 3 of UCD Science Showcase was released on Wednesday 2nd December at an event attended by UCD Vice-President and Registrar, Prof Mark Rogers. The purpose of the Science Showcase is to share stories of UCD Science research and education with the public, government agencies and university colleagues alike. The latest volume features 5 SBBS principle Investigators. Dr Hilary McMahon , Dr Jana Haase, Dr Orina Belton and Dr Cormac Murphy present their research stories in interveiws conducted by Dr Claire O'Connell, science writer and journalist who also attended the event. Dr Tadhg Ó Croínín features as Associate Dean for Study Abroad at UCD, outlining the research module that allows overseas students to spend several hours each week working closely with a UCD research group.



Investing in the future: flat pack beehives and insect hotels

Dr Emmanuel Reynaud, third from left, with his SPARC project collaborators on the project "Building for the Future: Joining the All-Ireland Pollinator Plan "

Dr Emmanuel Reynaud has been awarded one of the SPARC projects this year (Building for the Future: Joining the All-Ireland Pollinator Plan).

SPARC (supporting Partnership and Realising Change) is a UCD initiative for staff and students, calling on both cohorts to work together to make UCD and/or the surrounding community a better place to learn work and live. SPARC provides and opportunity to develop ideas that might enhance or improve some aspect of university or community life. Dr Reynaud is already a participant of a 2014-15 SPARC project, Growing Together: The UCD Community Garden Project. The aim of this project is to build a community garden at Rosemount by using the existing vegetable garden, poly tunnel and fruit trees in order to provide staff, students and local communities with a place to work together, to grow fruits, vegetables and flowers. This project complements the recently established apiary at Rosemount.

The new project, Building for the Future: Joining the All-Ireland Pollinator Plan has been awarded funding for 2015-16. The aim of this project is to build for the future of the "Bees and Insects of Belfield". This will be done by using a compuitor controlled cutting machine (a CNC router) to build flat pack beehives and insect hotels. Through the project it will be possible to build insect hotels in order to provide a safe environment for solitary bees, pollinators and pest controllers on and around campus. Building beehives at a fraction of the cost of buying will ensure UCD's apiary has a constant supply of hives as the apiary grows and becomes self-sustaining.

For more details of this and the other SPARC projects currently funded see the SPARC project website http://www.ucd.ie/sparc/

SFI Get started Technology Venture Programme

Dr Antoinette Perry, pictured second from right above, was a joint winner at the 2015 SFI Get Started Technology Venture Programme held at the DCU Ryan Academy in October. Dr Perry holds an SFI Technology Innovation Development Award (TIDA) to develop epiCaPture, a urine biomarker panel for non-invasive early detection of aggressive prostate cancer.

Novel vitamin D analogues for the prevention and treatment of blindness?

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Current therapeutic interventions are associated with repeated drug injections into the eye, high costs, moderate response rates and adverse drug reactions. Therefore, a need remains to develop better, safer and more cost-effective therapies for elderly and diabetic patients. Targeting an alternative regulator of blood vessel growth has the potential to overcome the issues associated with current therapeutics. Although vitamin D is traditionally known for its role in bone health, Stephanie Merrigan, Irish Research Council Government of Ireland Postgraduate Scholar at

University College Dublin, wishes to use it as a novel therapeutic for diseases associated with excess vasculature growth in the eye. She plans to use cell lines to assess the ability of vitamin D treatment to interfere with vessel growth by evaluating its effect on tubule formation, a key process in blood vessel development. She also aims to evaluate the effect of vitamin D on normal and disease-driven vasculature development with the ultimate goal of developing analogues to act as improved therapeutics for blindness.

Article reprinted from the Irish Independent. Stephanie Merrigan is a PhD student in Dr Breandán Kennedy's group, School of Biomolecular and Biomedical Science.

Staff and Student News

Congratulations to **Markus Schröder** and **Can Wang,** both of **Prof Geraldine Butler's** group, and to **Helena Frain** and **Jennifer Slyne ,** of **Dr Tara McMorrow's** group, and to **Anita Wdowicz**, **Dr Keith Murphy's** group, all of who successfully defended their Ph.D. theses recently.

Congratulations to **Dr Kieran Brennan** (**Dr Margaret Mc Gee's** research group) on his award of a post-doctoral research fellowship through the IRC-Enterprise Partnership Scheme. Kieran will work with Randox Teoranta to develop novel fluid-based biomarkers identified in the Mc Gee group for the prediction of disease stage and chemoresistance of colorectal cancer.

The FLUOR21 Marie Curie ITN had its AGM in Dublin in September. The meeting was organised by **Beth Corcoran** (FLUOR21 Administrator) and **Cormac Murphy** (FLUOR21 deputy co-ordinator) and was attended by the academic and industrial partners from across Europe and the Early Stage Researchers.

We welcome **Dr Sabir Hussain** from Pakistan, who has joined **Dr Cormac Murphy's** group as an IRC postdoctoral fellow and **Mona Alsolami** a PhD student in Dr Oliver Blacque's group.

Dr Jennifer Mitchell is the joint recipient of a 4 year Walsh fellowship funding from Teagasc along with collaborator Dr Orla Keane, Teagasc, for the project: "Molecular characterization of adhesin-receptor interactions in bovine-adapted *Staphylococcus aureus* "

Dr Keith Murphy along with PhD candidate, **Josiah O'Sullivan,** has received funding from the Irish Research Council (IRC) for a project entitled "Investigating the psychedelic agent 5-Methoxy-N, N-dimethyltryptamine as a potential novel treatment for drug addiction".

The School wishes **Clare Ryan** well in her new position in the College of Engineering and Architecture.

Best wishes are also extended to our colleague, **Siobháin O'Brien**, on her departure from the Conway Institute. Siobháin has worked closely with SBBS staff during her nine years in UCD

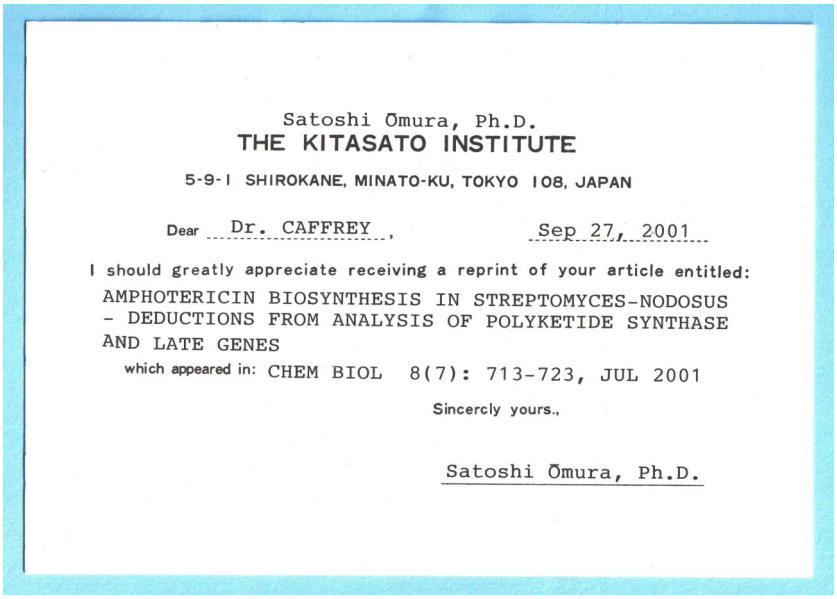
Upcoming events

The Engage, Accessible Science final will take place on Wednesday 6th April, 2016

eAgage Merville Seminars Accessible Science

UCD School of Biomolecular and Biomedical Sciences

www.ucd.ie/sbbs



Satoshi Ōmura, Ph.D.
THE KITASATO INSTITUTE
5-9-1 SHIROKANE, MINATO-KU, TOKYO 108, JAPAN

Dear Dr. CAFFREY, Sep 27, 2001

I should greatly appreciate receiving a reprint of your article entitled:
AMPHOTERICIN BIOSYNTHESIS IN STREPTOMYCES-NODOSUS - DEDUCTIONS FROM ANALYSIS OF POLYKETIDE SYNTHASE AND LATE GENES
which appeared in: CHEM BIOL 8(7): 713-723, JUL 2001

Sincerely yours.,

Satoshi Ōmura, Ph.D.

Patrick's last reprint request postcard increased in value in 2015

Recent SBBS Publications

Jensen VL, Li C, Bowie RV, Clarke L, Mohan A, **Blacque OE**, Leroux MR. (2015). Formation of the transition zone by Mks5/Rpgrip1L establishes a ciliary zone of exclusion (CIZE) that compartmentalises ciliary signalling proteins and controls PIP2 ciliary abundance. *Embo Journal 34:20: 2537 - 2556.*

Wheway G, Schmidts M, Mans DA, Szymanska K, Nguyen TM, Racher H, Phelps IG, 60 other authors, **Blacque OE**, Gibson T, Doherty D, Mitchison HM, Roepman R, Johnson CA. (2015). An siRNA-based functional genomics screen for the identification of regulators of ciliogenesis and ciliopathy genes. *Nature Cell Biology 17: 1074–1087.*

Sweeney, J; **Murphy, CD**; McDonnell, K (2015) Towards an effective biosensor for monitoring AD leachate: a knockout *E. coli* mutant that cannot catabolise lactate. *Applied Microbiology and Biotechnology, 99, 10209-10214.*

Sweeney P, **Murphy CD, Caffrey P** (2015). Exploiting the genome sequence of *Streptomyces nodosus* for enhanced antibiotic production. *Applied Microbiology and Biotechnology DOI: 10.1007/s00253-015-7060-9*

English JA, Fan Y, Focking M, Lopez LM, Hryniewiecka M, Wynne K, Dicker P, Matigian N, **Cagney G,** Mackay-Sim A, Cotter DR (2015). Reduced protein synthesis in schizophrenia patient-derived olfactory cells. *Translational Psychiatry doi:10.1038/tp.2015.119*

Topol A, English JA, Flaherty E, Rajarajan P, Hartley BJ, Gupta S, Desland F, Zhu S, Goff T, Friedman L, Rapoport J, Felsenfeld D, **Cagney G**, Mackay-Sim A, Savas JN, Aronow B, Fang G, Zhang B, Cotter D, Brennand KJ (2015). Increased abundance of translation machinery in stem cell-derived neural progenitor cells from four schizophrenia patients. *Translational Psychiatry* (2015) ***5****, e662; doi:10.1038/tp.2015.118*

McEvoy B, Sumayao R, Slattery C, **McMorrow T, Newsholme P,** (2015). Cystine accumulation attenuates insulin release from the pancreatic beta-cell due to elevated oxidative stress and decreased ATP levels. *J. Physiol, 593(23): 5167–5182.*

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