

NDTP Health Innovation Summit

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Programme

5th October 2018

SESSION 1 MEDICAL EDUCATION

Desmond Auditorium

10.00-10.05	Opening address
10.05-10.20	ETHICS OF INNOVATION Máirín Murray , <i>Digital Doodle & Co-Founder of Tech For Good Dublin</i>
10.20-10.35	ARTIFICIAL INTELLIGENCE, AUGMENTED AND VIRTUAL REALITY IN EDUCATION & PATHOLOGY Dr David Trainor , <i>Sentireal</i>
10.35-10.50	HOW TO REVOLUTIONISE HEALTHCARE TRAINING Matt Leatherbarrow , <i>Co-Founder and CTO of Medical Realities</i>
10.50-11.00	Discussion

SESSION 2 EMERGING TECH IN HEALTHCARE

Desmond Auditorium

11.00-11.12	3D DIAGNOSTICS & PREOPERATIVE PLANNING Ruud Schreurs , <i>Department of Oral and Maxillofacial Surgery of Academic Medical Centre, Amsterdam</i>
11.12-11.24	HOW ROBOTS ARE ASSISTING WITH CARE OF OLDER ADULTS Dr Conor McGinn , <i>Trinity College Dublin</i>
11.24-11.36	WATSON, HEALTH AND THE FUTURE OF ARTIFICIAL INTELLIGENCE Conor Cullen , <i>IBM</i>
11.36-11.48	MasSpec CANCER PEN Kyana Garza , <i>University Of Austin, Texas</i>
11.48-12.00	Discussion

12.00-13.00 LUNCH, EXHIBITIONS & NETWORKING

SESSION 3: APPLYING ARTIFICIAL INTELLIGENCE

Desmond Auditorium

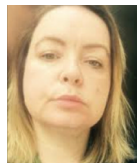
13.00-13.15	GOOGLE DEEPMIND Dr Cian Hughes
13.15-13.30	ARTIFICIAL INTELLIGENCE APPLIED TO RADIOLOGY Dr Shah Islam
13.30-13.50	THE AI EFFECT: THE IMPACT OF ARTIFICIAL INTELLIGENCE ON HEALTHCARE Dr Mary Aiken , <i>Cyberpsychologist, Adj. Assoc. Professor University College Dublin</i>
13.50-14.00	Discussion

SESSION 4 BUILDING HOSPITALS FOR THE FUTURE

Desmond Auditorium

Chair: Dr Robert Kelly , Consultant Cardiologist & Innovator	
14.00-14.15	GLOBAL HEALTHCARE TRENDS AND THE TRANSFORMATIVE FUTURE OF THE INDUSTRY Dr Zubin Daruwalla , <i>PwC Director (Healthcare)</i>
14.15-14.30	HEALTHCARE INNOVATION Dr Alice Kirby , <i>Health Innovation Consultant</i>
14.30-14.50	INNOVATION AT THE NEW NATIONAL CHILDREN'S HOSPITAL Eilis Hardiman , <i>Group Chief Executive, National Children's Hospital Group</i>
14.50-15.00	Discussion

15.00-15.20 REFRESHMENTS, EXHIBITORS & NETWORKING



Máirín Murray, Digital Doodle

Máirín Murray is a highly creative digital innovator with a passion for creating technical products that produce a positive social impact. She has particular expertise in developing educational digital campaigns, games, apps, animations, videos and ecourses, and has worked across the health, education and not-for-profit sectors. She is the co-founder of Tech For Good Dublin, a community committed to inclusion and diversity, with over 1000 techies, designers and activists, who aim to harness the power of technology to make a real difference.



David Trainor, Sentireal

Dr. David Trainor is the CEO/CTO of Sentireal. Sentireal creates unique 'personal immersive learning' experiences by generating Virtual Reality and Augmented Reality media and assessing learning outcomes using its proprietary Artificial Intelligence technology. David is a member of the Healthcare Committee and chairs the Training Committee within the Virtual Reality/Augmented Reality Association and has a deep interest in improving healthcare training and guidance worldwide.



Matt Leatherbarrow – CTO Medical Realities

As CTO at Medical Realities Matt sits at the intersection of engineering, design, and medical to help build revolutionary immersive education products. Matt has been developing software for over a decade. He has been working with augmented reality since 2010, initially delivering PC based experiences. Over the intervening seven years, he has been responsible for creating a broad range of AR and VR projects for a diverse range of clients including pharmaceutical (Pfizer, Bayer), telecommunications (Vodafone), entertainment (Sanrio), and property (Saint-Gobain).



Ruud Schreurs Amsterdam UMC

Ruud Schreurs completed his masters in Technical Medicine (Twente University) at the Oral and Maxillofacial Surgery 3D Lab at the Radboudumc Nijmegen, the Netherlands in 2013 and continued working in the 3D Lab as a Technical Physician. Since 2014, he is employed as a Technical Physician and PhD student at the department of Oral and Maxillofacial Surgery of the AmsterdamUMC (location AMC).



Dr Conor McGinn, Trinity College Dublin

Dr. Conor McGinn is an Assistant Professor and co-founder of the Robotics And Innovation Lab (RAIL) in Trinity College Dublin. In 2015, Dr. McGinn was awarded a PhD in robotics, also from Trinity College Dublin. Dr. McGinn's primary expertise is in the design and control of service robots. He holds several patents related to the design of robots, and has been shortlisted for several design awards, most notably winning a national award for Engineering innovation in 2013. Dr. McGinn is a senior member of the SUGAR Design network and holds membership of IEEE and IET organisations.



Conor Cullen: IBM

Conor Cullen is a project manager in IBM Watson Health and leads multi-disciplinary teams of engineers, researchers, designers and business experts developing demonstrable solutions on the transformative impact of A.I. A key focus of Conor's work is to bring personalised insights to the hands of health professionals and consumers. This requires the analysis of complex information to tailor insights that enable strong patient outcomes, reduce costs and aim to augment the capabilities of the human care team.



Kyana Garza – Assistant researcher on MasSpec Pen – University of Austin, Texas

Kyana is a third-year graduate student of analytical chemistry in Prof. Livia S. Eberlin's lab at the University of Texas at Austin. Kyana's research involves developing ambient ionization mass spectrometry as well as utilizing this technology to investigate breast cancer. She has been involved in the development of the MasSpec Pen, a hand-held and biocompatible device, for the rapid and non-destructive analysis of human tissue.



Dr Cian Hughes

Cian joined DeepMind in August 2015 starting DeepMind Health, building on his previous work in acute kidney injury alerting, he helped to design and build Streams, DeepMind Health's clinician facing mobile application. Prior to joining DeepMind he was an NIHR funded academic ENT surgeon at University College London with research interests in artificial intelligence, health informatics and epidemiology. He is a founding fellow of the UK Faculty of Clinical Informatics, a founder of the INTEROPen Summit, and a strong supporter of open data and interoperability standards.



Dr Shah Islam

Dr. Shah Islam is a board certified academic radiologist subspecialising in imaging of the brain and spine. During his clinical training, he was appointed as a NIHR academic clinical fellow at Europe's leading cancer research institute, ICR. He is currently a clinical research fellow at the Imperial College London, within the division of Brain Sciences, aiming to develop quantitative biomarkers using advanced imaging techniques to prognosticate aggressive brain tumours. He has extensive experience in setting up and managing clinical trials and is running the multicentre 'Diffusion in Glioma' study across five major neuroscience centres in the UK.



Dr Mary Aiken: Cyberpsychologist, Adj. Assoc. Professor University College Dublin

Dr Mary Aiken is an Adjunct Associate Professor at the Geary Institute for Public Policy, University College Dublin, Academic Advisor (Psychology) to Europol's European Cyber Crime Centre (EC3). Her research interests include the impact of technology on the developing child, cyberchondria, Internet psychology, AI, human factors in cybersecurity, technology-facilitated human trafficking, behavioural manipulation online and the rights of the child in cyber contexts. Mary is a lecturer in Criminology and Research Fellow at the School of Law, Middlesex University, a Global Fellow at the Wilson Center, the leading US institution for in-depth research and dialogue to inform actionable ideas on global issues, and a Fellow of the Society for Chartered IT Professionals. She is a member of the INTERPOL Specialists Group for Crimes against Children, and sits on the advisory board of The Hague Justice Portal and the Peace, Justice & Security Foundation. In 2016 Mary Aiken was named as one of the top 50 most inspiring women in technology in Europe. Mary Aikens work as a cyberpsychologist, inspired the CBS primetime television series CSI: Cyber. Her recent book, 'The Cyber Effect' was selected by the Times as a 'book of the year' in the Thought category.



Dr. Robert Kelly, Consultant Cardiologist and Lifestyle Medicine Physician, Healthcare entrepreneur and Innovator

Associate Professor of Clinical Medicine, UCD Beacon Hospital, Dublin, Ireland. Former Chief of Cardiology and Director of Cardiology program at UPMC Beacon Hospital. Robert has trained in Ireland, UK and USA as Cardiologist and he completed an MBA in 2013 from Henley Business School, University of Reading, UK. His thesis examined disruptive business model innovation in healthcare. He has over 30 publications in peer reviewed medical journals. He is a recipient of several international academic awards and grants.



Dr Zubin Daruwalla, PwC Director (Healthcare)

Dr. Zubin J Daruwalla is PwC South East Asia Consulting's Health Industries Leader and leads the healthcare consulting team in the region, while remaining a practicing clinician with an interest in orthopaedics. Zubin has extensive experience in Digital Health, Medical Education, HealthTech and MedTech, and is a Consultant, Advisor and Mentor to a number of start-ups and individuals in these spaces both locally as well as internationally.



Dr Alice Kirby, Health Innovation Consultant

Having completed a degree in commerce and a masters in ecommerce, Alice spent 10 years in the financial services sector. Always passionate about great, innovative, functional design, Alice has trained as a tailor, milliner and a goldsmith. A stint volunteering in a Zambian hospital inspired a change of career and after some time working in medical charity funding, Alice completed medicine in UCC. Alice left clinical medicine in 2016 to participate in BioInnovate. Alice currently works as a Health Innovation consultant.



Eilis Hardiman, Group Chief Executive, National Children's Hospital Group

Eilish Hardiman is Group Chief Executive of the Children's Hospital Group. The remits of the Children's Hospital Group Board is to oversee the integration the three existing children's hospitals into a new single legal entity, developing effective corporate and clinical governance structures for the Hospital Group, developing a services integration / reconfiguration plan for paediatric services in the Greater Dublin Area and to act as client for the new children's hospital capital project, the largest capital investment in healthcare. The new children's hospital will be central to an integrated clinical network for paediatric services and is also planned as the first Digital Hospital in Ireland. Eilish has over 28 years acute academic teaching hospital experience, 18 of which at senior corporate management level.

18.00	Close
17.00	Round Table Discussion
16.40	Refreshments, Exhibitions & Networking
16.00	Breakout Sessions: Round B
15.20	Breakout Sessions: Round A
15.00	Refreshments, Exhibitions & Networking
14.00	Session 4: Building Hospitals for the Future
13.00	Session 3: Applying Artificial Intelligence
12.00	Lunch, Exhibitions & Networking
11.00	Session 2: Emerging Tech in Healthcare
10.05	Session 1: Medical Education
10.00	Welcome
09.00	Registration, Exhibitions, Networking & Smoothies
TIME	EVENT

Programme Overview

Spark Summit

The future of
Healthcare
starts with
Curiosity

RCSI 26 York Street / 5 October 2018

Connect to RCSI Guest Network

Username
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Spark\$ummit2018

NDTP
National Doctors Training & Planning



RCSI



@NDTP_HSE #SparkSummit

NDTP Health Innovation Summit



15.20-16.40 BREAKOUT SESSIONS
15.20-16.00 Round A
16.00-16.40 Round B

BREAKOUT SESSIONS

RCSI SURGICAL SIMULATION Simulation Lab-5th Floor
 See how VR is impacting surgical training. Experience endoscopy, laparoscopy and airway management first hand.

ARTIFICIAL INTELLIGENCE, AUGMENTED AND VIRTUAL REALITY IN EDUCATION & PATHOLOGY Wet Lab A 5th Floor
Dr David Trainor, Sentireal

INTRODUCING THE MEDICAL REALITIES PLATFORM Mutchnik 302
 Experience a hands on demo of our immersive platform with a sneak-peak of our next generation interactive tool.
Medical Realities

AUGMENTED REALITY AND VIRTUAL REALITY IN SURGICAL EDUCATION Wet Lab B 5th Floor
 An overview of how AR and VR are used in RCSI.
 Demos included: 360 Surgery (Place yourself in the operating theatre), Emergency Medicine Simulator, Anatomy 3D Game, Virtual Tours.
Donncha Ryan, RCSI

ED SIMULATION MODEL Out Patient Room 313
 We are in a world where we thrive on increasing efficiencies. Discrete event simulation modelling is a technique allowing a better understanding of all bottle necks of an organisation to improve patient experience and speed up throughput.
Helene Dingreville, Earnest & Young

HEALTH AND THE FUTURE OF ARTIFICIAL INTELLIGENCE Out Patient Room 311
Conor Cullen, IBM Watson Health

DATA SCIENCE APPLIED TO PATIENT FEEDBACK Out Patient Room 310
 Clinicians will learn how real-time feedback and analytics can help adjust ongoing treatment. Clinical supervisors and managers can look at how aggregate data can be used to look at treatment outcomes and quality for their service.
Enda Madden, Open Fit

INFORMATION COMMUNICATION TECHNOLOGY (ICT) FOR HEALTH INNOVATION Task Room 4th Floor
Carlo Webster, Tyndall

PRODUCT DEVELOPMENT: PRODUCT DESIGN, INNOVATION & BRINGING A PRODUCT TO MARKET Desmond Auditorium
Enda O'Dowd, National College of Art and Design, Aisling Dolan, Health Innovation Hub Ireland

AUTOMATING DATA COLLECTION FOR WORKFLOW ANALYSIS IN HOSPITALS Out Patient Room 308
 Understand how using tools such as software and Wi-Fi based tracking devices to track patients can optimise patient flow.
Chris Kelly, Pinpoint innovations

YOUR NOISE, OUR SIGNAL AI IN HOME HEALTH Tutorial Room 323
 AI to create next generation assisted living technology
Aidan Boran, The Next Big Thing Labs

BREAKOUT SESSIONS

DIGITAL PRODUCT DEVELOPMENT FROM IDEA TO REALISATION Tutorial Room 323
 Armour's breakout session will give delegates an understanding of the process involved in getting a digital product designed, built and to market. Delegates will be given an insight into what they can expect from partnering with an Irish digital agency and why finding the right agency is so important.
John Cunningham, Armour

ANATOMY IN 3D Out Patient Room 312
 Ground-breaking 3D medical technology, for professional reference, as well as student and patient education.
Dr. Helen Zidon & Edel Lynch, 3D4 Medical

HPRA SUPPORTS FOR MEDICAL DEVICE INNOVATION Tutorial Room 321
 Experience an overview of the mechanisms by which HPRA can provide regulatory guidance in relation to the development of innovative medical devices.
Laurence O'Dwyer, Dhanashree Gokhale & Tom Melvin, HPRA

PUTTING LEARNING IDEAS INTO ACTION Tutorial Room 322
 Take great learning ideas and transform them into a real-world plan
Dr Maureen Murphy & Mike Stevens, Aurion Learning

CHAT BOTS IN HEALTHCARE Out Patient Room 309
Niall Rafferty, MedXNote

CRISPR, THE HOLY GRAIL OR PANDORA'S BOX? Tutorial Room 325
 Dr Terri Mc Veigh and Professor Brendan Kennedy discuss how CRISPR gene editing works, review published human CRISPR studies and facilitate debate about the ethics of its use.
Dr Terri Mc Veigh & Prof Brendan Kennedy

APPLICATIONS OF IMMERSIVE TECHNOLOGIES IN HEALTHCARE Tutorial Room 426 4th Floor
 An introduction to virtual and augmented reality concepts and technologies and their current and future uses in healthcare
Niall Campion, VRAI

SEEING WITH SOUND – POINT OF CARE ULTRASOUND IN THE EMERGENCY DEPARTMENT IN HEALTHCARE Tutorial Room 324
 Point of care ultrasound is revolutionizing how we practice modern Emergency Medicine in the Mater Hospital and throughout the world. Come to a live demo, learn how Irish Emergency Physicians use groundbreaking technology to literally 'see with sound' to diagnose our sickest patients faster and start treatment earlier.
Dr Cian Mc Dermott

WIKIPEDIA IN HEALTHCARE Boucher Hayes-5th Floor
 A case for open and structured knowledge and the future of healthcare data
Rebecca O'Neill & WIR Dr Niall O'Mara

VIRTUAL REALITY IMPACTS MEDICINE Patient Lounge 314
 Experience how the HoloLens can be applied to healthcare delivery
Microsoft HoloLens & Partners

16.40-17.00 REFRESHMENTS, EXHIBITORS & NETWORKING

ROUND TABLE DISCUSSIONS

Chair: Dr Terri McVeigh CONSULTANT ONCOGENETICIST

17.00-18.00
Dr Shah Islam AI IN RADIOLOGY Kyana Garza MasSpec PEN Carlo Webster TYNDALL INSTITUTE Enda O'Dowd NCAD Dr Zubin Daruwalla, PWC healthcare director Enda Madden, Open Fit ARTIFICIAL INTELLIGENCE Aidan Boran, Next Big Thing Labs, AI Joe Varrasso, Microsoft HOLOLENS

18.00 Close



Professor Brendan Kennedy, Conway Institute, UCD
 Professor Brendan Kennedy, Conway Institute, UCD
 Breandán Kennedy graduated with a BSc in Pharmacology from UCD in 1993. He completed his PhD at the W.Alton Jones Cell Science Center, New York and post-doctoral training in the University of Notre Dame, Indiana and University of Washington, Seattle before returning to UCD in 2003 as a College Lecturer in Pharmacology. He is currently Professor of Pharmacology in the UCD School of Biomolecular and Biomedical Science, and a Conway Fellow. He is the co-founder of Phision Therapeutics which won the UCD Start-Up Award in 2015.



Aidan Boran, Artificial Intelligence in Healthcare
 Aidan has 25 years' experience in collaborative research & development roles in the telecoms industry. He has unique a mixture of start-up and corporate experience across large infrastructure projects. Between 2004 and 2016, he worked as a senior researcher at the world famous Bell Labs on the technologies that drive the Internet of Things. He holds a Ph.D in Computer Science, has authored 10 patents and over 20 publications. In 2016, Aidan founded NextBigThing Labs to apply his experience in AI and devices to create next generation assisted living technologies.



Enda O Dowd, Medical Device Design. NCSAD
 Enda is a lecturer in Product Design at the National College of Art and Design and course coordinator for the MSc in Medical Device Design. With a background in materials and engineering, he specialises in applying science and technology to design questions. Helping designers use technology to develop innovative, human-centered products. The MSc in Medical Device Design at NCAD is an innovative studio based course which works with hospitals, clinicians and the medical device industry.



Carlo Webster, Tyndall
 Senior Strategic Business Development executive Tyndall National Institute in Cork, Ireland which is one of Ireland's six National Labs, with over 500 researchers, Scientists and support staff, across 50 different nationalities, sitting on €250million campus. Carlo is currently working on Tyndall ICT for Health strategic platforms where expert building blocks of Academia, Clinical, Business (Industry) and Design (Human Factors Engineering) are merged (ABCD Model).



Niall Rafferty, MedXNote
 Niall Rafferty is a radiographer with 17 years' experience in both Radiology and PACS / RIS Management. He is co-founder of Medxnote and Enterprise Ireland Founder of the Year (2018) finalist. Niall is interested in how Digital Assistants or Software Robots can be used to automate clinical workflow.



Enda Madden, Ace Health Innovations
 Enda Madden is CEO of ACE Health Innovations. He has cofounded a number of eHealth companies based in Europe and North America. Enda is widely recognized as one of Europe's experts in eHealth and is an advisor to a number of companies and investors in the field.



Aisling Dolan, HIHI
 Aisling joined Health Innovation Hub Ireland at NUI Galway as manager in early 2018 and works closely with the Saolta University Healthcare group along with primary and community care centres in the West. Health Innovation Hub Ireland is a joint national initiative between the Department of Health and the Department of Business, Enterprise and Innovation with a national oversight group chaired by Enterprise Ireland. A national entity led by UCC, that brings together a partnership of clinical and academic centres in Galway, Cork and Dublin.



Dr Terri Mc Veigh
 Terri McVeigh is a Consultant Cancer Geneticist in the Royal Marsden NHS Foundation Trust, London UK. Following basic training in Surgery, she undertook Higher Specialist Training in Clinical Genetics in Ireland, UK and Australia, funded by the HRB/ HSE National Academic SpR fellowship. She was awarded a PhD from NUI Galway for her work investigating the role of genomic profiling in risk estimation, treatment and outcome of breast cancer. She also holds a Masters in Health

Science (Clinical Education), a Postgraduate diploma in Medical Science, Postgraduate Certificate in Medical Genetics, and membership of the Royal College of Surgeons. She has recently developed a HRB-funded website to host patient information videos about cancer predisposition syndromes (www.cancergenetics.ie). She is a tutor on the MSc Genomics in Imperial College London and on the Postgraduate Diploma in Health Sciences (Clinical Education), NUI Galway.



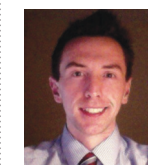
Dr. Helen Zidon, 3D4Medical
 Helen is a graduate of RCSI with a degree in Medicine, Surgery and Obstetrics, and an ongoing Masters in Public Health. Dr. Zidon uses her expert anatomical and medical research and communications skills to relay complex medical and anatomical concepts to 3D Artists and UX/UI designers to create high quality and detailed anatomical models. She was the lead medical writer and project manager for remodelling the human heart, the lower and upper limbs.



Helene Dingreville, EY
 Helene is a Senior Manager within the Data Analytics Services practice at EY, with deep experience in working in Data & Analytics and Project Portfolio Management in private and public sector clients. She has played a lead role in decision sciences as well as project and portfolio management working.



Dr Cian McDermott, ED Consultant
 Cian is an Emergency Physician in Mater Misericordiae University Hospital in Dublin, Ireland. He specialises in point of care ultrasound use in the Emergency Department - technology that has revolutionised the modern practice of acute medicine and medical education worldwide. Dr McDermott is also the social media editor for the International Journal of Emergency Medicine and he blogs with the lifeinthefastlane.com team. @cianmcdermott



Dr Niall O'Mara
 Has been appointed the 1st National Healthcare Wikipedian in Residence (WiR) which is first of its kind in the world. This residency programme is aimed at bringing together a multidisciplinary team - Doctors, Librarians and other healthcare professionals who work at the frontline of acute care, delivering patient care to the people of Ireland. It makes use of our existing hospital library infrastructure and brings knowledge to the forefront of patient care. This innovative programme reinforces the HSE's commitment to free and open access to healthcare information.

Pinpoint Innovations

Tracworx is a data analytics tool that allows you to establish bottlenecks in your patientflow, while understanding your efficiencies and ultimately your true capacity. The system works in real time, communicating vital information to staff while also giving you feedback on how you are performing.

HPRA

The role of the Health Products Regulatory Authority (HPRA) is to protect and enhance public and animal health by regulating medical devices, medicines and other health products. We can provide guidance to companies and individuals in relation to regulatory requirements particularly if they are developing new and innovative medicines, medical devices or diagnostics that will benefit patients.

Acknowledgements: We wish to thank the work and contribution of the following amazing people who made today possible; Paula Mansell, Conor Dunphy, Donncha Ryan (RCSI), Conchubhair Ó Maoileoin, Hannah Barnes, Jared Gormly and Yvonne McGowan (NDTP). We hope you enjoyed an insightful day of education and networking opportunities and we look forward to welcoming you back next year.
Kind regards, Ms Christine Kiernan, National Fellow for Innovation and Change National Doctors Training and Planning (NDTP)