



Press Release

IMMEDIATE

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Professor Gareth Padfield Awarded 2012 AHS Alexander A. Nikolsky Honorary Lectureship

Alexandria, VA--AHS Executive Director Mike Hirschberg announced today that Professor Gareth Padfield has been selected for the 2012 Alexander A. Nikolsky Honorary Lectureship. The Lecture will be delivered at the 68th AHS Annual Forum and Technology Display at the Ft. Worth Convention Center, Ft. Worth, TX on Tuesday, May 1, 2012 from 4:00 p.m. – 5:00 p.m.

The Lectureship is awarded to “an individual who has a highly distinguished career in vertical flight aircraft research and development and is skilled at communicating their technical knowledge and experience.” In winning the award, Prof. Padfield joins the ranks of many previous distinguished Nikolsky recipients, including for example, Dr. David Peters, Dr. Ken Rosen, Troy Gaffey, Dr. Richard M. Carlson, Professor Howard C. Curtiss, Jr., Dr. Daniel P. Schrage, Rene Mouille, Professor Alfred Gessow, Bartram Kelley, Robert Huston, Bruno Lovera, Professor Barnes McCormick, Jr., Dr. Wayne Johnson and Bill Bousman.

Padfield’s long and distinguished career as a research scientist and professor has been instrumental in establishing and expanding the analytic boundaries in many rotorcraft areas, including flight handling qualities of helicopters and tilt rotor aircraft, simulator fidelity, helicopter/ship dynamic interface modeling, and analysis techniques to help define and explain the complexities of both helicopter and human pilot behavior measured in flight test. In his innovative approach to flight control, Padfield has drawn on the understandings of visual perception in the natural world to explain how pilots guide and stabilize aircraft.

Padfield received his Bachelor of Science in aeronautical engineering at the University of London (Queen Mary College) in 1969. Padfield’s eventual research focus was defined very early, with his prize winning final year project, “The Strongly Controlled Aircraft,” published in the *Aeronautical Quarterly* in 1971. After graduating, Padfield took up a research post at QMC, modeling unsteady flow around airfoils using surface singularity and functional analysis techniques. In 1972, he accepted a post as a stability and control engineer at Westland Helicopters, developing computational methods for the design and development of new aircraft. Padfield joined the post-graduate College of Aeronautics at Cranfield in late 1973. He used the method of multiple scaling to develop prediction methods for bifurcation in nonlinear flight dynamics of fixed-wing aircraft. During his time at Cranfield, Padfield taught a class in helicopter dynamics and gained his private pilot’s license; he completed his PhD in late 1976 and joined the Royal Aircraft Establishment (RAE) Bedford in the Helicopter Division.

During his 23-year career at the RAE (later the Defence Evaluation and Research Agency, DERA), he specialized in helicopter flight research, engaged in flight test, modeling and flight simulation, handling qualities and flight control developments. Padfield also learned to fly helicopters (Bell 47), an experience

which had a profound impact on his understanding of flight handling qualities. His final position in DERA was as Rotorcraft Chief Scientist for Air Systems Sector. During his time at RAE/DERA, Padfield was closely engaged in International collaboration, chairing GARTEUR H-AG06 and H-AG12 on simulation fidelity. He was a member of three AGARD Working Groups that led to follow-on Lecture Series, Helicopter Aeromechanics (LS139, 1985), Rotorcraft System Identification (LS178, 1991) and Operational Agility (WG19, 1994). He was the UK Focus Officer for TTCP (The Technical Cooperation Program) for flight simulation, handling qualities and flight control. In 1995 he received a TTCP achievement award, along with colleagues at the US Army Aeroflightdynamics Directorate (AFDD) laboratory, Hoh Aeronautics and the Canadian Flight Research Laboratory for the development of Aeronautical Design Standard ADS-33 – Handling Qualities Requirement for Military Rotorcraft.

Padfield took up the James Bibby Chair in Aerospace Engineering at The University of Liverpool in August 1999, creating the Flight Science and Technology Research Group. He was Aerospace Programme Director until 2006, more than doubling the undergraduate student intake in this period. In August 2004, he was appointed Head of the Department of Engineering, including the disciplines of Aerospace, Mechanical, Materials Science, Manufacturing, Design and Civil Engineering, where he exercised skills in balance and compromise.

Padfield's research interests include flight handling qualities and control, modeling and simulation and the flight dynamics of fixed and rotary wing aircraft. They also include the more general theme of virtual engineering – the integrated use of product and process modeling in support of design and development. He has been Chief Scientific Officer for the Virtual Engineering Centre – a £5M (\$7.5M) project to accelerate the exploitation of the outputs from basic research by industry. Other projects under Padfield's supervision have included developing the handling qualities and load alleviation functions for civil tilt rotor aircraft, visual perception in flight and the design of display and guidance concepts, simulation fidelity and validation, the aircraft-ship dynamic environment, aircraft/rotorcraft-pilot couplings and, more generally, handling qualities engineering. He has supervised nine successful PhD graduates and more than 80 undergraduate research projects. At Liverpool, he has taught Aircraft Performance and Rotorcraft Flight and introduced a new problem-based-learning module, Flight Handling Qualities, into the final year of the Aerospace Masters program at Liverpool.

Gareth Padfield is a Fellow of the Royal Aeronautical Society and was appointed a Fellow of the Royal Academy of Engineering in 2008. He is an honorary member of the AHS Modeling and Simulation Technical Committee and a member of the Handling Qualities Technical Committee, Safety Committee and Education Committee. He is a member of the Editorial Board of The Royal Aeronautical Society's *Aeronautical Journal*.

Prof. Padfield will be honored at AHS International's 68th Annual Forum with the presentation of a certificate and a medallion. His lecture, titled "Handling Qualities Engineering" will be given at 4:00 p.m. on Tuesday, May 1, 2012 in the Ft. Worth Convention Center, Ft. Worth, Texas, USA. A written version of his lecture will be featured in a future edition of the *Journal of the American Helicopter Society*.

AHS International – *The Vertical Flight Technical Society* is a professional organization that promotes vertical flight technologies and its applications around the world.