Citation for Prof. Greg Hughes for the President's Research Award (2013)

For significant contributions to the development of experimental surface science as a key field of research within DCU, demonstrating academic excellence, strong enterprise engagement and translation/knowledge transfer achievements in a range of surface science research areas, and notably for his recent work on diffusion barrier layer studies and high energy x-ray photoelectron spectroscopy, both for next generation microelectronic devices.

Prof. Greg Hughes graduated with a first class honours B.Sc. in Chemistry and a Ph.D. from the University of Ulster. He was a postdoctoral researcher at the IBM Thomas J. Watson Research Centre in Yorktown Heights, New York and came to NIHE Dublin in 1986. He is now an Associate Professor in the School of Physical Sciences. His research is in experimental surface science, and particularly its use to understand and characterise materials important to the semiconductor industry. He established the DCU Surface and Interface Research Laboratory and is a founder member of the National Centre for Sensor Research (NCSR).

Greg has an outstanding track record, having published over 125 peer-reviewed publications. His publications have garnered 2124 citations, giving a H-index of 27. He has more than 60 conference contributions, with many as invited speaker. Greg has always been strongly involved in postgraduate education and has supervised 16 research postgraduates, in addition to postdoctoral fellows. He has an extremely strong record in attracting research funding, and is currently an SFI Principal Investigator award holder, as well as contributing to various other SFI programmes), and he has a total research grant income of > €3 million. Greg has a wide range of collaborations in the US and Europe and he has also spent a sabbatical research period in the Technical University of Berlin in 1993/4, sponsored by an Alexander von Humboldt Research Fellowship.

One of the major aspects of Greg's research work is his strong enterprise engagement and knowledge transfer activities. His work is highly applicable and of enormous importance to modern microelectronics fabrication and he has interacted strongly with key industrial partners. His main industrial collaboration has been with Intel Corporation and this has resulted in a range of grants and research outputs. Greg was the first Irish university-based academic to spend 3 months on-site at the Intel Ireland plant in 2000. In January 2013 he received a Commercialisation Award from Invent in DCU for his and his team's work with Intel in 2012 in aiding Intel's fundamental understanding around barrier layer formation.

In addition to the enormous contributions and achievements associated with his research work, Greg is a tremendous servant to DCU and to the School of Physical Sciences, and contributes in a broad and dedicated way to the entirety of the activities of the University, including a sustained excellent performance in teaching activities. He has undertaken important leadership positions such as deputy head (2007-2009) and head (2009-2012) of the School of Physical Sciences. On behalf of DCU, he played a key role in the DCU-India internationalisation strategy and implementation having visited India in September 2011 and January 2013.

Greg's research work, which is experimental surface science research of the highest international reputation and standing, is an exemplar of how university research work of the very highest academic quality can also form the basis of a deep and sustained enterprise engagement and knowledge transfer activity, to the benefit of both the university and industry partners. Greg's achievements and activities are an excellent embodiment of the DCU commitment to industry and enterprise as articulated in the new Strategic Plan, notably under the core principles of Academic Excellence, Transformation, Translation and Engagement. His extensive and distinguished record of international collaborations further epitomise DCU's commitment to be an internationally recognised research intensive and globally-engaged University of Enterprise.

In both his research and in all his other roles he has distinguished himself at all times by the helpfulness, collegiality, support (especially of younger colleagues), modesty, friendliness, humour and good spirits he evinces towards all his colleagues. Greg is a world-class researcher and is held in the highest regard by his colleagues. He is a truly inspiring ambassador for both the School of Physical Sciences and DCU.