

Centre for
Data Analytics

Insight 

Creating a data-driven society

www.insight-centre.org



Insight is Ireland's leading research centre for the study of Data Analytics.

In a joint initiative between Dublin City University, NUI Galway, University College Cork and University College Dublin, Insight brings together more than 200 researchers from these and other Higher Education institutions, with 30 industry partners, to position Ireland at the heart of global data analytics research.

Supported by Science Foundation Ireland and industry partners, Insight focuses on new ways to capture and understand data from the world around us, make better decisions for people, communities and industry, and create a more informed society in a healthier, more productive world.



About Data Analytics

In today's society, a growing torrent of data is created every second of every day from industry-generated transactional data, to sensor data capturing a wealth of information about how we live, work, and play.

Harnessing this Big Data requires a new set of technologies and skillsets to transform raw data into valuable insights that can inform better decisions. Ultimately the promise of Big Data is better decisions: better decisions about society, about government, about healthcare, about the global economy.

Insight will play a leading role in the development of next generation data analytics technologies that are capable of delivering on this promise.

The Global Data Analytics Market

Big Data is also big business as Ireland stands to benefit significantly from the scale of the Big Data Analytics opportunity.

In 2012 the business analytics software global market was estimated to be worth \$33.9 billion, while a recent analysis by the McKinsey Global Institute estimated the potential value of Big Data Analytics across a number of different sectors.

The annual value of data analytics for the US healthcare system was estimated to be \$300 billion, while \$250 billion was the estimated annual value of Europe's public sector Administration, with Big Data driving a 60% increase in the operating margins of retailers.

The Insight Approach

Combining fundamental science and enabling technologies, and working with a wide range of industry partners, Insight conducts platform research across a series of application themes. Current research themes fall into two categories, **Connected Health** and **The Discovery Economy**.

Chronic Disease Management and Rehabilitation

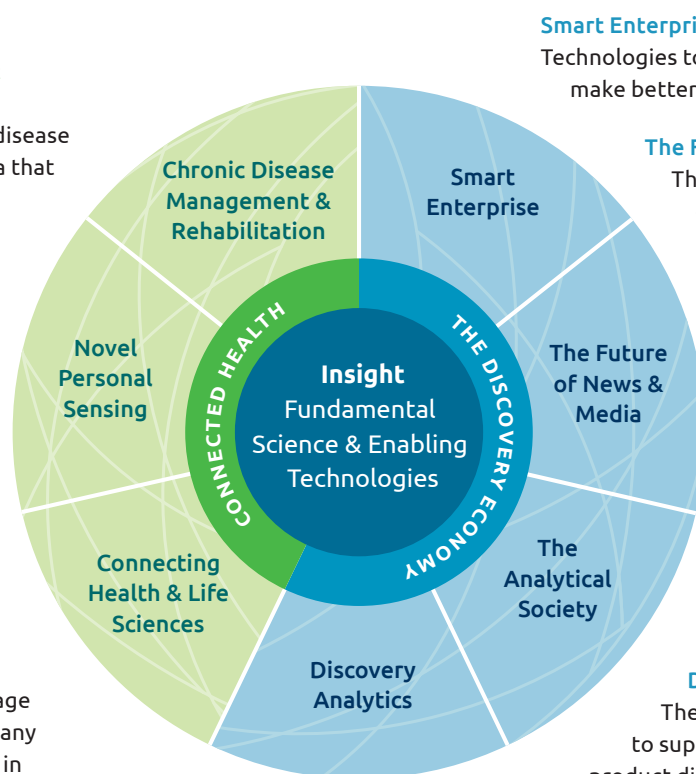
Modelling the progression of disease or rehabilitation based on data that can be acquired from patients using ambulatory sensing strategies.

Novel Personal Sensing

Technologies which can monitor the physiology, activity and behaviour of people, for a variety of health, work or leisure related activities.

Connecting Health and Life Sciences

A data engineering strategy for personalised medicine, enabling the industry to leverage the knowledge concealed in many increasingly complex datasets in chemistry and life sciences.



In Partnership with Industry

Insight represents a new approach to research and development in Ireland, by connecting the scientific research of Ireland's leading data analytics researchers with the needs of industry and enterprise.

Insight works with 30 industry partners, ranging from small Irish startups to established SMEs and large multinationals, on a range of defined projects to position Ireland at the heart of global data analytics research.

Education and Training

Insight also plays a key role in the education and training of future generations of data analytics experts.

At present, Insight partner universities offer 18 postgraduate Masters and Higher Diploma programmes in information technology and data analytics, with students benefiting from placements with Insight centres. In addition, Insight currently has over 150 PhD students and Post doctoral researchers, working in the field of data analytics.

Who we are

Insight brings together more than 200 researchers to advance the development of data analytics research in Ireland.

Insight is led by some of Ireland's leading researchers, each with globally-recognised expertise in the field of data analytics.

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PROFESSOR BARRY SMYTH BSc, PhD, MRIA
INSIGHT CHIEF EXECUTIVE OFFICER

Barry holds the Digital Chair of Computer Science at University College Dublin and is a member of the Royal Irish Academy. Barry's research interests cover a broad range of topics in the area of artificial intelligence and information discovery and he has published more than 400 scientific articles in leading journals and conferences. Barry is also an entrepreneur, co-founding ChangingWorlds (acquired by Amdocs in 2008) and HeyStaks. He serves on the board of the Irish Times Trust and SkillPages in addition to occasionally advising a range of early stage startups.



MICHAEL TURLEY
INSIGHT CHIEF OPERATING OFFICER

As CEO of the Digital Enterprise Research Institute at National University of Ireland Galway, Michael facilitated its growth into the largest Semantic Web Research Institute in the world, attracting over €60 million in funding to date. Michael has over 25 years experience in Healthcare, Telecoms and IT, fulfilling technical and business support roles with strategic, project, budgetary and implementation responsibilities. His areas of expertise include research and development; manufacturing engineering; operational quality and TQM; product launch management and facilities and IT support services.



PROFESSOR STEFAN DECKER
Dr.rer.pol, Dipl-Inform, MRIA, CEng FIEI
INSIGHT DIRECTOR AT NUI GALWAY

Stefan is a Professor of Digital Enterprise at the National University of Ireland Galway, and was Director of the Digital Enterprise Research Institute. Previously he has held research positions at ISI, University of Southern California, Stanford University, and Institute AIFB, University of Karlsruhe. He is one of the most widely cited web scientists in the world, and his current research interests include semantics for access to information and documents, collaborative systems, the future internet, web 2.0, and distributed systems. He is a member of the Royal Irish Academy and a Board Member of Informatics Europe.



PROFESSOR PÁDRAIG CUNNINGHAM
BE, MEngSci, PhD
INSIGHT DIRECTOR AT UCD

Pádraig is Professor of Knowledge and Data Engineering in the School of Computer Science and Informatics at UCD. His current research focus is on the analysis of graph and network data and on the use of machine learning techniques in processing high-dimension data. He was elected to Fellowship in TCD in 1998 and became a Fellow of ECCAI in 2004. Pádraig has published over 170 peer-reviewed papers in the general area of applied AI, focusing on machine learning and knowledge based systems for decision support in engineering, e-commerce, finance and medicine.



PROFESSOR BARRY O'SULLIVAN
BTech, PhD, FECCA
INSIGHT DIRECTOR AT UCC

Barry is Professor of Constraint Programming and Head of the Department of Computer Science at UCC. He was Director of the Cork Constraint Computation Centre. He is a Fellow of ECCAI, and a Senior Member of the Association for the Advancement of Artificial Intelligence. Barry was President of the International Association for Constraint Programming from 2007 to 2012. He is Chairman of the Artificial Intelligence Association of Ireland, and coordinator of the ERCIM Working Group on Constraints. Barry's research focuses on optimisation, decision analytics, and constraint programming. Barry is the author of over 250 peer-reviewed publications.



PROFESSOR BRIAN CAULFIELD
BPhysio, MMedSci, PhD, MISCP
INSIGHT DIRECTOR AT UCD

Brian is the Professor and Dean of Physiotherapy at University College Dublin. Prior to the establishment of Insight he was the Director of the TRIL Centre and was a Principal Investigator in the CLARITY Centre for Sensor Web Technologies. Brian's research programme is focused on exploiting technological advances to enhance human performance in the fields of connected health and sport. Brian has co-authored over 180 peer-reviewed publications, six patents, and has supervised over twenty graduate research MSc and PhD projects to completion. He is also the Lead Investigator in the ARCH (Applied Research for Connected Health) technology centre.



PROFESSOR ALAN F SMEATON
MSc, PhD, MRIA
INSIGHT DIRECTOR AT DCU

Alan is a Professor of Computing at DCU, where he was previously Head of School and Dean of Faculty. He was a Principal Investigator and Deputy Director of the CLARITY Centre for Sensor Web Technologies and founded the Centre for Digital Video Processing at DCU. His research interests include the indexing and content-based retrieval of information in all media. The focus of his work is on information access for human digital memory applications, applications of the sensor web, and benchmarking content-based video applications. Alan has published over 500 refereed articles and is a member of the Royal Irish Academy. He is also a member of the Irish Research Council.