Lizy Abraham

Wireless Sensor Networks

Walton Institute, South East Technological University

Researcher

E-mail: lizy.abraham@waltoninstitute.ie

Expertise

- Wireless sensor networks
- Artificial intelligence and machine learning
- Computer vision
- Internet of Things
- Edge computing

Research focus in VistaMilk

Assessing the heterogeneity of farms in real-time with a focus on anomaly detection using edge computing

Research outcomes

Onsite monitoring of machine health of dairy equipment for condition monitoring and predictive maintenance

Lee Coffey

Molecular Biology

South East Technological University

Lecturer and Researcher, Department of Science

E-mail: Lee.Coffey@setu.ie

Phone: +353 (0)51 845 514

Expertise

- Molecular biology techniques including gene screening, expression, genome editing
- Synthetic biology, directed evolution
- Enzymes for food/feed/agritech/environmental/pharma/health/industrial applications
- Biological molecular communications for DNA data storage and biological health monitoring

Research focus in VistaMilk

Use of synthetic biology, organ-on-a-chip and novel implantables/ingestible bio-devices to monitor and improve animal health

Research outcomes

- Developed bacteria that act as information relays and base stations
- Successful use of synthetic biology for a range of applications such as to enhance gene therapy and in molecular communications
- Founder of an EI-funded spin-out company, with >4000 biological technologies licensed and patent pending technologies developed
- Principal Investigator for previous SFI Project 20/COV/0097
- Published two articles *'Modulated Molecular Channel Coding Scheme for Multi-Bacterial Transmitters'* and *'Hydrogel-based Bio-nanomachine Transmitters for Bacterial Molecular Communications'*

Pádraig Lyons

Renewable Energy

Tyndall National Institute, UCC

Head of Group, International Energy Research Centre

E-mail: padraig.lyons@tyndall.ie

Expertise

- Renewable energy
- Energy storage (eletrical/thermal)
- Real-time digital simulation
- Energy policy
- Energy systems integration

Research focus in VistaMilk

Renewable energy and energy efficiency in agriculture, agri-photovoltaics, energy data analytics, electrification of farming, energy system integration in agriculture, electrical infrastructure utilisation and smart grids

Research outcomes

- Development of a research programme that informed the development of system services for Transmission System Operators that support the integration of renewables on the electrical power system. The approach utilised co-simulation using laboratory based energy storage to emulate grid-scale storage in collaboration with real-time digital simulation known as Power Hardware in the Loop
- Led research that led to unique data set that provided insights into the real world operation of heat pumps in retrofitted Irish homes
- Led research as part of Energy Policy Insights for Climate Action (EPICA) programme that was funded by the Department for Energy Climate and Communications that has influenced the development of the Irish Government's Climate Action Plan and other government policy

Sara Morrissey Tucker

Digital Immersive Media

Munster Technological University

Research Fellow

E-mail: Sara.MorrisseyTucker@mtu.ie

Expertise

- Digital immersive media
- Virtual reality
- Augmented reality
- Machine translation
- Sign languages

Research focus in VistaMilk

Contribute to the development of immersive reality technology solutions including annotated digital 360-video-based based content and graphic virtual training environments

Research outcomes

- >€850k in research funding brought to AgriTech sector and partners for the development and delivery of training and digital immersive technology solutions
- Amelioration of training practices in industry partners in terms of standardisation, resourcing, and quality through the creation and delivery of immersive employee training experiences
- Development of the first example-based data-driven machine translation system for sign languages