

ADVANCEC**RT**

Centre for
Research
Training

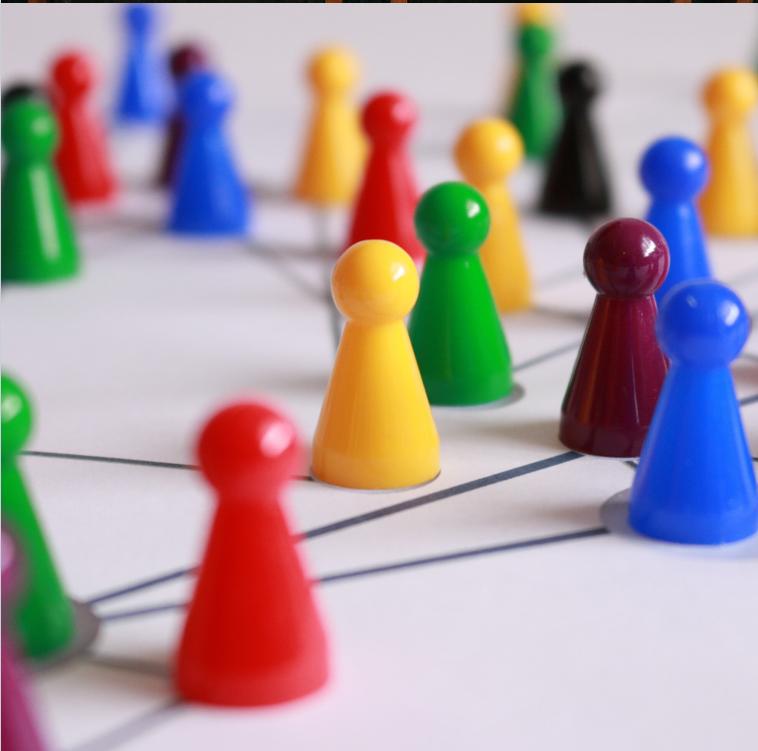
Science
Foundation
Ireland **sfi**
For what's next

ADVANCE SUMMER SCHOOL 2020

Online Event

June 22nd - June 26th 2020





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@AdvanceCrt

Welcome

We are delighted to be holding our first ADVANCE Summer School from the 22-26th of June 2020. Due to unforeseen circumstances, we are hosting this event online for 2020.

On each day we will have international speakers and ADVANCE supervisors giving presentations under different themes.

Thank you to all our guest speakers, we look forward to hearing all the fantastic talks.



ADVANCE Cohort



Our cohort of ADVANCE students and supervisors at the ADVANCE 2020 Induction event held in January 2020.



Summer School Programme

Summer School Programme



Day 1 Monday 22nd June

Systems and Community

10:00	Prof. Dirk Pesch ADVANCE CRT Director	
10:00	Prof. Gordon Blair	A Tale of Two Cities: Reflections on Digital Technology and the Natural Environment
11:30		Break
12:00		Group Project Break Out Session
13:00		Lunch
13:45	Dr Laura Maye	Sustaining community voice, involvement and practices: implementing communication technology in rural communities
14:30		Close

Day 2 Tuesday 23rd June

Technology for Ageing

10:00	Ms Siobhán Long	Artificial Intelligence and the AT Passport: Contributing to the development of an AT Ecosystem for Ireland and beyond
11:30		Break
12:00		Group Project Break Out Session
13:00		Lunch
13:45	Prof. David Prendergast	Ethnography, IoT and Age Friendly Sustainable Societies.
14:30		Close

Summer School Programme



Day 3 Wednesday 24th June Digital Health

10:00	Dr. Malcolm Fisk	Ethical and Technological Dimensions of Digital Health: Control or Empowerment? Confinement or Liberation? ... in a post-COVID world
11:30		Break
12:00		Group Project Break Out Session - Part 1
12:30		Lunch
13:00	Prof. Deborah Estrin	Using small data to personalize, sustain, and study health
14:00		Group Project Break Out Session - Part 2
18:30		Close

Day 4 Thursday 25th June Responsible Engineering

09:00	Prof. Linda Doyle	Where To After 5G? - An Alternative Perspective
10:30		Break
11:00		Group Project Break Out Session
13:00		Lunch + Interval
17:00	Prof. Khalid Kadir	Technology and Justice - Rethinking engineering and our position as engineers in efforts to make the world a better place
18:30		Close

Summer School Programme



Day 5 Friday 26th June Group Project Pitch

10:00 **Pitch Session 1**

10:45 **Break**

11:00 **Pitch Session 2**

11:45 **Voting**

12:30 **Pitch Award**

13:00 **Lunch**

13:45 **Dave Troy** **"Division, Disinformation, Pandemic, and Politics".**

14:30 **Close**



Keynote Profiles



Prof. Gordon Blair

School of Computing and Communications
Lancaster University

 [Link to Profile](#)

Keynote Title and Abstract:

A Tale of Two Cities: Reflections on Digital Technology and the Natural Environment

Contemporary digital technologies can make a profound impact on our understanding of the natural environment in moving towards sustainable futures. Examples of such technologies included sources of new data (e.g. an environmental Internet of Things), the ability to storage and process the large data sets that will result from this (e.g. through cloud computing), and the potential of data science/AI to make sense of this data alongside human experts. However, these same trends pose a threat to sustainable futures through for example the carbon footprint of digital technology and the risks of this escalating through the very trends mentioned above. This session will examine these two sides to digital technology and reflect on whether we can benefit from technology while mitigating the harmful impacts going forward.

Biography:

Gordon Blair is a Distinguished Professor of Distributed Systems at Lancaster University. Historically, his research interests have focused on the development of middleware for distributed systems, including adaptive and reflective middleware and issues related to interoperability. More recently, he has applied his skills as a computer scientist to environmental science, including studies of how contemporary

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Prof. Gordon Blair

School of Computing and Communications
Lancaster University

 [Link to Profile](#)

digital technologies such as cloud computing, the Internet of Things and data science/AI can promote a new kind of environmental science: a science that is open, collaborative and integrative, and a science that can take advantage of the increasing data availability from a rich variety of sources. He currently holds a 5-year EPSRC Senior Fellowship in Digital Technology and Living with Environmental Change (DT/LWEC). He is co-Director of the Centre of Excellence in Environmental Data Science (CEEDS), a joint initiative involving Lancaster University and the UK Centre for Ecology & Hydrology (UKCEH). He is also a member of the UKRI Digital Environment Expert Network, supporting the research programme on 'Constructing a Digital Environment'.

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Dr. Laura Maye

School of Computer Science & IT
University college Cork

 [Link to Profile](#)

Keynote Title and Abstract:

Sustaining community voice, involvement and practices: implementing communication technology in rural communities

How can rural communities be involved in sharing and voicing local issues, community activities, or decisions and activities that impact their future? Additionally, how can these be supported through technology? In this talk, I will discuss work that aims to achieve this goal. One project, Grassroots Radio, has the goal of deploying a low-cost, low-barrier tool peer-to-peer radio platform called RootIO to enable rural communities to set up a community radio without the need for a physical studio space. Communities involved have successfully set up and started running community radio stations in order to encourage local voice and involvement in their local communities, activities, and decisions. I will end this talk by briefly introducing a project called ISLE-STORIES, which has the goal of supporting rural Island communities in recording their own heritage stories, practices, and lived skills through the use of handheld and communication technologies.

Biography:

Laura Maye is a Lecturer at the School of Computer Science and Information Technology, University College Cork, Ireland. Her research involves exploring processes and techniques to enable civic participation in various contexts, including rural communities, cultural heritage and healthcare settings. She is specifically interested in the methods, tools and techniques that enable participation and formation of shared languages across disciplines in co-design and innovation projects.

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Siobhán Long
 National Manager, Assistive Technology
 And SeatTech Services
 ENABLE Ireland

 [Link to Profile](#)

Keynote Title:

Artificial Intelligence and the AT Passport: Contributing to the development of an AT Ecosystem for Ireland and beyond.

Biography:

Siobhan has worked in the field of Assistive Technology since 1991. Her current role involves management of Enable Ireland's National Assistive Technology Training and SeatTech Services. Siobhan works with two teams of highly skilled individuals who strive to deliver innovative, person-centred AT and custom seating solutions to a wide range of individuals with differing abilities and needs. Technology is changing rapidly and the goal is to ensure that those who can benefit from what it has to offer, can gain access to it in a timely manner. Another goal of Enable Ireland's AT and SeatTech services is to influence the development of future technologies. Partnering with AT users to advocate for better assistive technology services, solutions and support is a key objective for our service.

ENABLE IRELAND PROVIDES services to children and adults with disabilities and their families from 40 locations in 14 counties. Encompassing services from childhood to adulthood, expert teams work with the individual and their family on a plan for each life stage.

Enable Ireland's mission is to work in partnership with those who use the services to achieve maximum independence, choice and inclusion in their communities. Enable Ireland focuses on the person, not the disability. We believe that access, inclusion and equality are basic rights for all people and assert that society must recognise and accommodate individual needs.

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Prof. David Prendergast

Department of Anthropology,
Maynooth University.

 [Link to Profile](#)

Keynote Title and Abstract:

Ethnography, IoT and Age Friendly Sustainable Societies

This presentation will explore the work of an ethnographer within a range of multidisciplinary academic-industrial partnerships focused on two main themes: 1) designing independent living technologies and services for older community dwelling adults 2) building living labs and IoT Testbeds in London and Dublin across a range of use cases from environmental sensing, air quality and flood monitoring, to smart stadia.

Biography:

David Prendergast is a social anthropologist and Professor of Science, Technology and Society at Maynooth University in Ireland where he was also previously Head of the Department of Design Innovation. David also worked at Intel for eleven years where he was a Principal Investigator at the 'Technology Research for Independent Living Centre' and co-founder of the 'Intel Institute for Sustainable Connected Cities'. He has served as Visiting Professor of Healthcare Innovation at the School of Nursing and Midwifery at Trinity College Dublin. His latest book 'Aging and the Digital Life Course' was named a CHOICE 'Outstanding Academic Title' by the American Library Association and was described as one of 'the two most fascinating books on aging in the 21st Century' by the Huffington Post.

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Dr. Malcolm Fisk

School of Computer Science and Informatics
De Montfort University, Leicester

 [Link to Profile](#)

Keynote Title and Abstract:

Ethical and Technological Dimensions of Digital Health: Control or Empowerment? Confinement or Liberation? ... in a post-COVID world.

The COVID-19 pandemic has brought digital health (often captured by the term 'telehealth') to the fore. Health services that are provided from hospitals or GP surgeries have had to quickly re-shape themselves in order to become available online. The 'face to face' in-person contact between patient and doctor has had to be replaced by tele- and video-consultations. The decades long barriers erected against such provision 'at a distance' have collapsed. Medics and patients have to come to terms with new service norms and sometimes unfamiliar technologies. But, at least for some health conditions, the usefulness of tele- and video-consultations and their convenience for patients is becoming clearer. Hence, after COVID-19, whilst many things in the world of health will revert to old ways, others will not.

This presentation outlines the world of digital health and points to some of the debates around it in the context of what were evolutionary service transformations. It then documents the dramatic acceleration that is taking place as a result of the COVID-19 pandemic – finally posing questions about the implications for the digital health (telehealth) technologies that will underpin our future health services.

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Dr. Malcolm Fisk

School of Computer Science and Informatics
De Montfort University, Leicester

 [Link to Profile](#)

Biography:

Dr Malcolm Fisk is Senior Research Fellow at the Centre for Computing and Social Research within De Montfort University, Leicester. He has a long track record as writer and speaker in the areas of technology, ageing and digital health. Malcolm was recently appointed to the roster of experts to support the World Health Organization's work on their Digital Health Strategy.

Malcolm led two recent European Commission projects (TeleSCoPE and PROGRESSIVE) that, respectively, developed the European (now International) Code of Practice for Telehealth Services; and addressed ICT standards to support active and healthy ageing. He is currently a partner within the LIV:IN project concerned with 'responsible innovation' and the way we will live in 2030.

Malcolm's other positions include being an expert on a standards committee for the National Institute for Care and Health Excellence (NICE) and for ANEC (the European Consumer Voice on Standards) where he represented their interests on the Health Services Focus Group and is engaged on various CEN Technical Committees. Previously Malcolm was the first Chair, appointed by Welsh Government, of the National Partnership for Older People in Wales and, more recently, of Chair of Age Cymru (Wales' main charity of and for older people).

With regard to digital health and following a study visit to Australia, Malcolm has newly published on 'Telehealth in the Context of COVID-19: Changing Perspectives in Australia, the United Kingdom and the United States'. Looking forward, his work around the longer-term role of telehealth in a post-COVID world is ongoing. And looking back, he is currently writing a book chapter for the International Society of Telemedicine and eHealth on the 'History of Telemedicine in the UK'.

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Coláiste na Tríonóide, Baile Átha Cliath
The University of Dublin



Prof. Deborah Estrin
Cornell Tech, New York

 [Link to Profile](#)

Keynote Title:

Using small data to personalize, sustain, and study health

Biography:

Deborah Estrin is a Professor of Computer Science at Cornell Tech in New York City where she founded the Jacobs Institute's Health Tech Hub. She holds The Robert V. Tishman Founder's Chair and serves as the Associate Dean for Impact. Her research interests are at the intersection of user-centric data applications, personalization, and privacy (TEDMED). She is currently serving as a part-time Amazon Scholar. Her honors include: The American Academy of Arts and Sciences (2007), The National Academy of Engineering (2009), The IEEE Internet Award (2017), MacArthur Fellow (2018), and The National Academy of Medicine (2019).

The COVID-19 pandemic has brought digital health (often captured by the term 'telehealth') to the fore. Health services that are provided from hospitals or GP surgeries have had to quickly re-shape themselves in order to become available online. The 'face to face' in-person contact between patient and doctor has had to be replaced by tele- and video-consultations. The decades long barriers erected against such provision 'at a distance' have collapsed. Medics and patients have to come to terms with new service norms and sometimes unfamiliar technologies. But, at least for some health conditions, the usefulness of tele- and video-consultations and their convenience for patients is becoming clearer. Hence, after COVID-19, whilst many things in the world of health will revert to old ways, others will not.

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Prof. Linda Doyle

Vice President for Research/Dean of Research, Trinity College Dublin

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Keynote Title and Abstract:

Where to after 5G? – an alternative perspective

My keynote focuses on where we should go after 5G. It makes the argument for what I am calling 0g. This is not a call to go back in time and to avoid technological advances but instead to take a fresh look at the direction we are heading in – to do a reset of our goals and objectives and in doing so ask what is right for the world. This keynote will focus on a number of different areas. Firstly it will look at the role that material science needs to play in the next generation of communication systems. Secondly, it will address issues around surveillance capitalism and ask can we do more with less data and rethink how we use AI. Thirdly, it will take a new kind of systems perspective that will cast telecommunications infrastructure as part of the built and natural environment. Finally, it will look to new business models and the circular economy. The keynote will draw on the material from multiple disciplines as well as the reference the very changed circumstances in which we currently find ourselves.

Biography:

Professor Linda Doyle is the VP of Research /Dean of Research and Professor of Engineering and The Arts in Trinity College, University of Dublin. She was the founder Director of CONNECT a national research centre, co-funded by SFI and industry, focused on future networks and communications. Prior to CONNECT Prof. Doyle was also the Director of CTVR. Her expertise is in the fields of wireless communications, cognitive radio, reconfigurable networks, spectrum management and creative arts practices. She has raised over 70 million in research funding in the past decade and has published widely in her field. Prof. Doyle has a reputation as an advocate for change in spectrum management practices and has played a role in spectrum policy at the national and international level. Currently she is a member of the National Broadband Steering Committee in Ireland, and is Chair of the Ofcom Spectrum Advisory Board in the UK. She is a Fellow of Trinity College Dublin. She is on the Board of the Festival of Curiosity - A STEM outreach activity for children based on a city-centre yearly science festival. She is a judge in the BT Young Scientist, Ireland's premier science competition for school children. She is the Chair of the Board of the Douglas Hyde Gallery and sits on the Board of Pallas Project Studios. Prof. Doyle is a Director of Xcelerit and SRS, two CTVR/CONNECT spin-outs.

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Prof. Khalid Kadir
UC Berkeley

 [Link to Profile](#)

Keynote Title and Abstract:

Technology and Justice - Rethinking engineering and our position as engineers in efforts to make the world a better place

Increasingly, engineering students and practitioners are turning their energies towards "doing good". However, engineering approaches to problem solving generally treat historical, social, and political systems as unrelated to good engineering work. Such training leaves engineers unprepared to engage with issues related to social injustice, and often positions engineers as agents of dominant power structures, reinforcing the status-quo. Doing better will require engineers to change not only how we do our work, but to also consider what constitutes "good" engineering, and how we as individuals and professionals relate to the problems we are trying to address.

Biography:

Khalid is a Continuing Lecturer at UC Berkeley, teaching courses in the Global Poverty & Practice (GPP) program, Political Economy, and the College of Engineering. After completing his PhD in Environmental Engineering at Berkeley, Khalid focused his research on the complex role that engineering expertise plays in the politics of international development and poverty alleviation, and his current work focuses on the intersection of poverty, expertise, and politics. He is a recipient of the 2017 Distinguished Teaching Award, UC Berkeley's most prestigious honor for teaching.

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Dave Troy

410Labs

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Keynote Title:

“Division, Disinformation, Pandemic, and Politics”.

Biography:

Dave Troy is a tech entrepreneur and disinformation researcher. He began studying social media data in 2007, and has been acknowledged as the first developer to use the Twitter API. His data visualization work has been featured in the 2008 exhibition “Design and the Elastic Mind” at the Museum of Modern Art in New York, and at TED. He is also curator of TEDxMidAtlantic in Washington, D.C. since 2009, and is based in Baltimore, Maryland. Dave serves as CEO and product architect at 410 Labs, maker of the popular e-mail management tools Mailstrom and Chuck. In the area of disinformation research, his work focuses on the intersection of sociology, network science, and political science.

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