

Michael A. Hayes
2 August 1936 - 1 January 2017.

Michel Destrade,
School of Mathematics, Statistics and Applied Mathematics,
National University of Ireland Galway

Giuseppe Saccomandi,
Dipartimento di Ingegneria Industriale,
Università di Perugia

Michael A. Hayes, Emeritus Professor of Mechanical Engineering at University College Dublin and formerly Head of the Department of Mathematical Physics, University College Dublin, passed away in Dublin on January 01, 2017.

Michael Hayes was born in Kilifane, County Limerick, Ireland on August 02, 1936, the second of four sons. He obtained his BSc degree in 1956 from University College Galway and was awarded his PhD from Brown University (Providence, Rhode Island, USA) in 1962. His subsequent positions included a Postdoctoral Fellowship in Johns Hopkins University (Baltimore, Maryland, USA), and being a Lecturer and Reader at King's College (Newcastle upon Tyne, UK), University of Ife (Ibadan, Nigeria), and University of East Anglia (Norwich, UK). In 1973 he was appointed Professor and Head of the Department of Mathematical Physics at University College Dublin, where he eventually became Emeritus Professor of Mechanical Engineering.

Among several honours and accolades, Michael Hayes was elected a Member of the Royal Irish Academy in 1980, the Secretary General of the International Union of Theoretical and Applied Mechanics (IUTAM) from 1996 to 2000, and Member-at-Large of the IUTAM General Assembly from 2000 to 2004. In more than 50 years of active research, Mike Hayes wrote over one hundred scientific papers in Applied Mathematics and Mechanics, and a monograph with Philippe Boulanger on bivectors (complex vectors) in 1993. At first under the guidance of his advisor Ronald Rivlin and other giants of Continuum Mechanics such as J. L. Ericksen and A. E. Green, and then as an independent researcher, he wrote fundamental papers in the field of nonlinear elasticity, with particular interest in the theory of wave propagation in solids. His papers were characterised by mathematical rigour, a firm grasp in applications, and a crisp and elegant writing style. Over the years, he attracted several graduate and postgraduate students to work with him: N. H. Scott (Norwich), P. K. Currie (Delft), C. A. Horgan (Charlottesville),

M. Destrade (Galway), G. Saccomandi (Perugia), to name a few, and countless collaborators from all over the world, most notably M. F. Beatty (Lincoln), K. R. Rajagopal (College Station) and his closest collaborator, Philippe Boulanger (Bruxelles), with whom he published more than 40 papers.

His final paper was a short note published in 2014 in the *Journal of Elasticity* about finite strain theory. His most famous and cited papers were on waves in elastic materials. These papers have had a deep impact in the research activity on the characterisation and stability of elastic materials, and are to this day, still used in the geophysical modelling of soil. A triple special issue of the journal *Mathematics and Mechanics of Solids* was dedicated to his achievements in 2005.

The scientific community will remember Mike Hayes for his strong influence on the direction and quality of advanced education and research in Mechanics, for his kindness and for being a gentleman in work as in life. His fidelity to the classical scholar tradition always sent a strong signal to all interested in pursuing excellence in Science, and in particular in Mechanics. Mike Hayes was profoundly Christian and it is fitting to salute him with the words of the Creed of Pope Pius IV (1565): *Et exspecto resurrectionem mortuorum. Et vitam venturi seculi. Amen.*

Michel Destrade, Galway,

Giuseppe Saccomandi, Perugia,

January 2017.