



## ***Indie Bio 2015***

*Synthetic Biology accelerator returns to Microbiology*

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Cover picture: HaiYan Huang and  
Chloe Gui, Aranex Biotech

## Indie Bio

The School of Microbiology hosted the synthetic biology accelerator programme for the second year running

Now in its second year with nine new technology startups which have been selected for support by SOSVentures, a \$250M global venture firm focused on creating the future of technology. Indie Bio provides seed funding and intensive mentorship and are committed to solving the world's most challenging problems: from creating a peanut without allergens, to saving endangered Agarwood trees, human lives and the horseshoe crab, to creating the first ever crowdsourced antibiotic discovery platform, to making a yoghurt to help people live longer, to protecting the environment, to diagnosing, treating or curing disease, it is all happening in Indie Bio 2015!

The project teams, with members from all over the world as well as some UCC graduates have been busy developing their companies in the Microbiology laboratories since the beginning of May. A yogurt to help people live longer is just one of the projects being developed as part of IndieBio [Click here for the team intros](#). Technical, admin and academic support has been provided by the School of Microbiology with Bill Liao and his team overseeing the context, design and mentoring of the accelerator programme.

Click here for a round-up of [Indie Bio in the news](#)



Pictured left: Timothy O'Flynn, Miranda Wang and Jeanny Yao, **BioCollection**. Middle: Blaine Doyle, Aisling Finn, and Yensi Flores, **GlowDx**. Right: Reinmar Stefan Eggers, Bernhard Brauner-Runge, and Josef Tauchner, **Saphium Biotechnologies**

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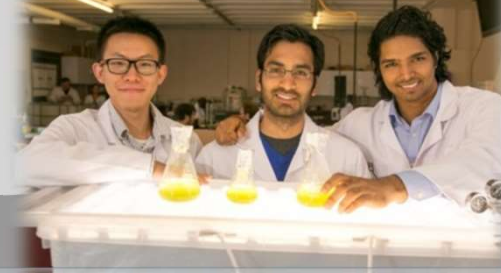
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*Pictured left: David Weichselbaum, Alexander Gfrerer and Andreas Stuermer, **Ageria**.*



*Pictured above: Jialun Chen, Ashutosh Bhanot and Anmol Ratna Singh, **Efflorus***

One of the teams, **Ageria**, making a yoghurt to help people live longer, describe how being in the School of Microbiology and UCC has helped their project. ‘The task of developing our strain in a non-GMO way was challenging and we weren’t even sure if it would be possible. When we got to know [Prof Colin Hill](#), everything changed in a matter of minutes. He led us into the rabbit hole of regulations. We could use another method! We

could harness the power of the bacteria to modify itself in a natural manner. It took us 3 hours to do, what we’ve been unable to do in 3 weeks.’ said David Weichselbaum Ageria. ‘UCC is exactly the right place for us to be. With all the dairy research going on around us at all times, you could not stop learning “yoghurty” things if you tried. Few of these researchers are now our mentors. The previously mentioned Professor Hill was one of our biggest sources of knowledge as he already commercialized a food-grade supplement made by modified bacteria. Also we received a €5,000 [Enterprise Ireland](#) voucher under his guidance. [Prof Paul O’Toole](#) supplied us with strains and genetic constructs. [Prof Albert Flynn](#) helped us with regulations as he is the former Chairman of the [European Food Safety Administration](#).’



*Pictured left: Natasha Leeuwendaal, Stephen Geary and Kevin Kennedy, **Sothic Bioscience**. Middle: Dakota Hamill and Jake Cotter, **Prospective Research**. Right: Jérémie Blache, Louis de Saint Cyr, and Antoine Poirot-Bourdain, **PiLi***

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# ***SuperValu Award***

## **Excellence in Food Microbiology**



SuperValu presented the 2015 SuperValu Award for Excellence in Food Microbiology to Damhan Scully (pictured below) at a ceremony at University College Cork (UCC). This collaboration with the School of Microbiology, UCC, is intended to acknowledge the high standard of research being done by UCC scientists across a range of food microbiology areas.

The award was presented to Damhan Scully, who is currently completing a Masters in Food Microbiology. As part of his award, Damhan will receive a bursary of €2,000 from SuperValu to continue his research work.

The award is just one element of SuperValu's on-going investment in quality. SuperValu was the first retailer in Ireland to adopt the National DNA Traceback Programme for Bacon and Hurley's SuperValu in Midleton was the first store in the country to secure the Bord Bia Quality Assured Butcher Counter.

SuperValu serves over 2.6million customers every week and has 223 stores nationwide. 75% of everything on SuperValu's shelves is sourced or produced in Ireland.

SuperValu continues to source locally wherever possible and purchases almost €2 billion worth of goods from Irish suppliers which helps to sustain 30,000 jobs in the Irish economy.

Last year James O'Shea won the inaugural SuperValu Award for Excellence in Food Microbiology.

*Pictured above: Ray Bowe, SuperValu, James O'Shea and Professor Gerald Fitzgerald.*



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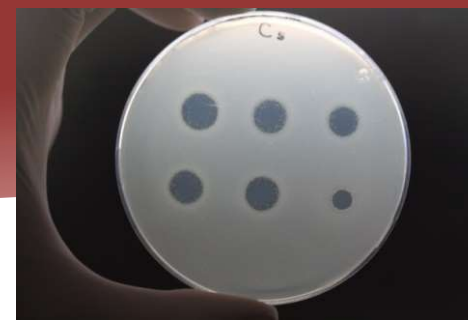
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## ***Small World***

Third year Microbiology students take part in the Small World Initiative.

The Microbiology Society in the UK has chosen six universities and colleges, including the School of Microbiology, UCC, to join their exciting new venture into the world of drug discovery. The aim is to inspire young people, through experiencing real research, to have a career in science.

The School of Microbiology is running the initiative with third year undergraduate students, enabling them to experience real research, hoping to find the next new antibiotic from soil. Students are developing protocols and leading their own research project, experiencing what it is like to be a research microbiologist.

This experience is particularly important for students, giving them the opportunity to familiarise themselves with a professional environment and engage with research microbiologists.

The Mentor Team for the School of Microbiology includes Dr Stephen Jackson, Ms Carmel Shortiss, Dr Niall O'Leary, Dr John Morrissey and Dr John O'Callaghan (pictured right).

John Morrissey, Carmel Shortiss and John O'Callaghan attended a three-day summer school where they learnt about possible ways of carrying out the research and shared ideas on how the project could be run to maximise the impact of inspiring the students taking part to follow a career in science.

The selected universities and colleges are:

- Aberystwyth University
- Bath Spa University
- Blackpool and the Fylde College
- University College Cork
- University of Birmingham
- University of York



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## ***Ruairi's Year***

### **Ruairi Robertson, Fulbright Scholar and top science communicator.**

Ruairi Robertson, a PhD student in the School of Microbiology UCC and Teagasc Moorepark Food Research Centre, has been awarded a Fulbright Scholarship to undertake further postgraduate research in the United States. Jointly funded by the Irish and US governments under the Ireland-United States Commission for Educational Exchange, the Fulbright Awards offer Irish and US students, scholars and professionals with the opportunity to study, lecture, and research at leading universities and institutions in the US and Ireland respectively. They were first established in 1957.

Ruairi is carrying out research at Harvard University and Massachusetts General Hospital for 10 months, until July 2016 under the supervision of Professor Jing X Kang, investigating the role of omega-3 fatty acids on the gut microbiota and subsequent health outcomes. Recently, Ruairi spoke at TEDxFulbright in Los Angeles alongside a number of other Fulbright Scholars past and present, the videos of which will appear online in the coming weeks.

Ruairi has had a very successful year. In April 2015 He was the winner of the HEA and Irish Independent "Making an Impact" Competition which encourages Irish postgraduate researchers to communicate how their research is making an impact to Irish and global life. Following over 200 entries, 5 finalists were selected to present in the Helix in Dublin City University in front of a panel of judges and 150 audience members. Ruairi spoke about his research on omega-3's from algae and their role in gut and brain health in his talk "Food for thought" for which he was awarded the audience prize (€2,500). Details and clips from the event can be found here: <http://www.independent.ie/irish-news/education/concrete-ideas-make-a-big-impact-at-student-competition-31167387.html>



In addition, Ruairi was awarded second place in the FameLab Ireland Final, also in April, in which he spoke about the infant gut microbiota and how it differs between c-section and normal birth babies. Ruairi's presentation can be viewed here: <https://www.youtube.com/watch?v=NTx-r05yoc4>  
In May 2015 he won the 'Waxing Lyrical' first prize at the UCC Doctoral Showcase, pictured left, receiving his prize from one of the judges, Dr Colin Lyden, Engineering Director and Fellow, Analog Devices.



*Pictured: (top) Ruairi giving his TedX talk, (above) Ruairi and Dr Lance O'Brien, Teagasc Head of Strategy and International Relations*

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## **Micro Notes**

### News from across the School of Microbiology

#### **Outreach/For-Rochtana**

Mar chuid den Bhrat Aclaíocht do Gaelscoil Uí Drisceoil, d'éagraigh Dr Jerry Reen, Ionad Taighde BIOMERIT, maidin eolaíocht bunaithe ar aclaíocht agus maireachtáil shláintiúil.

As part of the schools initiative towards achieving activity flag status, the students engaged in interactive presentations and experimentation with the central theme of activity and healthy eating. Dr Reen organised and ran this event for the last 2 years. Tailored to each class, and taught through the medium of Irish, a great day was had by all involved.



*Pictured above: Jerry Reen with his daughter Sinead who attends Gaelscoil Uí Drisceoil*

#### **New Post-Docs in School of Microbiology**

After spending the last two years traveling Australia, Dr **Lynn Naughton** is back home in Cork and back in her old stomping ground of Microbiology. Lynn, a past graduate of Microbiology (BSc 2005 and PhD 2010) spent most of her PhD in the University of Delaware with Dr Fidelma Boyd. Lynn went on to post-doc with Dr Mark Mandel at the Department of Microbiology-Immunology, Feinberg School of Medicine, Northwestern University, Chicago, where unfortunately she says she never developed a taste for deep-dish pizza!

Lynn is currently working as a post-doc with Dr Max Dow, mentoring our enthusiastic final year students through their research projects and contributing to work being undertaken by the CFMATTERS consortium. In her spare time Lynn enjoys travel and photography. Welcome back Lynn!

*Pictured right, Lynn Naughton and far right, Andrei Bolocan*

Originally from Romania, Dr **Andrei Bolocan** has been working as a post-doc with Prof Colin Hill on bacteriophage at the APC Microbiome Institute since July 2015. He previously worked at the Dunărea de Jos University of Galați in Romania, the Teagasc Food Research Centre in Moorepark and at the Milk Hygiene Institute in Vienna. Outside of science, he loves to immerse himself in culture and sport. His main hobbies include Olympic handball, Volleyball and dance! Andrei has always been competitive and believes that nothing should be done without passion. He enjoys being in competitions (especially those that he wins!) and giving seminar talks. He says the following quote really defines his life: "Good wood, bad wood, all are ash, the flame is important (Maria Tanase)" and his motto: "Life's too short to spend it not smiling".



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## Micro Notes

### Brazilian Education and Research Agency Visits UCC

Dr Paulo Sérgio Lacerda Beirão, Director of International Co-operation, CNPq – National Council for Scientific and Technological Development, Brazil was in UCC this week.

During his visit to Ireland, Dr Beirão met with a number of agencies and higher education institutions who are actively engaged in teaching and research partnerships with Brazil.

Created in 1951 to stimulate scientific and technological development, CNPq acts as a funding agency of the Ministry of Science, Technology and Innovation. The Agency has a budget of over €800m and employees 1300 people. CNPq funds a range of PhD, Masters and Post-Doctoral scholarships as well as research groups.

Dr John Morrissey, School of Microbiology met with Dr Beirão during his visit to UCC. Dr Morrissey is a member of the SFI funded [Research Brazil Ireland](#) network. The School of Microbiology is actively engaged in research collaborations with a number of research institutions in Brazil.

*Pictured right at the Tyndall National Institute in Cork (from left) Prof David Sheehan (UCC Biochemistry), Dr John Morrissey (UCC Microbiology), Prof Martyn*



*Pemble (Tyndall and UCC Chemistry), Dr Paulo Beirão (CNPq), Dr Kieran Drain (Tyndall CEO), Mary Dunne (HEA), Mariana Reis (HEA), Gerry O'Sullivan (HEA) and Prof Peter Kennedy (UCC Electrical Engineering)*

Professor **Colin Hill** (above) finished his term as President of the International Scientific Association for Probiotics and Prebiotics (ISAPP), he was appointed in 2012 for 3 years.

**Liz Dooley** gave a conferring speech at the Winter 2015 Conferings in UCC – she is a graduate of Microbiology in UCC and now has senior role in Janssen Biologics Ireland in Ringaskiddy.

Professor **Paul Ross** (below right), School of Microbiology and Head of College of SEFS reviewed the NZ Food programme at AgResearch in April 2015. Paul was also Honoured on The Thompson Reuters World's Most Influential Scientific Minds 2015 list. See more at: <https://www.researchprofessional.com/0/rr/news/urope/ireland/2015/9/Twelve-Irish-scientists-honoured-on-great-minds-list-.html#sthash.DsOLkczQ.dpuf>



Professor **Alan Dobson** (above left) research was mentioned in an article entitled '**Spiders and the sea open new doors to drug discovery**' in the Irish Times on 16 October 2014.

Read the full text [here](#).

<http://www.irishtimes.com/news/science/spiders-and-the-sea-open-new-doors-to-drug-discovery-1.1958007>

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## **BluePharmTrain**

Marie Curie funded Initial Training Network (ITN)- in the School of Microbiology.

The Marie Curie funded Initial Training Network (ITN)- [BluePharmTrain](#) is a multi-disciplinary alliance of 18 European academic and industrial partners working in collaboration to train young scientists in multi-disciplinary aspects of Blue Biotechnology.

The focus of the project is on the use of marine sponges for the development of new pharmaceuticals, given that these together with their bacterial symbionts are a rich source of bioactive molecules.

BluePharmTrain is also providing a complementary set of network-wide training modules and workshops to the 15 young PhD and Post Doctoral researchers funded by the project.

One of these training workshops took place in UCC in November 2014, with the young scientists receiving training in Marine Natural Products Chemistry and on Metagenomics/Metatranscriptomics/Bioinformatics under the tuition of Professor Marcel Jaspars from the University of Aberdeen, Professor Peter Schaap from Wageningen University and Dr Marcus Claesson from the School of Microbiology at UCC.

The group is being hosted by Professor Alan Dobson a BluePharmTrain project partner and Professor Detmer Sipkema from Wageningen University, the project coordinator.

*Pictured right:*  
Participants in the Marie Curie funded Initial Training Network (ITN)- BluePharmTrain who are visiting the School of Microbiology this week with Professor Alan Dobson (4th from left).



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# Microbiome

## The 'APC Microbiome Institute' launched in August 2015

The APC Microbiome Institute in Cork is one of Science Foundation Ireland's national centres for research and it represents a partnership between UCC, Teagasc and CIT. Since its foundation in 2003 the APC has made several seminal contributions to the field of gut microbiota research and was ranked second in the world by Thomson Reuters for its area of science. In recognition of the significantly increased scale of APC activities and the importance of microbes in health, UCC has recognised the Cork scientists by granting it institute status in August 2015. The APC also announced the creation of 50 additional hi-tech jobs in Cork. The new jobs have arisen largely from the capacity of APC to attract new industrial partnerships.



*“Government policy is directed at funding research and development to create high-tech job opportunities, and APC is to be commended for the fact that it is now providing direct employment for 140 researchers.”*

*Mr Simon Coveney TD, Minister for Agriculture, Food, the Marine and Defence, speaking at the launch above*

*Pictured above: Prof Colin Hill and Prof Paul O'Toole speaking at the launch*

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## Going for GOLD

### Cian Hill on GOLD programme with Johnson and Johnson

Cian Hill, a postgraduate student in the School of Microbiology, has had a busy year both on and off the soccer pitch. He captained his team to win the **Collingwood Cup** (the All-Ireland university soccer competition), he received a Merit Award in the UCC Entrepreneur of the Year Awards and was accepted into the prestigious GOLD programme at Johnson and Johnson. **The Global Operations Leadership Development Program (GOLD)** is a dynamic two and a half year program across Engineering, Supply Chain Operations and Quality, designed to successfully develop future leaders throughout the Johnson & Johnson Supply Chain organization.

Cian entered the GOLD program due to the variety of opportunities it provided, including a wide range of exposures to different industries and opportunity to gain and demonstrate leadership qualities. He wanted a role at a company which valued his PhD in Microbiology, using it as a platform to build an expertise in a technical and scientific field. His main purpose is to help people and to work for a company that puts the patients and customers before anything or anyone else.

While putting the finishing touches to his PhD thesis Cian is beginning his first rotation in DePuy Synthes Ireland as an industrial microbiologist having already completed some sterility assurance training in JJS HQ in Raritan, New Jersey. He has also completed two weeks of GOLD training in New Brunswick, New Jersey.



Cian hopes to gain exposure to the pharmaceutical industry in his second rotation, spending 9 months at a Janssen plant in Beerse, Belgium in March 2016.

Cian was also part of a three man team that received a Merit Award in the **UCC Entrepreneur of the Year Awards** for UCC students (<http://www.ucc.ie/en/uey/>). The project involved a novel diagnostic system, based on a unique combination of a DNA extraction protocol combined with an electrochemical response system, to detect pathogens within clinical samples in under 3 hours (*Cian is pictured above left with his trophy*).

This year the **Collingwood Cup** was won in the same year that the UCC Soccer club also won the Junior version of the cup, the Crowley Cup, and the first years won the Freshman version, the Harding cup. It's the first time in UCCs history that UCC has won all three in the same year!

*UCC soccer clubs pictured above (right) with trophies and Cian pictured above (top) with his teammates following their Collingwood cup win.*

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## **Mining Microbes**

Microbiology Postgraduates organise joint symposium with StratiGrad Imperial College London.

'Mining Microbes for Mankind' was the second annual workshop and networking event between STRATI GRAD cohort Imperial College London (ICL) and microbiome researchers from the School of Microbiology and APC Microbiome Institute at University College Cork. This postgraduate-led event saw 20 postgraduate students from each University participating in the 3-day event starting on 30 September 2015. The symposium included a number of academic talks from APC and School of Microbiology researchers along with invited guest speakers.

A Bioinformatics workshop was hosted by Dr Ian Jeffery, School of Microbiology and APC, UCC which allowed ICL students an opportunity to see how the skills they already have in bio-informatics can be utilised to study the microbiome.

**Sarah Louise Long**, School of Microbiology, UCC, won **Best Poster prize** for her poster on "**Rational selection of Lactobacillus strains based on Bile acid hydrolase activity**" and **Kevin Walsh**, ICL won the best talk with his presentation on "**Identification of non-invasive biomarkers of gut barrier function using metabolic profiling in severely malnourished sub-Saharan African children**".

The Networking dinner held in The Castle Restaurant, Blackrock Castle, was a great opportunity for the students and speakers alike to engage and discuss their research in an informal setting.



*Pictured: Top L-R: Alli Lynch, Noreen Lanigan, Finbarr Buttimer and Emer Kelly (Event Organiser's, all postgraduate students from the School of Microbiology and the APC).*

*Above: group photo at Networking dinner, Blackrock Castle Observatory*

*Below Right: Sarah Louise Long, Best Poster winner and Below Left: Kevin Walsh, winner Best Talk*



An Education and Outreach workshop was also given to all students attending the symposium and was hosted by Marc Mc Carthy, School of Microbiology and APC and Catherine Buckley, APC. This workshop was a great success and allowed both the ICL and APC students a chance to see all the extraordinary work the APC does to promote science to the general public.

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## ***Science for All***

Ian O'Neill won the 2015 UCC Science for All competition.

Ian really impressed the judges with his talk "Crohn's disease: When good bacteria go bad". He follows in the footsteps of previous winner Fergus McAuliffe, who now contributes to RTÉ's Science Squad.

The UCC Science for All competition is now in its 11th year. It challenges young scientists to communicate the excitement of their research to the general public in an easily understandable manner, without using jargon.

Ian O'Neill is a local student from Turner's Cross, Cork City. He holds both a BSc and an MSc in Physiology from UCC. After working for a time in Apple Computers, Cork and taking some time out to travel around New Zealand, Ian returned to his studies to undertake an MSc in Computational Biology and Bioinformatics at the University of Manchester. His current research, supervised by Dr David Clarke as part of UCC's Molecular Cell Biology PhD Programme, is on bacteria associated with Crohn's Disease and the effect these bacteria have on the immune system.

*Pictured above: UCC Science for All 2015 winner Ian O'Neill pictured with Chair John Dolan of the Evening Echo.*



*"The Science for All competition is a fantastic vehicle for students to learn competencies on how to communicate the excitement and intricacies of their research to the public in an enjoyable and informative context."*

*Professor Paul Ross Head of the College of Science, Engineering and Food Science*

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## Cover honours

### Structural insights into virulence-related signalling in bacterial pathogens

A paper published by the research group of Max Dow made the cover of *Molecular Microbiology* January 2014 edition, volume 91(1). The bacterial signal molecule cyclic di-GMP is implicated in regulation of bacterial virulence and is key for the ability of important human, animal and plant pathogens to cause disease. A detailed understanding of the mechanisms of cyclic di-GMP synthesis and degradation could suggest strategies for rational interference and thus control of disease. This publication gives new insights into these pathways. The research, which was a collaborative effort involving Max Dow and Yvonne McCarthy at UCC together with the University of Dundee, UK, and the Diamond Light Source at Harwell, UK, provides the first structure of a particular class of enzyme involved in cyclic di-GMP degradation.



*Pictured right:*  
Yvonne  
McCarthy,  
Robert Ryan  
and Max Dow

“Crystal structure of an HD-GYP domain cyclic di-GMP phosphodiesterase reveals an enzyme with a novel trinuclear iron centre” Authors: Dom Bellini, Delphine Caly, Yvonne McCarthy, Mario Bumann, Shi-Qi An, J. Maxwell Dow, Robert P. Ryan and Martin A Walsh. *Molecular Microbiology*, January 2014 volume 91(1).

A commentary on this work “Finally! The structural secrets of a HD-GYP phosphodiesterase revealed” by Edvard Wigren, Zhao-Xun Liang and Ute Römling is also online in the same journal doi: 10.1111/mmi.12463. The work was also highlighted in *Nature Reviews Microbiology* 12, 4 (2014) doi:10.1038/nrmicro3191



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## **Prizes and Awards**

### **Dr John Phelan wins SFI Award**

Dr John Phelan, a postdoctoral research scientist with the Biomerit Research Centre, School of Microbiology, UCC, has jointly won a prestigious Science Foundation Ireland (SFI) Technology Innovation Development Award (TIDA). The award will allow John to visit Silicon Valley to meet life science business leaders and entrepreneurs who have commercialised research ideas into successful businesses. John's research is funded by SFI and led by Professor Fergal O'Gara and Dr Jerry Reen in collaboration with Professor Rosemary O'Connor, School of Biochemistry and Cell Biology UCC, reinforces Biomerit's commitment to small molecule research to combat solid tumour development in cancer.



*Pictured above: Dr John Phelan, Biomerit, School of Microbiology, UCC*

### **SGM student prize**

The 2014 Society for General Microbiology (SGM) prize was awarded to Ms Emma Guerin, BSc Microbiology student (pictured left with Gerald Fitzgerald). The 2013 winner was Finbarr Buttimer (pictured below left receiving his prize from Gerald Fitzgerald).

The SGM offers prizes for undergraduate students who are studying Microbiology in the UK and the Republic of Ireland. At UCC the prize is given to the Microbiology student who achieves the highest aggregate mark at the Third Science Examination at the first attempt. A cash prize and one year's free membership of the Society was presented to the winners at the School of Microbiology Seminar Series.



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## ***Prizes and Awards***

### **SGM Young Microbiologist of the Year**

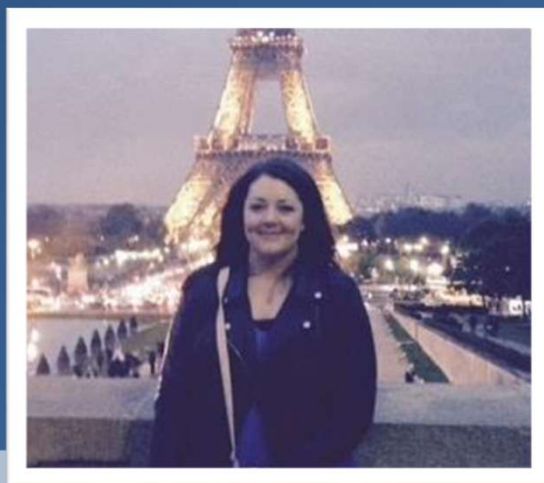
Stephanie Flynn, a PhD student in the BIOMERIT Research Centre co-supervised by Prof Fergal O’Gara and Dr Jerry Reen, represented the Irish branch of the Society for General Microbiology at the annual Sir Howard Dalton Young Microbiologist of the Year. Winner of the best postgraduate presentation at the Irish SGM meeting in Limerick, Stephanie presented work from her thesis on the molecular aspects of the impact of bile aspiration on chronic lung infections.

The competition coincided with the 70th AGM of the Society where the decision to change the name to Microbiology Society was formally taken and ratified.

*Pictured top: Cake celebrating 70th AGM of the SGM now named Microbiology Society. Above: Stephanie Flynn (photos courtesy of the Microbiology Society)*

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### **Sarah Long Best Poster Award**

First year PhD student with Dr Cormac Gahan and Dr Susan Joyce, Sarah Louise Long (pictured left) presented at the World Targeting Microbiome Meeting in Paris on Thursday 22 October 2015. Sarah also won the prize for best poster in the recent Mining Microbes for Mankind Symposium.



## **Prizes and Awards**

### **Paul Ryan research travel Scholarships**



*Pictured above (left): Paul Ryan and (right) the Elbow Waterfall outside Calgary, Alberta.*

Paul Ryan, a fourth year School of Microbiology PhD student based in Moorepark, received two scholarships to travel to the lab of Prof David Wishart at The Metabolomics Innovation Centre (TMIC - University of Alberta, Edmonton, AB Canada), a world-leading facility dedicated to applying metabolomic technologies to health sciences. Prof Wishart is the director of TMIC and the Nano Life Science program at the National Institute for Nanotechnology (NINT) and previously headed the Human Metabolome Project (HMP), a multi-university, multi-investigator project that catalogued all of the known metabolites in human tissues and biofluids.

The **Teagasc Walsh fellowship short-term overseas training award** supported Paul's first 8-week visit to TMIC. This scholarship is in place to enable Teagasc postgraduate students to travel abroad to internationally leading labs to gain experience and technical skills.

Paul will return to the same lab in April of 2016 under the Ireland Canada University Foundation (ICUF) funded **Dobbin Scholarship** ([www.icuf.ie/dobbin-scholarship](http://www.icuf.ie/dobbin-scholarship)).

### **Niall O'Leary wins Teaching and Learning Award 2013/14**

The annual awards ceremony was held in The Aula Maxima on 9 October 2014. Niall O'Leary, School of Microbiology and Environmental Research Institute, UCC won an Award for Excellence in Teaching. This follows on from being awarded an MA in teaching and learning earlier in the year for a study on problem based learning. The Teaching & Learning Awards, in place since 2004, were the first such awards, not just in UCC but also nationally.

*Pictured Left: Niall receiving his award from UCC President Dr Michael Murphy*



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## **Prizes and Awards**

### **Emily Power UCC SRF PhD Scholarship**

Emily Power was presented with a Scholarship from the UCC Strategic Research Fund (SRF) PhD Studentship Programme 2015, at the recent Staff Recognition Awards Ceremony. This was a heavily oversubscribed and highly competitive programme. Maria was the only SEFS awardee out of over one hundred applicants following her application with supervisor Dr Marcus Claesson, School of Microbiology and APC.



*Pictured above: Emily Power receives her scholarship from President of UCC, Dr Michael Murphy. Image: Clare Keogh*



### **'You on YouTube' competition**

Dr Jerry Reen (*pictured left*) was the winner of the 'You on Youtube' competition run by the School of Microbiology for his video entitled 'Biofilm and Chronic Disease'. Second Prize went to 4<sup>th</sup> year student Ronan Harrington (*pictured far left*). The winning videos are available to view on the School of Microbiology homepage and all videos that were professionally created by Stephen Bean in the AudioVisual department are also available on youtube and can be accessed through the following links:

Biofilm and Chronic Disease: <https://youtu.be/-CtUDgjsvzg>

Ronan Harrington, a student perspective: [http://youtu.be/qB2OZha\\_ZoM](http://youtu.be/qB2OZha_ZoM)

Host Microbe Interaction: <https://youtu.be/W2TQYwxPNBA>

BioMerit and Microbiology: <https://youtu.be/9cRJ0fpvduk>

What is Microbiology: <https://youtu.be/VKgeHeHRDSA>



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## ***Appointments and Honours***

### **Professor Alan Dobson elected to the Board of the IMBA.**

Professor Alan Dobson from the School of Microbiology, UCC has recently been elected to the Board of the International Marine Biotechnology Association (IMBA).

The association promotes the application of advanced knowledge and tools from marine sciences, engineering, molecular biology and information technology to increase our understanding of marine habitats and organisms representative of the total diversity of marine systems; from whole organisms to the molecular and genetic levels <http://www.theimba.org/home.html>.

The emphasis is on the development of new products and approaches for the benefit of a wide range of industries, marine macro- and microbiota and the sustainable wise use and management of the world's oceans. In addition the IMBA organizes the International Marine Biotechnology Conferences (IMBCs) which are widely recognized as the premier conference in marine biotechnology in the world. These conferences which bring together world leaders in the field began in 1989 and the 11th IMBC will be taking place in Baltimore, Maryland from August 29th to September 2nd 2016.

*Pictured above: Professor Alan Dobson, School of Microbiology UCC*

### **Professor Mark Achtman elected to the Royal Society.**

In May 2015 Professor Mark Achtman, was elected to the Royal Society. Prof Achtman was a research Professor at the School of Microbiology and The Environmental Research Institute until May 2013. He is currently at the Warwick Medical School, University of Warwick. He was first nominated for the Royal Society in 2012 while working at UCC and has been elected in part because of the work he published while working in UCC. The Royal Society is a Fellowship of many of the world's most eminent scientists and is the oldest scientific academy in continuous existence.

*Pictured right: Professor Mark Achtman, with Prof Gerald Fitzgerald, Head of School of Microbiology, at a reception to mark his departure to the University of Warwick.*



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## ***Ocean Sampling day***

### **Dr Stephen Jackson takes part in world-wide Ocean Sampling Day.**

Dr Stephen Jackson a post-doctoral researcher in the School of Microbiology, UCC, working in the group of Professor Alan Dobson, was involved in taking samples from [Lough Hyne](#), a Marine Nature Reserve near Baltimore in Cork, as part of the Ocean Sampling Day (OSD). <http://www.ucc.ie/en/bees/research/loughhyne/>

The OSD took place on the summer solstice (June 21st) 2014, where seawater samples were taken at 180 different locations throughout the world; with the aim of gaining a “snapshot” of microbial diversity and potential microbial functionality at each of these sites. The overall goal was to not only generate data which will act as a reference set for generations of experiments to follow in the coming decades, but also potentially contribute to the blue economy through the identification of novel, ocean-derived biotechnologies. A YouTube video featuring the global OSD event and Dr Jackson at Lough Hyne can be viewed [here](#).

<https://www.youtube.com/watch?v=yUm7SsSe-cw&list=PLgacjRIHqvMC39eKYdGH0HAM68YszmbuJ>

The sampling was undertaken as part of the EU funded Micro B3 (Marine Microbial Biodiversity, Bioinformatics, Biotechnology) project, which aims to develop innovative bioinformatics based approaches to make large-scale data on marine viral, bacterial, archaeal and protists genomes and metagenomes accessible for marine ecosystems biology and to define new targets for biotechnological applications. Professor Alan Dobson and Professor Fergal O’Gara from the School of Microbiology are the other members of the UCC team which make up part of a 32 member consortium involving both academic and industrial partners involved in the [MicroB3 project](#). <https://www.microb3.eu/home>



*Pictured above: Dr Stephen Jackson.*

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## **Class of 2014**

A total of 21 PhD students graduated at the Spring and Summer 2014 graduations.



*Above: BSc Microbiology 2014 Class photo*

*Below: BSc Genetics 2014 Class Photo*



*Photo Above: Spring 2014, Dr Alan Marsh, Dr Robert Phelan, Dr Ruth Morrissey, Dr Francesca Bottacini, Dr Susan Power and Dr Lisa Quigley. Also graduating but not in photo were: Dr Tatiana Marques and Dr Kamila Knapik*



*Photo above: Summer 2014, back row: Dr Kate Twomey, Dr Ceara Clancy, Dr Siobhán Clarke, Dr Emma Hennessy, Dr Stephen Stockdale, Dr Fiona Fouhy and Dr Michelle O'Donnell. Front row: Dr Bhuvaneswari Lakshminarayanan, Dr Ronan McCarthy, Dr Ludovica Buttò, Dr Eamonn Culligan, Dr Kerry O'Connell and Dr Lorraine Draper*

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## ***Class of 2015***

A total of 9 PhD students and 1 MSc Research student graduated at the Spring and Summer 2015 graduations.



*Photo above: Summer 2015, Dr Emma Raftis, Dr Brian Healy, Dr Robert Kent, Dr Daniel Cavanagh and Dr Muireann Egan. Also graduating but not in photo was: Alan Hennessy MSc (in absentia)*



*Above: BSc Microbiology 2015 Class photo*

*Below: BSc Genetics 2015 Class Photo*



*Photo above: Spring 2015, Dr Frank Egan, Dr James Nolan, Dr Daniel Burke and Dr James Murphy.*

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## Lighter Notes

### Pedometer Challenge

Six Microbiology staff took part in the UCC Pedometer Challenge 2015, a workplace walking event, open to all partners of the Smarter Travel Workplaces Programme. It is run annually in partnership with the Irish Heart Foundation. The Pedometer Challenge 2015 ran from 7 September for four weeks to 4 October. The aim is to encourage staff in partner workplaces to walk more for health. The 'Lost in Pace' team placed 37th out of 985 teams nationwide and came 1st in UCC out of 11 teams. In the Desk-based challenge they came 18th out of 822 teams overall.

*Pictured right L-R: James Woods (team captain), Aine Murphy (our star stepper), Bernie O'Connell, Mary Cotter, Carmel Shortiss and Mark Mc Carthy.*



### Staff Intervarsity's Golf Championship

UCC retained the Staff Intervarsity's Golf Championship @Ballykisteen GC in May 2015. Two School of Microbiology staff were on the winning Team, **Alan Dobson** (pictured right, far right) and **Dan Walsh** (pictured right, back row, 5<sup>th</sup> from left). In a photo finish UCC Staff pipped CIT on a breakdown, the fifth card had to be used when UCC and CIT ended level on 177 pts each. The winning team led by Captain Rosemary O Connor and managed by Willie Weir included Rosemary O Connor and Alan Dobson 46pts, Maurice Conway and Kevin Barrett 45pts, Eddie MC Carthy and Dan Walsh 43pts, Mark Rae and Richard Studdert 43pts and that vitally important 5th Card Don Walshe and Barrie Curley 37pts.



### Long Service Awards

On 13 November 2014 UCC celebrated the achievement of Long Service Award recipients, with two from the School of Microbiology: Aine Murphy 35 years service and Claire Adams 25 years service. The awards were presented by Prof Paul Giller, Registrar. Prof Gerald Fitzgerald Head of School of Microbiology also attended the ceremony, as did Aine's daughter Rosie (pictured above with Aine). A great night was had by all!

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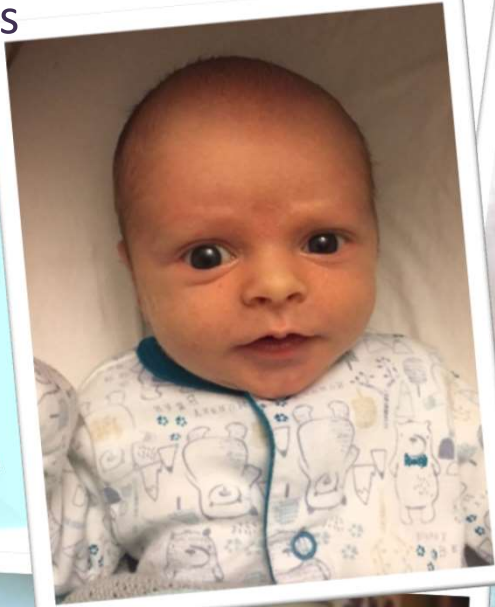


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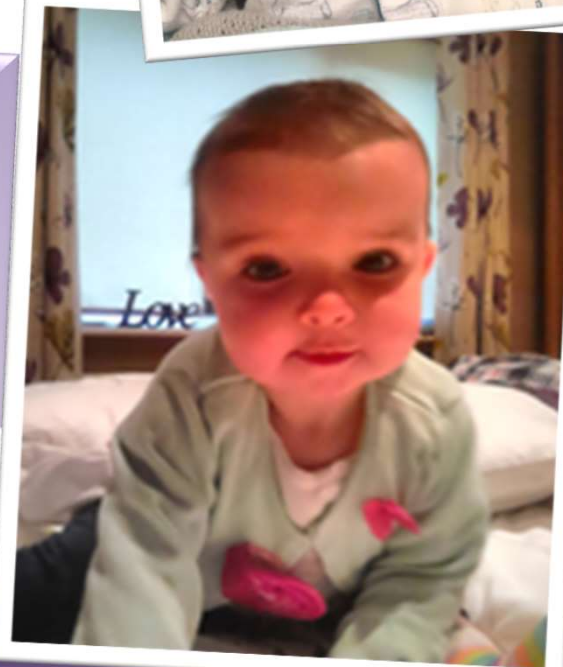
## Micro Families

Liam and Breda Burgess welcomed first grandchild baby Éanna (right), who arrived on September 28, 2015, weighing 7 lbs 8 oz. Éanna's mum Kaye is also a Microbiology graduate. Congrats to Kaye and Alan from all in Micro!



Jillian & Mike welcomed baby Thomas Prentice (left) on August 14, 2014, weighing 8 lbs 10 oz

Cliona (right) was born to delighted parents Jenn Mahony and Jason O'Driscoll on November 4, 2014, weighing 8 lbs 1.5 oz



Julianna O'Callaghan & Michael welcomed baby Isla Rose (left) into their family in December 2014

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## **Lighter Notes**

### **MicroSoc Year**

The School of Microbiology / MicroSoc Christmas party was held in the Oliver Plunkett on 28 November 2014 and all really enjoyed the trad music, the raffle, and the atmosphere. The soccer match was held on the same day, with the micro cup brought back to the staff team after last year's defeat. In the raffle David Clarke won some handmade champagne glasses and Susan Joyce won a bottle of Moët champagne, a match made in heaven! Suppliers who generously provided the prizes included: Eurofins, Sigma-Aldrich, GATC-biotech, Lennox, Bio-Sciences and MSC.



*Pictures above and left: The MicroSoc Summer BBQ which was held in Deep South on August 20, 2015*

Every effort has been made to ensure that the information contained in this newsletter, which is of a condensed and general nature, is accurate at the time of publication. Microbiology cannot accept any liability for any errors or misstatements or for the contents of web links which are provided for convenience only. Microbiology would like to acknowledge and thank David Waldron of the School of Food and Nutritional Sciences, for his assistance with design and technical aspects of this newsletter.

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