

Meet scientists from the EMBO communities



Ines Thiele Realizing the benefits of soft skills training

National University of Ireland, Galway | Former EMBO Young Investigator

Ines Thiele's career path has taken her from Germany to the United States, Iceland, Luxembourg, and now Ireland. The EMBO Young Investigator Network was crucial in solidifying Thiele's position within her research on human health and medicine. One of the most valuable aspects of the EMBO experience for her was the targeted soft skills training. "Getting these courses was a brilliant experience," she recalls. "Generally, scientists are not educated in management, people management or grant management – all these skills that you need to have a larger team."

For Thiele, a principal investigator and two-time ERC grant recipient, curiosity is the driving force behind her research. "Curiosity and pushing the boundaries," she states when asked about her motivation. Her work focuses on creating computational models of human metabolism and its association with the gut microbiome, aiming to understand better how nutrition and medication influence human health.

"It's about incorporating the genomics with these models," she explains. "So far we can integrate metagenomics, we can integrate nutrition and metabolomics, but these kinds of models never allowed for the integration of a person's genome. This innovative approach could improve our understanding of inherited metabolic diseases and Alzheimer's disease."



Ruth Massey Thinking about the bigger picture

Professor for Microbiome and Health Sciences at University College Cork | EMBO Member

When new EMBO Member Ruth Massey went on leave in 2012 she did not imagine that downtime spent with her young family would inspire pivotal approaches to understanding factors affecting the virulence of pathogenic bacteria. "I remember thinking this is an opportunity to take a step back and with a completely different mindset and routine to imagine different approaches we could take," says Massey, who is Professor for Microbiome and Health Sciences at University College Cork, Ireland. "While our focus had primarily been on reductionist approaches looking at individual pathways in one or two bacterial strains, it really wasn't helping us tackle the problem bacterial infections represent. What we needed was to find a way to bring the study of microbial pathogenicity into the newly burgeoning genomics era."

Upon her return to the lab, Massey led the development of functional genomics techniques that profiled Gram-pos-

itive bacteria at the population level. The team was able to predict the toxicity of pathogens such as Methicillin-resistant *Staphylococcus aureus* (MRSA), which kills thousands of people around the world each year. "Our approach aimed to look at the genome sequences of strains of *Staphylococcus aureus* and identify which mutations or genes caused a strain to be highly toxic versus another," she says. "We studied big clinical collections in a broad manner, and by taking a step away we were able to better account for the full complexity of bacterial infections."

When combined with information about the source of the infection, patient metadata, and antimicrobial resistance, the work presents opportunities to develop diagnostic tools and antibiotic strategies. "Different patients often need different treatments, and by putting what we have learned in the lab into clinical practice we can hopefully improve patient outcomes," Massey says. "I have been inspired by EMBO Members who dedicate time to supporting other researchers. I hope to use my position as an EMBO Member to help scientists in a similar way, especially those in underrepresented groups. I can't wait to get started."



Robin Burns Growing from the experience as a postdoc

Research Associate, University of Cambridge, UK | Former EMBO Postdoctoral Fellow

"I would strongly recommend to anyone to apply for a postdoctoral position in life sciences," advises Robin Burns. "The application process itself is a valuable learning experience." Now a Research Associate at the University of Cambridge, and once a PhD student at Trinity College in Dublin, Burns decided to apply for an EMBO Postdoctoral Fellowship after hearing more about the grant from friends and colleagues. He highlights the value of the interview process in preparing for future opportunities and emphasizes the fellowship's role in expanding access to scientific networks.

Burns investigates the complex nature of centromeres – regions of the chromosome required for segregation during cell division yet characterized by rapid evolution. His current research focuses on building a comprehensive database of population data in *Arabidopsis* (rockcross) to examine centromere variation. "We are investigating how centromere changes occur both between and within species, and the types of selection pressures influencing these changes," he explains.

He also credits the EMBO Postdoctoral Fellowship for significantly contributing to his professional development. "The fellowship alleviated some of the stress that is typically associated with postdoctoral positions," he reflects, "and it offered me the freedom to establish collaborations beyond my lab." This support has allowed him to focus on his research without the immediate pressure of delivering results tied to a principal investigator's funding. He endorses the fellowship for its strong reputation and the enriching experiences it offers. "It is an outstanding grant, providing an excellent platform for growth," he says.

Ireland and EMBO in numbers

13
EMBO Members

 7 Dublin



 3 Cork

 3 Galway

21
Short-term
Exchange Grants
(2019 – 2024)

9 awarded for short exchanges
from Irish institutions

2
EMBO Young
Investigators



2
EMBO Courses
& Workshops
(2019 – 2024)

352 attendees at EMBO Courses
& Workshops in Ireland

236 Irish attendees at courses
elsewhere

EMBC Delegates

Brendan O'Reilly
Department of Further and
Higher Education, Research,
Innovation and Science

Dr Maria Nash
Taighde Éireann – Research
Ireland

Ireland has been an EMBC
Member State since 1974.

EMBO opportunities in Ireland

EMBO Postdoctoral Fellowships

fund internationally mobile researchers for a period of up to two years*. Applications open all year around.

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EMBO Scientific Exchange Grants

fund research exchanges of up to three months. The grants facilitate collaborations with research groups with expertise, techniques, or infrastructure that is unavailable in the applicant's laboratory. Applications open all year around.

EMBO New Venture Fellowships

help early career scientists to explore topics outside their current area and enter a new research direction. They fund research visits of up to three months. Application deadline: 31 October 2024.

EMBO Core Facility Fellowships

support training for staff of core facilities that provide services to research institutions or universities. They fund international exchanges of up to one month. Application deadline: 31 December 2024.

The EMBO Young Investigator Programme

supports group leaders in the early stages of setting up their independent laboratories for a period of four years. Networking is a key aspect. Application deadline: 1 April.

EMBO Courses & Workshops

stimulate exchanges of the latest scientific knowledge and provide training in experimental techniques. Application deadlines: 1 March and 1 August.

EMBO Press

publishes five journals that serve the global life science community: The EMBO Journal, EMBO Reports, EMBO Molecular Medicine, Molecular Systems Biology and Life Science Alliance, which is published in partnership with Rockefeller University Press and Cold Spring Harbor Laboratory Press.

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Focus on Ireland

