



Queen's University Belfast Social Charter Newsletter

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High performance computing at Queen's plays vital role in discovering new variants of COVID-19

Staff skilled in using supercomputers at Queen's University Belfast are supporting top scientists to track the spread of COVID-19 and discover new variants which may help the virus to evade vaccines.

A high-performance computer, Kelvin-2, is helping teams from Queen's, working alongside staff at the Belfast Health and Social Care Trust (BHSCT) Regional Virus Laboratory, to analyse the virus genome sequences.

This information has been used to build a viral 'family tree', with branches comprising closely related viruses. Since March 2020 over 2,000 virus sequences have been processed by the supercomputer at Queen's, all derived from samples taken from people who tested positive for the virus from across Northern Ireland.

The data from Northern Ireland feeds into a UK-wide project led by the COVID-19 Genomics UK (COG-UK) Consortium, which is working to sequence the whole genomes of SARS-CoV-2, the virus that causes COVID-19, from positive cases.

"Along with social distancing and vaccine development, genomic analysis of the virus has become a key part of the response to the COVID-19 pandemic...The huge number of genome sequences available UK wide has helped track the spread and evolution of the virus. This provides invaluable information about local and international transmission, which has been used to guide public health policy."

Research with Impact:

Queen's research suggests largescale antibody testing could lower contagion of COVID-19

Throughout the pandemic, most individuals act without knowing their health state, which naturally affects their willingness to social distance. Recent research suggests that this uncertainty can be quite adverse, by increasing contagion and raising COVID-19 related deaths.

However, part of the uncertainty can be reduced by antibody testing. By revealing that susceptible and asymptomatic individuals are not immune, antibody testing reduces their social activity lowering the scale of the pandemic.

In the model, individuals react to the information about infections. When infections rise, they realise the increased risk of infection and lower their social contacts, which reduces the effective reproduction number, R_t . However, if susceptible individuals are unsure of their health state and erroneously believe to be immune, they constrain their social activity by less than otherwise. In this regard, by informing individuals, antibody tests reduce average social activity and permanently lower COVID-19 related deaths.

When the model is calibrated to capture the costs of social-distancing and of infection as well as the basic reproduction number, R_0 , Dr Guimaraes found that antibody testing could prevent approximately 12 per cent of COVID-19 related deaths within 12 months.

"This research suggests that there can be sizeable gains in terms of lives saved from conducting largescale antibody testing. The benefits of these tests are particularly large for those that cannot work from home in areas in which many are estimated to have been infected like London"

Dr Luis Guimaraes, Queen's Management School, Queen's University Belfast

All-Ireland MS Research Network provides hope to those affected by multiple sclerosis

Researchers from Queen's University Belfast, Royal College of Surgeons in Ireland (RCSI) and NUI Galway have launched the new All-Ireland MS Research Network (AIMS-RN).

AIMS-RN will be the largest collaboration of multiple sclerosis researchers across the island of Ireland, providing a unique opportunity for scientists, clinicians and people with multiple sclerosis in Ireland to accelerate MS research, going from the patient to the bench and bringing discovery research forward to benefit the patient.

The network holds the potential to limit the progression of MS, to train future generations of MS researchers and to contribute to global MS research.

Currently, there are approximately 13,500 people on the island of Ireland living with MS (4,500 in Northern Ireland and 9,000 in the Republic of Ireland).

Education with Social Purpose:

'You have demonstrated courage' HRH The Princess Royal tells student midwives from Northern Ireland

HRH The Princess Royal sent a video message to midwifery students and their lecturers from Queen's University, to congratulate them on rising to the challenge of supporting maternity services while balancing their academic studies during COVID-19.

Patron of The Royal College of Midwives (RCM) Her Royal Highness (HRH) The Princess Royal has told a group of final year midwifery students from Northern Ireland that they have 'demonstrated courage in choosing to continue with their midwifery studies while providing frontline care at a time when there has been so much uncertainty'.

In her video message The Princess Royal told the student the midwives:

"The public health role of the midwife is of vital importance to maternity services and never more important than now, during this pandemic. Babies wanting to be born do not do lockdown. You have practised under the additional challenges presented by COVID-19 and have done so with diligence and impressive resilience. You have continued to provide exemplary care to mothers, babies, and their families in addition to the demands of successfully completing academic study."

Sustainability:

'The Promise of Green Growth: A Pathway to Prosperity while Achieving National and Global Ambitions'

The Centre for Sustainability, Equality and Climate Action and the School of Social Sciences, Education and Social work at Queen's University Belfast is hosting **Dr Stelios Grafakos** of the Global Green Growth Institute to deliver a lecture on, 'The Promise of Green Growth: A Pathway to Prosperity while Achieving National and Global Ambitions'.

The event will take place on **Thursday 25th March 8, 10.30am (GMT)** and the lecture will talk about the main global environmental challenges, with main focus on the climate crisis and discuss how governments can address these challenges by following green and low carbon growth pathways.

To register for the event, and for more information, click **HERE**



Breaking Boundaries to Produce New Knowledge:

Queen's partners with Indian scientists to address some of society's biggest health challenges

Leading scientists from Queen's are partnering with researchers from Indian institutions including the Indian Institute of Technology, Madras, the Indian Institute of Science, Bengaluru and the Jawaharlal Nehru University, New Delhi.

The researchers will establish joint data science and digital health projects in areas such as vaccine design for pandemic threats, artificial intelligence, and genomic analysis in cancer.

Together, the scientists will look at several new research possibilities to unlock the power of 'big data' to enhance outcomes in disease such as cancer and eye disease, while also addressing some of the complex ethical issues that the use of big data raises.



Vision loss could be treated in one billion people worldwide, unlocking human potential

Leading researchers in eye health from the Centre for Public Health at Queen's University Belfast have played a key role in presenting a Commission report, authored by 73 leading experts from 25 countries, that calls for eye care to be included in mainstream health services and development policies, arguing that it is essential to achieving universal health coverage and the 2030 UN Sustainable Development Goals (SDGs).

Addressing avoidable vision loss with existing, highly cost-effective treatments, and improving inclusion of people living with permanent vision loss in society, offers enormous potential to improve the economic outlook of individuals and nations, and to contribute to a healthier, safer, more equitable world, according to the new Commission report on Global Eye Health.

Without additional investment in global eye health, new estimates reveal that 1.8 billion people are expected to be living with untreated vision loss by 2050. The vast majority of these (90%) reside in low- and middle-income countries (LMICs), with the greatest proportion occurring in Asia and sub-Saharan Africa.

Civic Culture and Intercultural Dialogue:

'Partition and the Limits of Irish Commemoration: Reflections on 1921'

Professor Ian McBride, Foster Professor of Irish History at University of Oxford, will deliver a keynote lecture 'Partition and the Limits of Irish Commemoration: Reflections on 1921' on **Wednesday, 31 March 2021** at 4.00pm (GMT).

Following the keynote lecture, Professor Richard English, Pro-Vice-Chancellor, Queen's University Belfast will moderate a Question and Answer session.

For more information, and to register to view the live online event, click on the image below.



Partnership with Migrant and Minority Ethnic Council

Seeking to increase the impact of research related to migrant and ethnic minority matters in Northern Ireland, a partnership between the Migrant and Minority Ethnic Council (MME Council) and Queen's University has been initiated.

The project is led by Dina Zoe Belluigi - an academic in critical Higher Education Studies at the School of Social Sciences, Education and Social Work (SSESW) and the research coordinator of the MME Council.

Relevant research papers and dissertations produced by scholars within the University will be collated and annotated in a systematic way, and made publicly accessible on the Council's online page to ensure they can be retrieved swiftly when such evidence-based findings are needed.

This work builds on the important contributions SSESW researchers have already made to calls for evidence and to public discussion, in partnership with the Council.



Equality and Excellence: International Women's Day

A series of events and initiatives took place across Queen's University, in celebration of International Women's Day, the global day which celebrates the social, economic, cultural and political achievements of women.

Held on 8th March each year, it is a day to mark a call to action for accelerating gender parity.

The Queen's Gender Initiative (QGI), which provides a channel for women's views on priority issues for women to come to the fore, marked the day by shining a spotlight on just a few examples of the women making a difference in Queen's fight against COVID-19.

A range of events took place, organised by schools and faculties across the University. For more information click on the image below.



Free upskilling courses in leadership and management for individuals impacted by COVID-19

Queen's University has launched free upskilling courses in leadership and management for individuals whose employment has been impacted by COVID-19.

The Department for the Economy will be funding 215 places, offering meaningful upskilling that will enhance current job roles and enrich future career opportunities. This is part of the Department's skills initiative to offer over 5,000 free, short-term courses for those impacted by Covid-19.

The places are available to individuals in Northern Ireland who have been impacted by the pandemic through furlough, redundancy, or those who have been unable to gain employment in their field.

The courses will be delivered by the Graduate School and the William J. Clinton Leadership Institute at Queen's Management School.

Applications are open until Monday 15 March at 4.00pm - [CLICK HERE FOR MORE](#)

Recognising and Rewarding Contributions from Staff and Students: Staff Excellence Award Winners

In this, the fifth year of the Staff Excellence Awards, which recognise and celebrate the achievements of staff across the University, Queen's University held a virtual celebration to announce winners for 2020.

The winners were announced by Alexandra Ford at the event on Friday 5 March.

The winners are:

Delivering Excellence

- Dr Tim Fosker, School of Psychology

Community Impact

- Dr Anne Campbell, School of Social Sciences, Education and Social Work

Innovation

- EEECS PGT Team, School of Electronics, Electrical Engineering and Computer Science

Team of the Year

- Estates Services Pandemic Support Team
- Queen's COVID-19 Virology Team
- Queen's Accommodation

Outstanding Leadership

- Professor Donna Fitzsimons, School of Nursing and Midwifery

Lifetime Achievement

- Patrick Brannigan, Information Services



Well done to all! We are very proud of you!