



Professor Anders Eriksson

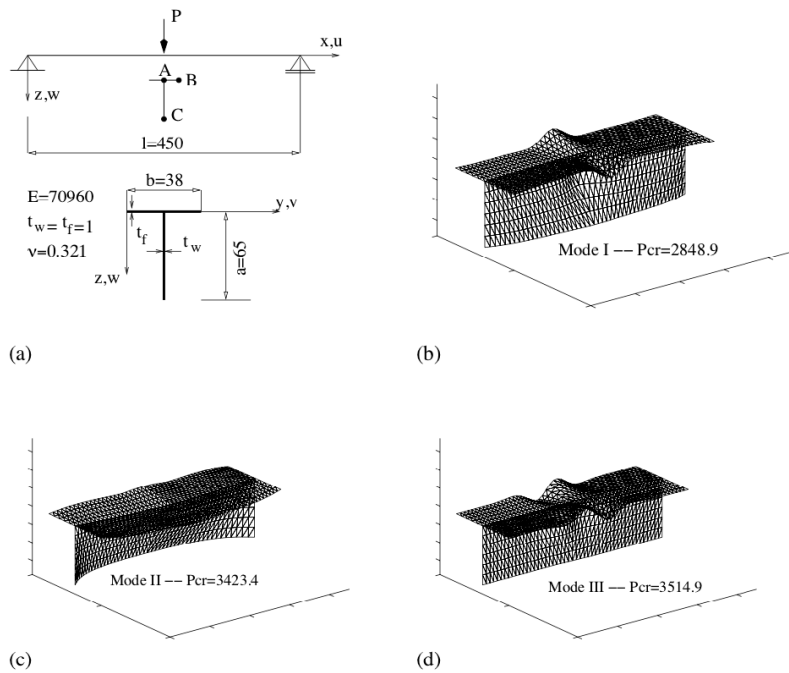


Figure 6: Transversally loaded 'T' beam. Critical eigenvectors for the first three bifurcation points for the basic case: $b = 38$, $a = 65$, $t_w = t_f = t = 1$, $l = 450$

From: Costin Pacoste and Anders Eriksson and Adam Zdunek, "Parameter dependence in the critical behaviour of shell structures: a numerical approach", Fourth International Colloquium on Computation of Shell and Spatial Structures, IASS-IACM 2000, June 5-7, 2000, Crete, Greece

See:

- https://www.mech.kth.se/mech/info_staff.jsp?ID=161
- https://www.researchgate.net/profile/Anders_Eriksson8
- [https://sv.wikipedia.org/wiki/Anders_Eriksson_\(professor\)](https://sv.wikipedia.org/wiki/Anders_Eriksson_(professor))
- <https://scholar.google.se/citations?user=g2h6dMYAAAAJ&hl=sv>

Department of Mechanics
KTH Royal Institute of Technology, Stockholm, Sweden

Education:

- MSc. (civ.eng), KTH 1976
- Dr. (Steel Structures), KTH 1981
- Docent (Struct. Eng., comp. methods), KTH 1988

Professional History:

- Professor of Structural Mechanics, KTH, 1992-
- Vice President of KTH, 1999-2007
- Before 2001-07-01 working at the department of Struct. Eng., KTH.

Research Interests:

Research in numerical modeling of advanced load-carrying structures. Stability investigations, and numerical techniques, primarily related to shells and other slender structures. Finite element forms for the load-carrying structures. Biomechanical modeling of primarily the human musculoskeletal system, including fatigue and extreme contraction effects on muscles. Numerical methods for the optimization of load-paths in the redundant

muscular system. Numerical methods for the evaluation of targeted dynamic movements in the redundant system.

Selected Publications:

- Eriksson, A. (1988), On some path-related measures for non-linear structural F.E. problems, *International Journal for Numerical Methods in Engineering*, V. 26, pp. 1791-1803.
- Eriksson, A. (1989), On linear constraints for Newton-Raphson corrections and critical point searches in structural F.E. problems, *International Journal for Numerical Methods in Engineering*, V. 28, pp. 1317-1334.
- A. Eriksson. On a thin shell element for non-linear analysis, based on the isoparametric concept. *Comp. Struct.*, 42:927–939, 1992.
- Eriksson A., On improved predictions for structural equilibrium path evaluations, *Int. J. Numer. Methods Eng.*, 1993; 36; 201-220.
- A. Eriksson. Fold lines for sensitivity analyses in structural instability. *Comput. Methods Appl. Mech. Engrg.*, 114:77–101, 1994.
- C. Pacoste, A. Eriksson, 'Element behavior in post-critical plane frame analysis', *Computer Methods in Applied Mechanics and Engineering* 125 (1-4), pp. 319-343, (1995).
- C. Pacoste, A. Eriksson, 'Beam element in instability problems', *Computer Methods in Applied Mechanics and Engineering*, 144, pp. 163-197, (1997).
- A. Eriksson. Equilibrium subsets for multi-parametric structural analysis. *Comput. Methods Appl. Mech. Engrg.*, 140:305–327, 1997.
- A. Eriksson and C. Pacoste, "Sensitivity aspects in the critical behaviour of elastic structures: a numerical approach," 1998.
- A. Eriksson. Structural instability analyses based on generalised path-following. *Computer Methods in Applied Mechanics and Engineering*, 156(1-4):45–74, 1998
- Anders Eriksson, Costin Pacoste and Adam Zdunek, "Numerical analysis of complex instability behaviour using incremental-iterative strategies", *Computer Methods in Applied Mechanics and Engineering*, Vol. 179, Nos. 3-4, September 1999, pp. 265-305
- Eriksson, A., Pacoste, C. (1999), Symbolic software tools in the development of finite elements, *Computers & Structures*, V. 72, pp. 579-593.
- Costin Pacoste and Anders Eriksson and Adam Zdunek, "Parameter dependence in the critical behaviour of shell structures: a numerical approach", *Fourth International Colloquium on Computation of Shell and Spatial Structures*, IASS-IACM 2000, June 5-7, 2000, Crete, Greece
- A. Eriksson and C. Pacoste. Solution surfaces and generalised paths in non-linear structural mechanics. *Int. J. Struct. Stab. Dyn.*, 1:1–30, 2001
- Anders Eriksson, "Some Aspects Of Shell Instability Analyses", *CanCNSM Vancouver* June 19-23, 2002
- A. Eriksson and C. Pacoste. Element formulation and numerical techniques for stability problems in shells. *Comput. Methods Appl. Mech. Engrg.*, Vol. 191, No. 35, July 2002, pp. 3775-3810
- Battini JM, Pacoste C, Eriksson A (2003) Improved minimal augmentation procedure for the direct computation of critical points. *Comput Method Appl Mech Eng* 192:2169–2185
- A. Eriksson and A. Nordmark, Instability of hyper-elastic balloon-shaped space membranes under pressure loads, *Comput. Methods Appl. Mech. Engrg.*, 237 (2012), 118–129.
- Eriksson, A., Faroughi, S.: Quasi-static inflation simulations based on co-rotational triangular space membrane elements. *Int. J. Struct. Stab. Dyn.* 13, 2560–2581 (2013)
- Eriksson A, Nordmark A (2014) Non-unique response of Mooney–Rivlin model in bi-axial membrane stress. *Comput Struct* 144:12–22
- A. Eriksson, Constraint paths in non-linear structural optimization, *Comput. Struct.* 140 (2014) 39–47
- N. Ashwear and A. Eriksson, "Natural frequencies describe the pre-stress in tensegrity structures," *Computers & Structures*, vol. 138, pp. 162–171, 2014.
- Amit Patil, Arne Nordmark and Anders Eriksson, "Finite inflation of fluid-filled pre-stretched cylindrical membranes", 27th Nordic Seminar on Computational Mechanics (NSCM-27), A. Eriksson, A. Kulachenko, M. Mihaescu and G. Tibert (editors), KTH, Stockholm 2014
- Amit Patil, Arne Nordmark and Anders Eriksson, "Free and constrained inflation of a pre-stretched cylindrical membrane", *Proceedings of the Royal Society A*, Vol. 470, 20140282, 25 June 2014

Amit Patil, Arne Nordmark and Anders Eriksson, "Instability investigation on fluid-filled pre-stretched cylindrical membranes", *Proceedings of the Royal Society A*, Vol. 471, 20150016, 2015

Yang Zhou, Arne Nordmark and Anders Eriksson, "Instability of thin circular membranes subjected to hydrostatic loads", *International Journal of Non-Linear Mechanics*, Vol. 76, pp 144-153, November 2015

Amit Patil, Arne Nordmark and Anders Eriksson, "Wrinkling of cylindrical membranes with non-uniform thickness", *European Journal of Mechanics – A/Solids*, Vol. 54, pp 1-10, November-December 2015

Patil A, DasGupta A, Eriksson A (2015) Contact mechanics of a circular membrane inflated against a soft adhesive substrate. *Int J Solids Struct* 67:250–262.

Yang Zhou, Arne Nordmark and Anders Eriksson, "Multi-parametric stability investigation for thin spherical membranes filled with gas and fluid", *International Journal of Non-Linear Mechanics*, Vol. 82, pp 37-48, June 2016

Amit Patil, Arne Nordmark and Anders Eriksson, "Instabilities of wrinkled membranes with pressure loadings", *Journal of the Mechanics and Physics of Solids*, Vol. 94, pp 298-315, September 2016

Anders Eriksson, Arne Nordmark, Amit Patil and Yang Zhou, "Parametric stability investigations for hydrostatically loaded membranes", *Computers & Structures*, Vol. 174, pp 33-41, October 2016

Anders Eriksson and Arne Nordmark, "Symmetry aspects in stability investigations for thin membranes", *Computational Mechanics*, 2016, DOI 10.1007/s00466-016-1317-8

Faroughi, S., Eriksson, A.: Co-rotational formulation for dynamic analysis of space membranes based on triangular elements. *Int. J. Mech. Mater. Des.* 13(2), 229–241 (2017)

Yang Zhou, Arne Nordmark and Anders Eriksson, "Multi-parametric stability investigation for thin spherical membranes with contacts", *International Journal of Mechanical Sciences*, Vols. 131-132, pp 334-344, October 2017

Yang Zhou, Arne Nordmark and Anders Eriksson, "Instability investigation for rotating thin spherical membrane", *International Journal of Non-Linear Mechanics*, Vol. 97, pp 96-106, December 2017

Anders Eriksson and Arne Nordmark, "Constrained stability of conservative static equilibrium", *Computational Mechanics*, 2019, <https://doi.org/10.1007/s00466-019-01700-8>

Shirko Faroughi, Erfan Shafei and Anders Eriksson, "NURBS-based modeling of laminated composite beams with isogeometric displacement-only theory", *Composites Part B: Engineering*, Vol. 162, pp 89-102, 1 April 2019