

In memory of

Professor Ted Belytschko

Walter P. Murphy Professor and McCormick Professor of
Computational Mechanics at Northwestern University



Today morning, Prof. Ted Belytschko, one of the shiniest stars in the universe of Computational Mechanics has passed away. Ted was a distinguished professor of Computational Mechanics at Northwestern University, a respected teacher and mentor, author of several books and hundreds of professional articles, recipient of numerous honours and awards, and a highly preferred consultant in various high-tech industries, with an international reputation for his research activities. He was the editor of the prestigious International Journal for Numerical Methods in Engineering (IJNME), and named as the fourth most cited engineering researcher in the ISI Database in January 2004.

Ted Belytschko, however, will always be remembered for his groundbreaking works on various meshless methods, including the element free Galerkin approach, the brilliant idea of the extended finite element method (XFEM), which has revolutionized the way discontinuous problems are efficiently solved, and his achievements in multiscale simulations; bridging the gap between physics and engineering.

Before being introduced to him by my supervisor, Prof. Owen, in a tea break during the COMPLAS congress in Barcelona in mid-90's, I had known him for almost a decade through his magnificent reference texts on explicit time integration techniques, assumed strain formulations and hourglass stabilization procedures for reduced integration finite elements. I have had the honor to remain in touch with him, as a student, a colleague and recently as a friend. Soon after publication of my first book on XFEM in 2008, I received an encouraging email from Ted, congratulating me on the very nice and excellent book on XFEM. That encouragement has remained an inspiration and a driving force for my research activities.

Ted had a stroke in 2010 and had to substantially reduce his activities. While he was the unique choice for the Editor in Chief of IJNME after the retirement of its founder, Prof. Zienkiewicz, his successors, including new editors and several co-editors, are now having a difficult job to properly handle IJNME and to keep it the main reference for computational mechanics research.

His wife Gail wrote today: "Throughout this long difficult period, the support and good will from everyone made it possible for Ted to continue to feel connected and appreciated". He will be appreciated as long as nonlinear finite elements, meshless methods and XFEM are being used by scientists and engineers throughout the world. Personally, I have lost one of my scientific mentors and a friend that will always be remembered.

Soheil Mohammadi
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