



Optics in Ireland: introduction to the feature issue

A. LOUISE BRADLEY,¹ MARTIN LEAHY,² NABEEL A. RIZA,³ AND JOHN T. SHERIDAN^{4,*}

¹*School of Physics, Trinity College, Dublin, Ireland*

²*School of Physics, National University of Ireland, Galway, Ireland*

³*School of Engineering, University College Cork, Cork, Ireland*

⁴*School of Electrical and Electronic Engineering, University College Dublin, Ireland*

*Corresponding author: john.sheridan@ucd.ie

Received 16 July 2018; posted 16 July 2018 (Doc. ID 339957); published 1 August 2018

This feature issue provides a snapshot of some of the applied optics and photonics related research and development activities currently taking place across Ireland. The issue contains some thirty papers, including contributions from universities and institutes of technology research groups, state research laboratories and institutes, and commercial companies. © 2018 Optical Society of America

<https://doi.org/10.1364/AO.57.00IRE1>

Ireland has a proud record of contributions in the sciences and engineering, most particularly in the area of fundamental and applied optics. Ireland is the site of the world's oldest still functioning optical instrument at Newgrange, (built before both Stonehenge and the pyramids at Giza). Robert Boyle of Boyle's law and microscope fame was born here, William Hamilton of the Hamiltonian operator and conical diffraction worked here, and for much of the 18th century Ireland was home to the largest telescope on Earth, "The Leviathan of Parsonstown". George Boole invented Boolean algebra (today's foundation of the information age) in Ireland and Joseph Larmor derived his equations underpinning the MRI. Both John Tyndall, the inventor of the light pipe (forerunner of the modern optical fibre) and George Gabriel Stokes who developed the vector representation for polarization were also born in Ireland.

Today Ireland can boast of an extremely active high technology industrial base with research and development activities involving partners from across the globe. This feature issue supports these assertions in relation to optics, and provides insight into the breadth and depth of local research activities. While the overview provided here is not comprehensive, a

serious attempt has been made to encourage submissions on as wide a range of topics as possible and from across our diverse community.

Worldwide, optics is currently an extremely vibrant area of research and economic activity. Despite some economic setbacks and recent uncertainty we hope this issue demonstrates that Ireland is a resilient nation with dedicated researchers covering a diverse spectrum of optical research areas and career tracks. Irish researchers are proud to be carrying out worldclass research at the very heart of the international optics community.

On behalf of our community we wish to acknowledge the continuing generous financial support of Enterprise Ireland (EI), the Irish Research Council (IRC) for Science Engineering and Technology, Science Foundation Ireland (SFI), and The European Union.

Finally, in relation to this issue we wish to thank the Editorial Board for providing us with this opportunity, the reviewers for their generous assistance and the staff at OSA for their patient and professional support.

Go raibh míle maith agaibh go léir.