Welcome to the School of Medicine's latest research newsletter - keeping you informed about upcoming events, opportunities and news. If you have content you would like to see included in future editions, we encourage you to contact medicine.research@ucd.ie.

With best wishes,

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**Upcoming Events**

The European Commission is hosting the Science for Policy in Europe Conference: Building better science for policy ecosystems on 10 & 11 October. Attendees will include policymakers, scientific advisors, researchers, ethics experts, and other professionals working in a science-for-policy area. Online participation is an option. Please find more information [here](#).

The Children's Research Network and UCD CHiD Research Centre's Annual Conference will take place on 6 December in University College Dublin. The theme for the conference is 'The impact of policies, processes and practice on children and young people on the island of Ireland'. Abstracts are being accepted up to 18 October [here](#).
In a recent study published in the Proceedings of the National Academy of Sciences (USA), Sarah Kierans, a PhD student in the lab of Professor Cormac Taylor, uncovered an additional layer of organisation in the promotion of glucose metabolism in intestinal epithelial tumor cells. This work provides evidence that glucose metabolism in oxygen starved or hypoxic cells is greatly enhanced by the formation of complexes of the enzymes involved in glucose metabolism into highly efficient glucose metabolising machines or metabolons. The group proposes that understanding the mechanisms whereby glucose metabolism is controlled in cells, will identify new therapeutic targets in a range of diseases where glucose metabolism is altered, including cancer, diabetes and chronic inflammatory disease. The article is available [here](#).

A team of researchers from UCD’s Systems Biology Ireland have recently published an article entitled ‘A Combination of Conformation-Specific RAF Inhibitors Overcome Drug Resistance Brought about by RAF Overexpression’ in Biomolecules. The team used a combined experimental and computational approach to find ways that overcome the drug resistance. Further details are available [here](#).

Dr John McCabe, a consultant geriatrician at the Mater Misericordiae University Hospital and Assistant Professor in UCD’s School of Medicine, recently published a review in Cells. The review outlines new PET scanning techniques which can detect inflammation in the carotid artery and identify patients at high risk of stroke. Please find more information about this review [here](#).

Dr Marissa O’Callaghan, a PhD candidate supervised by Assoc Prof Cormac McCarthy and Professor Michael Keane, has published a study in Respirology. The study quantified fat deposition as a percentage of total lung volume on a chest CT which could function as a biomarker for disease severity in Idiopathic Pulmonary Fibrosis. Further details are available [here](#).

Megren Fagihi, a PhD student in the School of Medicine, recently published an article in the journal ACS Omega. Megren is investigating insulin agglomeration, with or without amyloid fibrillation, when exposed to a highly acidic environment of pH 3 similar to the human gastric interior. Insulin is known for its vulnerability to molecular changes when exposed to such acidic ambiance, a major challenge in developing oral formulations. The data reported in the paper highlighted the formation of human recombinant insulin agglomerates, with traces of fibrillation, shown by Transmission Electron Microscopy (TEM) performed at the Bioimaging Core of the UCD Conway Institute. Read the full article [here](#).

UCD is a member of the EURAMED rocc-n-roll consortium which comprises 29 partners in 17 European countries. The project has launched its Strategic Research Agenda and roadmap as a guide for future research in the field of medical applications of ionising radiation and related radiation protection. Find out more [here](#).
UCD Academic Child & Adolescent Psychiatry presents a weekly webinar series on mental health via 1 hour zoom sessions. A variety of mental health topics are covered including new areas of research and development, updates on the aetiology, treatment and understanding of mental health and wellbeing, and mental illness. Recordings of previous talks and details of upcoming webinars can be found here.

Prof Walter Kolch, the Director of Systems Biology Ireland, featured in UCD’s Institute for Discovery’s Human Health Impact and Technology series on 19 September. Prof Kolch discussed precision oncology and developing ‘digital twins’ of cancer patients in order to diagnose and treat their cancer in a personalised way. A recording of the webinar is available here.

Congratulations to the following School of Medicine researchers who have been awarded funding via the UCD STEM Challenge Fund:

- **Dr Eoin Brennan**’s proposal *Induced pluripotent stem cell (iPSC) derived human blood vessel organoids as a powerful model to investigate vascular development and disease* was awarded €10,000.
- **Prof James Jones** received €2215 for his research on *Perfecting an artificial skin.*
- **Dr Stephen Lalor**’s project *Developing a workflow to map metatranscriptomic data to metagenomic taxonomical characterisation of the lower airway microbiome to reveal functionally active bacteria in the development of severe asthma* was allocated €9264.
- **Dr Mark Pickering** has been awarded €9390 for his project *Accessible solutions for measuring marine microplastics.*
- **Dr Stephen Thorpe** has received €10,000 for his proposal *Development of a pancreatic cancer-on-chip model of immune cell filtration.*

Further details are available here.

Congratulations to Dr Christopher Shannon who has been awarded the Research and Knowledge Exchange Award by the The Physiological Society for his project entitled ‘Role of the mitochondrial pyruvate carrier in diet-induced adipose remodelling’. Dr Shannon is a postdoctoral researcher in the UCD Diabetes Complications Research Centre. Read more here.

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**Key Dates for Research Student Supervisors**

PhD, MSc, MD and MCh applications for entry in January 2024 must be submitted by 30
November. Please submit applications to medicine.research@ucd.ie. Application forms are available here.

Centre Highlight

The UCD Centre for Arthritis Research is based in the UCD Conway Institute of Biomolecular and Biomedical Research with researchers also located in St Vincent’s University Hospital and Mater Misericordiae University Hospital. The Centre conducts interdisciplinary translational research with a focus on rheumatoid arthritis. For further information please see here.

Research Q&A

In our Research Q&A’s, we probe our School’s researchers to find out about their research topics and areas, insights and thoughts. Ailbhe King’s PhD focused on potential treatment for the cardiometabolic complications of obstructive sleep apnoea. Read more here.

Opportunities

The Irish Research Council has two postdoctoral funding programmes which are outlined below:

(1) The Government of Ireland Postdoctoral Fellowship Programme is accepting applications up to 12 October. The programme provides funding to support a postdoctoral fellowship for one or two years of full-time research with a start date of 1 September 2024. Find out more here.

(2) The Enterprise Partnership Scheme provides researchers with an opportunity to collaborate with enterprise partners and develop new advanced knowledge and skills. Applications will be accepted from 5 October to 16 November. Further information is available here.

The Wellcome Trust has two open calls which may be of interest.

(1) Applications will be accepted up to 16 November for Wellcome Career Development Awards. These awards are available to mid-career researchers who have the potential to be international research leaders and are ready to lead a substantial and innovative research programme. Funding is available for a period of 8 years. More information is available here.

(2) The Wellcome Discovery Awards scheme provides funding for researchers who want to pursue bold and creative research ideas which generate shifts in understanding and/or develop methodologies, frameworks, tools or techniques that could benefit health-related research. Funding is available for a period of 8 years. Please see this link for more information.
Funding is available for research relating to Rett Syndrome which incorporates public and patient involvement in the project. A total of €50,000 may be awarded over 1-3 years. The closing date for expressions of interest is 20 October. Please contact info@rettsyndrome.ie with any queries.

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The Innovation Health Initiative has two funding calls open for applications as outlined below:

(1) IHI call 4 is two stage call for funding available for the following topics:

* Replacing, reducing and refining the use of animals in research
* Patient-centric blood sample collection
* Clinical Trials
* The environmental impacts of healthcare
  The submission deadline for a short proposal is 8 November, the full proposal must be submitted by 24 April 2024.

(2) IHI call 5 is a single stage call for the following topics:

* Replacing, reducing and refining the use of animals in research
* Theranostics
* Stroke Management
* Synthetic Data
  The submission deadline for full proposals is 16 January 2024.

Please click here for further information on both calls.

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Applications are being accepted up to 25 October for the L'Oreal-UNESCO UK and Ireland For Women in Science Rising Talent Awards. Five laureates will be selected and each will be awarded €100,000 for their important contributions to the progress of science. Applicants must be actively involved in scientific research and recognised for their scientific excellence by the international scientific community. Find out more here.