Curriculum Vitae

Dr Paul T. Galvin

Senior Head of Group Bioelectronics
Head of ICT for Health Strategic Programmes
Head of Life Sciences Interface Group
Director - *ENTIRE* European Digital Innovation Hub
Tyndall National Institute
Cork, Ireland

Personal Details

Full name: Paul Timothy Galvin

Home Address: Ard na Locha, Castleview, Macroom, Co. Cork **Telephone No**: +353866031728
Email: paul.galvin@tyndall.ie

Work Address: Tyndall National Institute, Dyke Parade, Cork, IRELAND

Nationality: Irish

Date of Birth: 24-04-69

Degrees and professional qualifications

Degree	Year	University
BSc Honours Zoo (2H1)	1990	National University of Ireland, Cork
PhD (Science - Molecular Genetics)	1995	National University of Ireland, Cork & The Queens University, Belfast

Summary of Experience:

Dr. Paul Galvin received his PhD in 1995 for his research on molecular genetics of Atlantic salmon. He worked as a post-doctoral research fellow in University College Cork (UCC) on the development and application of DNA profiling techniques to various marine species until 2000. In April, 2000, he joined the Tyndall National Institute (then NMRC), where he established a research team in the field of Nanobiotechnology, which focused mainly on the development of devices and systems for biomedical applications. His current research group in Tyndall typically comprises of 25 people. He is Director of the *ENTIRE* European Digital Innovation Hub (EDIH), leading a consortium of five partners supporting SMEs and public sector organisations with their digital transformation. He also leads the Tyndall *ICT for Health Strategic Programmes*, engaging the research groups and centers across Tyndall with clinicians and industry to ensure that innovations have clinical utility and commercial opportunity. His vision was responsible for initiating the development of several research platforms within Tyndall, including:

- integrated solutions for point of care genetic testing;
- in vitro multiparameter cell sensing for toxicity testing;
- a smart needle bioimpedance system for identification of nerves;
- a smart medical device with an integrated miniaturized camera for clinical training;
- a microneedle based smart patch system for realtime physiological monitoring;
- neural modulation electrodes for next generation prostheses and for treatment of urinary incontinence;
- a wireless sensor platform for monitoring palliative care patients
- wearable smart patches for continuous monitoring of ECG.
- smart dressing systems for woundcare monitoring
- Smart drug delivery systems

In 2019, Dr Galvin was awarded the University College Cork Impact Award, in recognition for his role in developing health innovation within Tyndall (and across the University), as well as the creation of an ecosystem involving clinicians and the medtech industry to ensure translation of research excellence into impact in healthcare.

Employment History

Current position

Period:	April 2000 to present
Position:	Director, *ENTIRE* European Digital Innovation Hub since 2023 Senior Head of Group, Bioelectronics since 2023 Head of ICT for Health Strategic Programmes since 2014 Head of Life Sciences Interface Group since 2009 Head of Nanobiosystems Group from 2008 – 2009 Nanobiotechnology Team Leader from 2003 - 2007 Research Scientist from 2000-2003.
Institution:	Tyndall National Institute, Cork

Paul Galvin is Head of the ICT for Health Strategic Programmes at the Tyndall National Institute, where 600+ research and support staff enable breakthrough research in photonics, electronics, micro-nano-technologies and smart systems to deliver new solutions for health. Working with global leaders in medtech and pharma industry, and in collaboration with clinical experts, his role is to ensure that Tyndall research delivers impact in terms of clinical utility and commercial opportunity through novel solutions for diagnostics, connected health, drug delivery systems, cardio and neural recording and modulation, and minimally invasive surgery. This was facilitated by being a collaborator in the Science Foundation Ireland (SFI) Biomedical Diagnostics Institute, currently a Funded Investigator and Site Lead for Tyndall in the Research Ireland Insight Centre for Big Data Analytics and the Research Ireland VistaMilk Centre. He has led several multidisciplinary national and international research projects which leverage materials, photonics and electronics solutions for challenges in healthcare. He was Chair of the Medtech Working Group for the European Technology Platform for Nanomedicine until 2018 and was leader of the Health Sensors Systems Working Group within the European Sensor Systems Cluster.

His initial research in Tyndall was mainly focused on the development of integrated near patient analysis microsystems, for point-of-care medical applications and multi-parameter cell analysis systems for toxicity testing, but has broadened out to cover all aspects of ICT enabled technology solutions for health in diagnostics, connected health, therapeutic systems, cardio and neuro interfacing and modulation, smart systems for innovative surgery and technology enhanced learning. The research is focused towards the development of innovative solutions going from atoms to systems within selected application areas. Engagement with industry research leaders and clinicians from across Europe within the various projects, has ensured that the research has commercial potential and clinical utility.

From concept through to delivery of the final prototypes and reports, he initiated, wrote and coordinated several projects. Examples of large international EC funded multidisciplinary research projects coordinated by Dr Galvin include:

- CF-CHIP - €2.3 million - www.tyndall.ie/projects/cf-chip - To develop a magnetic sensing platform for genetic analysis.
- SNiP2CHIP - €3.2 million - www.tyndall.ie/projects/snip2chip - To design, fabricate, characterize and clinically evaluate, a novel microsystem for mutation detection targeting point-of-care applications.

He was a founding member of *Nano2Life*, the European Network of Excellence (NoE) on nanobiotechnology (www.nano2life.org). Within that, he was leader of the Nano2Life Strategic Research Programme on "DNA, Protein and Cell Chips", which involved coordination of academic, clinical and associated industry partners, to facilitate initiation of collaborations where appropriate. He was also part of the industry task force within the Nano2Life NoE, which focused on understanding the needs of European industry for nanobiotech related research. In a follow-up project, he was responsible for liaising with industry within the EC FP7 funded EuroNanoBio project, to understand the various models for SMEs and MNCs to engage with publicly funded research facilities for activities related to nanomedicine, and to identify actual or potential gaps in the European research capacity which could hinder the growth of the European nanobiotech industry. He was involved in research related to neural interfacing towards the development of a next generation prosthetic arm, within the EC FP6 Smarthand project. He has been Principle Investigator in Tyndall for research involving several national centers: as a Co-Applicant for the

SFI Infant Center for perinatal research, as a funded investigator in the SFI Insight Center for data analytics, and as a collaborator in the SFI Biomedical Diagnostics Institute CSET. He was also lead PI for two interdisciplinary multi-institutional projects (*Genescope* and *NanoMedic*) funded by the Collaborative Centre for Applied Nanotechnology (CCAN).

To date, his research has been supported by the European Commission (FP5, FP6, FP7, H2020 and Horizon Europe with projects funded through Health, NMP & ICT programmes), by national funding agencies including Science Foundation Ireland (now Research Ireland), Enterprise Ireland and the Higher Education Authority of Ireland, and by several leading multinational Medtech companies. He has routine interactions with a wide range of MNC and SME ICT, biotech, medical device and pharma companies through his role as leader of Tyndall's ICT for Health Programmes.

He has a high level of technical competence within each of several diverse scientific disciplines including molecular and cell biology, population genetics, surface chemistry and lab-on-chip devices and systems, biophotonics, electrochemical sensors, microelectronic systems for biomedical applications, as well as micro- and nanoscale fabrication and characterisation.

He has been a co-inventor on five filed patent applications, has more than 80 international peer review publications (https://scholar.google.com/citations?hl=en&user=THwp2roAAAAJ&view_op=list_works&sortby=pubdate) and has made more than 100 presentations (posters and talks) at international conferences around the world (including many invited papers and presentations) across a diversity of scientific disciplines. To date, awarded grants for his research amount to in excess of €12.5 million.

He has been responsible for all aspects of specification, purchasing and commissioning of several items of capital equipment for the Life Science Interface Laboratory Suite (for which he is responsible as Head of the LSI Group) in the Tyndall National Institute, including an epifluorescent microscope, a microinjection moulding system, chemical fume cupboards, a nanopatterning device, a CNC micromilling machine (for the Tyndall workshop), together with various electronic instruments and molecular biology equipment.

International profile in Health innovation is evidenced by:

- Hosting of the NanoBioEurope 2011 conference in Cork and as a member of the Industrial and Scientific Steering Group for the NanoBioEurope conferences in 2006, 2009, 2010 and 2012;
- Hosting of the 2006 EC FP7 *Nano2Life* Network of Excellence conference in Cork;
- Invited as an expert evaluator to several EC FP programmes, and as an expert project reviewer in FP7 ICT programme; invited also as an expert evaluator in national programmes in France, Portugal, Greece, Estonia, Finland and Germany.
- Invited speaker at many international conferences;
- External examiner for two PhD theses in University of Lisbon, one in University of Limerick, and one in Dublin City University;
- Invited participant to strategic European initiatives including FP7 EuroNanoBio project and H2020 NOBEL project with Medtech Europe.
- Expert reviewer for several leading international peer-reviewed journals

Publications

(Full details in Google Scholar: http://scholar.google.com/citations?user=THwp2roAAAAJ or http://research.ucc.ie/profiles/E026/paulgalvin)