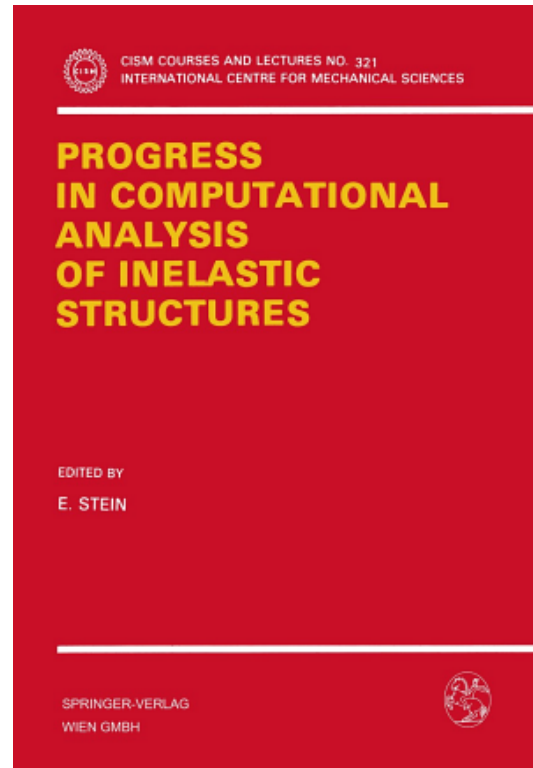




**Professor Emeritus Erwin Stein**



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

**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