

**INSTITUTE:**

Institute of Technology Carlow

**RESEARCH AREA:**

Environmental Biotechnology/Molecular Ecology

## Dr. Thomaé Kakouli-Duarte: Biotechnological methods to provide environmental solutions.

Excellent Researchers  
Delivering Impact

Environmental Science



Institutes of Technology Ireland

Dr. Thomaé Kakouli-Duarte's research focuses on the development and application of biotechnological methods in order to provide solutions to environmental problems. Specifically, her group works to develop methods of bio-monitoring environmental change, establish biological pest control systems in sustainable agriculture and conserve important pollinator species such as the bumble bee *Bombus terrestris*.

Dr. Kakouli-Duarte started work in IT Carlow as an Assistant Lecturer and currently holds a Lecturer's position. In her years at IT Carlow, she has secured approximately €1.4 million of external competitive research funding from funding bodies such as the EPA, the DAFM, IRCSET and the HEA (TSR). This enabled her to establish the Molecular Ecology and Nematode Research Group, which in turn was catalytic for the founding of EnviroCORE, the most active and productive centre for research and innovation in IT Carlow, which focuses on the wider area of environmental research.

In progressing her group's research agenda, 2 PhD and 2 MSc scientists have graduated, while a further 6 postgraduate students are currently being supervised. Dr. Kakouli-Duarte's group has so far produced 7 peer reviewed publications in international journals, 43 oral and poster presentations in specialist national and international conferences and 2 technical reports.

In addition, she has been the main motivator and chief scientific organizer of 2 international symposia on nematodes as environmental



Dr Thomaé Kakouli-Duarte, IT Carlow

indicators – in 2007 in Heriot Watt University, Edinburgh, UK and in 2012 in Ghent University, Belgium. She has been invited to organize, chair and convene many thematic sessions in international congresses and has participated in numerous national and international committees and working groups. She is a reviewer in 7 specialist international journals and acts as PhD external examiner in NUIM, NUIG, Ghent University, Belgium and King's College London, UK. Dr. Kakouli-Duarte's international →

**Dr. Thomaé Kakouli-Duarte** | [www.itcarlow.ie/research](http://www.itcarlow.ie/research)

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•> reputation was greatly enhanced in 2009, when she co-edited the first volume on nematodes as environment indicators. This was a landmark publication in the field and the only textbook available in this niche area internationally. In addition to raising her own profile as a leading international expert, this achievement also helped to promote the wider EnviroCore research centre and IT Carlow to potential funders and collaborators worldwide.

Dr. Kakouli-Duarte aims to continue and further the research work she has initiated in IT Carlow. Her long-term goal is to establish the first national diagnostics centre, specialising in DNA-based plant protection and environmental diagnostics. She also aims to establish a campus spin-off company offering services in environmental bio-monitoring and/or waste management. ■

## TESTIMONIAL

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**Dr. Thomaé Kakouli-Duarte**  
*Institute of Technology, Carlow*

*"I arrived in IT Carlow nearly a decade ago and found a "virgin" ground, so to speak, in order to develop my own environmental and sustainable agriculture research programme. Although I work in a sector that, in my view, is underfunded and underestimated at national level, I was nurtured and encouraged in IT Carlow to develop my full potential as a researcher. While undertaking my research, I face many obstacles but these challenges manage to enhance my resolve and stamina for a very concerted and focused effort in my mission in carrying out my work."*

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