Bernhard A. Schrefler, Professor
The University of Padua
Department of Structural and Transportation Engineering

Bernhard A. Schrefler holds a ME. degree in Structural Engineering from the University of Padua (dott. ing with summa cum laude), a Ph.D. and D.Sc. from the University of Wales, Swansea and is Professor of Structural Mechanics at the Faculty of Engineering of the University of Padua.
Dr. Schrefler is fellow of the International Association of Computational Mechanics (IACM), past chairman of the Italian Association of Computational Mechanics (GIMC), member of the Executive Council of IACM, of the Executive Committee of the Congress Committee of the International Union for Theoretical and Applied Mechanics (IUTAM), past member of the Executive Council of the European Community of Computational Methods in Applied Sciences (ECCOMAS). He is regional editor of Mechanics Research Communications, secretary general of the European Mechanics Society (EUROMECH) and secretary general of the International Centre of Mechanical Sciences (CISM).
He has been awarded the Maurice A. Biot Medal from the American Society of Civil Engineers (ASCE), the Euler Medal from the European Community of Computational Methods in Applied Sciences (ECCOMAS), received the Computational Mechanics Award of IACM, the IACM Award and the Palmes Académiques in France.
He has received honorary doctorates from the St. Petersburg State Technical University, the University of Technology of Lodz, the Leibniz University of Hannover, the Russian Academy of Sciences and the Ecole Normale Supérieure at Cachan, an honorary fellowship from the University of Wales Swansea and an honorary professorship from the Dalian University of Technology.
Dr. Schrefler is a member of the National (Italian) Academy of Sciences ("dei XL"), of the Accademia Galileiana di Scienze, Lettere ed Arti; corresponding member of the Istituto Veneto di Scienze, Lettere ed Arti, and the Istituto Lombardo di Scienze, Lettere ed Arti.

Dr. Schrefler has addressed fundamental aspects of applied and computational mechanics, and diverse applications to problems of practical interest. His contributions to structural and materials mechanics include the pseudo three-dimensional analysis of tall buildings, variable thickness plates, cable structures and related stability problems, membranes and wrinkling, asymptotic theory of homogenization with second order and boundary layer correctors, hierarchical and concurrent multi scale methods, thermo-electro-mechanical contact, use of Artificial Neural Networks (ANN) as constitutive models and for parameter identification for symbolic constitutive models.
In the field of technology for thermonuclear controlled fusion he contributed to the design of the reversed field pinch fusion device RFX (coils, vacuum vessel, shell, support structure, radiation in a torus, graphite first wall), and to the analysis of superconducting coils for ITER (International Thermonuclear Experimental Fusion Reactor).
In porous media mechanics he was the first to apply Biot's theory to surface subsidence due to withdrawal of water (Venice) and gas (Ravenna), to extend Biot's theory to two- and three phase flow, and to introduce the generalized Bishop's stress, today the most used stress tensor in partially saturated soils mechanics. He also addressed non isothermal elastic plastic consolidation, infinite elements in isothermal and non isothermal consolidation, large strain quasi-static and dynamic partially saturated soil behaviour, strain localization in fully and partially saturated soils, cavitation modelling, constitutive modelling for partially saturated soils, partitioned solution procedures and their numerical properties, CBS stabilizing algorithm and discontinuous Galerkin method for porous media, hydraulic fracturing with fluid lag, thermo-hydro-mechanical analysis of partially saturated porous media, inclusion of air-water interfaces, carbonation of concrete, three-fluids model for concrete with application to concrete under very high temperatures, concrete at early ages and non-isothermal leaching. The concrete model has been incorporated into several general purpose computer programs.