

CURRICULUM VITAE

COLM BROWNING, PHD

EDUCATION

- 09/2009–07/2013 **PhD, Radio and Optical Communications Laboratory**
Dublin City University, Glasnevin, Dublin 9, Ireland
Research Area: High speed optical communications systems
- 09/2005–06/2009 **Bachelor of Electronic Engineering (B.A.I., B.A.)**
Trinity College Dublin, College Green, Dublin 2, Ireland
Electronic Engineering (B.A.I.) and Mathematics (B.A.)

PROFESSIONAL EXPERIENCE

- 01/2023–Present **Mbryonics Ltd.**
Unit 13 Westside Enterprise Park, Westside, Galway, Ireland
Position: Head of Photonic Systems and R&D Project Manager
- Lead research and development role at Mbryonics - an Irish SME specialising in optical communication systems and advanced manufacturing for the space sector.
 - Telecommunications transmission test-bed design and implementation
 - Research and innovation strategy development
 - Multi-disciplinary research project management
 - Leadership roles on large-scale European projects (Horizon Europe, Marie Curie, European Commission)
 - Responsible for reporting on European project deliverables and milestones
 - Project budget management and procurement
 - Directing and managing technical research
 - Coordinating national and EU research and innovation bids/proposals
 - Identifying and liaising with academic and industrial partners/stakeholders
- 01/2023–Present **Dublin City University**
DCU, Glasnevin, Dublin 9, Ireland
Position: Adjunct Faculty, School of Electronic Engineering
- Supervision of joint academic/industrial research programme in microwave photonics.
 - Advise on research direction
- 07/2013–12/2022 **Dublin City University**
DCU, Glasnevin, Dublin 9, Ireland
Position: Postdoctoral Researcher / Senior Research Fellow / Principal Investigator, School of Electronic Engineering
- Management and supervision of independently funded research group
 - PhD supervision (two students graduated)

- Science Foundation Ireland principal investigator for research on advanced hybrid radio and optical communications systems
- Research project management and technical lead (four year SFI project - awarded 2018)
- Research project management and technical lead (three year EU Marie-Curie Actions programme - awarded 2018)
- Implementation and testing of OpenIreland test-bed at DCU
- Lecturer: EE454 Optical Communications Systems (Masters course)
- National and EU research grant applications
- Publication, dissemination and public engagement

01/2014–09/2014 **Fulbright Scholar - Columbia University**

New York, NY 10027, United States

Position: Post-Doctoral Researcher

- Awarded the Fulbright Tech Impact award at Columbia University, New York, United States
- Technical lead on research programme
- Laboratory test-bed development for amplified optical networks and data centre interconnect transmission
- Education and public engagement
- Fulbright ambassadorial role in New York, USA

RESEARCH & DEVELOPMENT

- Project & Programme Management
 - Internal project manager for Horizon Europe, European Space Agency and EU Marie Curie research activities
 - Executive board member and work package leader for Marie Curie International Doctoral Network 'MWP4SPACE'
 - Executive board member and work package leader for Horizon Europe 6G communications project 'ECO-eNET'
 - Horizon Europe project milestone and deliverable collation, reporting and dissemination
 - Programme manager for multiple research and product development initiatives at Mbryonics with key stakeholders, customers and academic/industrial technology partners
 - Professional Skills for Research Leaders (PSRL) certificate (Dublin City University)
 - Project management methodologies used: Waterfall, Agile, Scrum
 - Project management tools: Teamworks, Microsoft Project, Jira, Slack
- Funded Research & International Experience
 - **EC Marie-Curie IDN:** (2023) Work package leader for Marie Curie International Doctoral Network on microwave photonics for space.
 - **Horizon Europe:** (2022,2023,2024) Coordinated and co-authored several large-scale Horizon Europe applications (Cluster 4 - Digital, Industry and Space).
 - **SFI-CONNECT:** (2022) CONNECT research centre platform project Funded Investigator
 - **EI DTIF:** (2020, 2024) Principal Investigator for 'Freespace' funded by a Disruptive Technology Innovation Fund (DTIF) from Enterprise Ireland (EI). Work-package leader for DTIF project: National Space Systems and Payloads Initiative (NSSPI)

- **SFI-SIRG:** (2018) Principal Investigator on the ‘Flexible Photonic Network Convergence Enabling Future Mobile Communications’ (COMPhLEX) project funded through Science Foundation Ireland (SFI). The funding was awarded on a highly competitive basis to just 20 early-career researchers across all fields of science and technology.
- **EU Marie-Curie Actions:** (2018) Appointed as the Irish member of Marie Curie EU COST Action on Integrated Microwave Photonics
- **Ulysses:** (2017) Awarded an Irish Research Council grant to undertake research on optical millimeter-wave generation at the Grenoble Institute of Technology, France.
- **Fulbright:** (2014) Received a Fulbright Tech-Impact award to lead research on optical data centre networks at Columbia University, New York, United States.
- **India:** (2014) Post-doctoral researcher at the Indian Institute of Technology Madras (Chennai) as part of the Marie Curie international research staff exchange scheme fellowship.
- **Australia:** (2013) Joined the optical systems group at Monash University (Melbourne) on secondment during PhD studies having been awarded a Science Foundation Ireland travel fellowship.

EDUCATION & PUBLIC ENGAGEMENT HIGHLIGHTS

- Co-organized and hosted a free and open access virtual worldwide laboratory tour event as part the IEEE Photonics Conference (IPC) 2021; showcasing optical system laboratory test-beds from various research groups around the world.
- Contributed a webinar to the Irish Photonic Integration Centre series ‘The Future of Light’ celebrating the International Day of Light 2021. The YouTube ‘explainer’ was aimed at the general public and highlighted the importance of optical networks for cloud computing.
- Published an article for Ireland’s national broadcaster (RTÉ) explaining the impact of the COVID-19 pandemic on optical and wireless networks. The article, which was aimed at the general public, was the most read on that section of RTÉ’s website for several days.
- Contributed to Ireland’s bid to join CERN by pitching national SMEs’ capabilities in advanced technologies to a CERN delegation.

AWARDS & ACHIEVEMENTS

- 2024 Over 100 publications and 1600 citations in the area of hybrid wireless and optical communications systems (Google Scholar)
- 2024 Selected by Enterprise Ireland as national expert on Horizon Europe Smart Networks and Systems Joint Understanding (SNS-JU)
- 2024 Selected as Programme Committee member for the European Conference on Optical Communications
- 2023 Keynote speaker at IEEE ICC China
- 2022 Elevated to IEEE Senior Member for significant professional accomplishment
- 2022 Invited speaker at IEEE Photonics Conference (IPC) ‘22
- 2022 Invited speaker at SPIE Conference on Information Optics and Photonics (CIOP) ‘22
- 2021 Invited speaker at OSA Advanced Photonic Congress
- 2020 Invited speaker at Asia Communications and Photonics Conference (ACP)
- 2019 Invited speaker at the IEEE International Photonics Conference (IPC)

2018 Awarded SFI 'Starting Investigator Research Grant'

2018 Appointed member of Marie Curie EU COST Action on Integrated Microwave Photonics

2014 Awarded a Fulbright Tech-Impact scholarship to Columbia University, NY, USA

2013 Selected as expert reviewer for numerous technical publications including Scientific Reports, IEEE Communications Magazine and IEEE Transactions on Microwave Theory and Techniques