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International Journal of Solids and Structures

journal homepage: www.elsevier.com/locate/ijsolstr





Editorial for Special Issue in Honour of 80th Birthday of Prof. J.R. Barber

Professor Jim Barber turned 80 years old in April 2022. He is a very active lecturer in Solid Mechanics at the University of Michigan in Ann Arbor, Michigan, and equally active in innovative research. Jim has been in Ann Arbor for forty years. In the early days he was doing very fundamental work in contact mechanics, thermoelastic concepts and a range of fundamental problems with Maria Comninou, his wife, and with the late Professor John Dundurs of Northwestern University. Jim had already published several papers in contact and crack problems, very fundamental in character and of enduring value, but it was those early papers with John and Maria which set the style of everything which he has published since.

It is hard to exaggerate the esteem in which Jim (he does not like pretentiousness) is held by his colleagues throughout the world. That esteem stems from the quality of Jim's own work, and the open friendliness, completely lacking in any proprietorial sense, with which Jim freely provides his time, his ideas and his insight, without any expectation other than a hope that whatever is being discussed will provide insight for himself and others, preferably a step change in understanding, and push on the subject. Jim has published, so far (!) more than 250 papers, and (one cannot say this very often) every single one of them is worth reading for its insight, mathematical sophistication, eloquence, and conciseness. There are very few of our colleagues where that could truthfully be said. He is a clear, entertaining and (to use a

much over-used word) inspiring lecturer. He has written a final year undergraduate/early postgraduate textbook on strength of materials and, although this of course cannot contain anything new, it is original in its portrayal of content. But Jim will be known best a century from now for two books - first *Elasticity*, in many ways a fitting follow on to Love's celebrated book, and now in its third edition, each completely rewritten and with innovations compared with its predecessor, and secondly *Contact Mechanics*, a real *tour de force*, wholly original in content, with fresh looks at topics which are well-known.

With this Special Issue we celebrate his phenomenal contribution to the field of Applied Mechanics by Jim's many colleagues and friends from around the world, who wish Jim many happy returns, and thank him for all he has contributed to *their* work, and subliminally included in other things they have themselves gone on to achieve. We are sure that we speak for others, too, when we say that we, personally, could not have begun to have 'got going' on our own work without having been imbued with that sense of looking for what lies at the core of a problem and addressing that.

Thank you.

David Hills, Daniele Dini, Marco Paggi, Guest editors