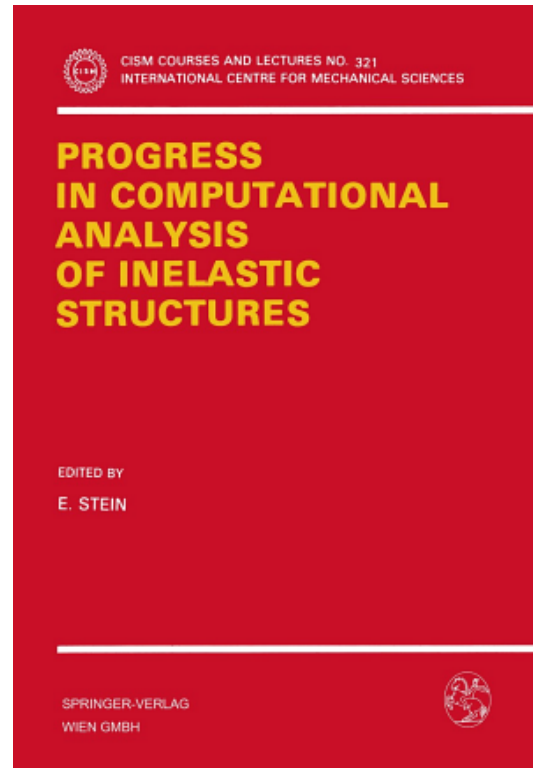




Professor Erwin Stein (1931-2018)



E. Stein (Editor), Progress in Computational Analysis of Inelastic Structures, Springer, 2014

See:

<http://www.ibnm.uni-hannover.de/en/institute/the-team/professors/stein/>

Institute of Mechanics and Computational Mechanics
University of Hannover, Germany

Obituary by Michal Kleiber and Harald van Brummelen [[http://www.eccomas.org/vnews/1096/-obituary-erwin-stein-\(1931-2018\)](http://www.eccomas.org/vnews/1096/-obituary-erwin-stein-(1931-2018))]

With great sadness we have to announce that our highly esteemed colleague Erwin Stein, Professor emeritus of Structural Mechanics and Computational Mechanics at the Leibniz University in Hannover (Germany), passed away on December 19, 2018. Erwin has been one of the founding fathers of computational mechanics in Europe and he was a leader in our field. Among the many awards and distinctions that he received, is the Ritz-Galerkin Medal (2012), the highest distinction awarded by ECCOMAS. Erwin held great respect in the field of computational mechanics and he was a mentor and a dear friend to many in the ECCOMAS community.

Erwin Stein made profound contributions to the development of computational mechanics, notably to the theory of finite-element methods and their application in solid mechanics. His work has been characterized by a thorough and rigorous approach. From the earliest stages of his career Erwin actively pursued interactions with the applied mathematics community, which resulted in many fundamental contributions. Particularly notable in this respect are his seminal contributions to error estimation and adaptivity. His contributions to computational mechanics span more than half a century, and during this entire period Erwin acted in the vanguard of our field. His scientific legacy comprises more than three hundred scientific works and includes the Encyclopedia of

Computational Mechanics, for which he served as one of the editors. Erwin Stein has also made a lasting impact in the field of computational mechanics as an advisor to several generations of doctoral students, many of whom have become full professors later in their careers.

Our community has lost an eminent colleague and many of us have lost a dear friend. Our thoughts are with Erwin's family and loved ones. His scientific legacy will be remembered by generations to come.

Education:

1951-1958 Civil engineering and mathematics at the Polytechnical University of Darmstadt

1964 Dr.-ing. With summa cum laude. Thesis: "Trefftz method for beams, plates and shells"

1969 Habilitation and venia legend for Structural and Solid Mechanics, Univ. of Stuttgart

Thesis: "Coupling of FEM and extended Trefftz method for plates and shells with boundary layers"

Career (Very brief summary; see the website listed above for details):

1971-1998 Full professor and chairholder for Structural Mechanics and Computational Mechanics, University of Hannover

Awards and Honors (Brief summary; see the website listed above for details):

1993 Max Planck Research Award, Polish Academy of Sciences

1994 Honorary Doctor of Science, National Polytechnical University of St. Petersburg, Russia

1995 Honorary Doctor of the University of Stuttgart, Germany

1995 Honorary Doctor of the China University of Mining and Technology, Xuzhou and Beijing, China

1996 Congress Medal of the International Society for Computational Engineering Science

1997 Honorary Doctor of the Polytechnical University of Poznan, Poland

1998 Gauss-Newton Medal of International Association for Computational Mechanics (IACM)

1998 Fellow of IACM

2009 O.C. Zienkiewicz Medal of the Polish Association for Computational Mechanics (PACM)

2012 Ritz-Galerkin Medal of ECCOMAS

Selected Publications:

Stein, E. und Wunderlich, W., "Finite-Element-Methoden als direkte Variationsverfahren", in E. Buck, W. Scharpf, E. Stein und W. Wunderlich (Editors), Finite Elemente in der Statik, Verlag von Wilhelm Ernst und Sohn, Berlin, München, Dusseldorf, 1973.

Stein, E. and M.H. Kessel: Numerische Methoden und deren Konvergenz zur statischen Berechnung geometrisch nichtlinearer Stabwerke im unter- und überkritischen Bereich. Ing.-Arch. 46 (1977) 323–335.

Stein, E.: Variational functionals in the geometrical nonlinear theory of thin shells and finite-element discretizations with applications to stability problems, in Theory of shells, W.T. Koiter and G.K. Mikhailov (Eds.), Amsterdam: North-Holland Publ. Co. 1980 509–535.

E. Stein, A. Berg, and W. Wagner, "Different levels of nonlinear shell theory in finite element stability analysis," in Buckling of Shells. A State-of-the-Art Colloquium. Universität Stuttgart. Institut für Baustatik, 1982, pp. 13.1–13.46.

Stein, E.; Wriggers, P. (1984): Stability of rods with unilateral constraints, a finite element solution. Comput. Struct. 19, 205–211

Wagner, W.; Wriggers, P.; Stein, E. (1985): A shear-elastic shell theory and finite element post-buckling analysis including contact. In: Szabo, I. (ed.) EUROMECH 200, pp. 381–404

P. Wriggers, W. Wagner and E. Stein, “Algorithms for non-linear contact constraints with application to stability problems of rods and shells”, *Computational Mechanics*, Vol. 2, No. 3, 1987, pp. 215-230

Gruttmann, F.; Stein, E. (1987): Tangentiale Steifigkeitsmatrizen bei Anwendung von Projektionsverfahren in der Elastoplastizitätstheorie. *Ing. Archiv*, 58, 1524.

Stein, E.; Wagner, W.; Wriggers, P. (1988): Concepts of Modeling and Discretization of Elastic Shells for Nonlinear Finite Element Analysis. In: Whiteman, J. (ed.): *The Mathematics of Finite Elements and Applications VI*, Proceedings of MAFELAP 87, London: Academic Press.

Stein, E., Wagner W. and Wriggers, P. (1989), “Grundlagen nichtlinearer Berechnungsverfahren in der Strukturmechanik”, In: E. Stein (ed.), *Nichtlineare Berechnungen im Konstruktiven Ingenieurbau*, Springer-Verlag, Berlin, pp. 1–53.

E. Stein, W. Wagner and P. Wriggers, “Nonlinear stability-analysis of shell and contact-problems including branch-switching”, *Computational Mechanics*, Vol. 5, No. 6, 1990, pp. 428-446

W. Wagner and E. Stein, “A new finite element formulation for cylindrical shells of composite material”, *Composites Engineering*, Vol. 3, No. 9, 1993, pp. 899-910

P. Betsch and E. Stein, An assumed strain approach avoiding artificial thickness straining for a nonlinear 4-node shell element. *Commun. Numer. Meth. Engng.* 11 (1995) 899-909.

P. Betsch, F. Gruttmann and E. Stein, “A 4-node finite shell element for the implementation of general hyperelastic 3D-elasticity at finite strains”, *Computer Methods in Applied Mechanics and Engineering*, Vol. 130, Nos. 1-2, March 1996, pp. 57-79

E. Stein (Editor), *Error-controlled Adaptive Finite Elements in Solid Mechanics*, John Wiley & Sons, 2003

E. Stein (Editor), *Progress in Computational Analysis of Inelastic Structures*, Springer, 2014

E. Stein and W. Wendland (Editors), *Finite Element and Boundary Element Techniques from Mathematical and Engineering Point of View*, Springer, 2014