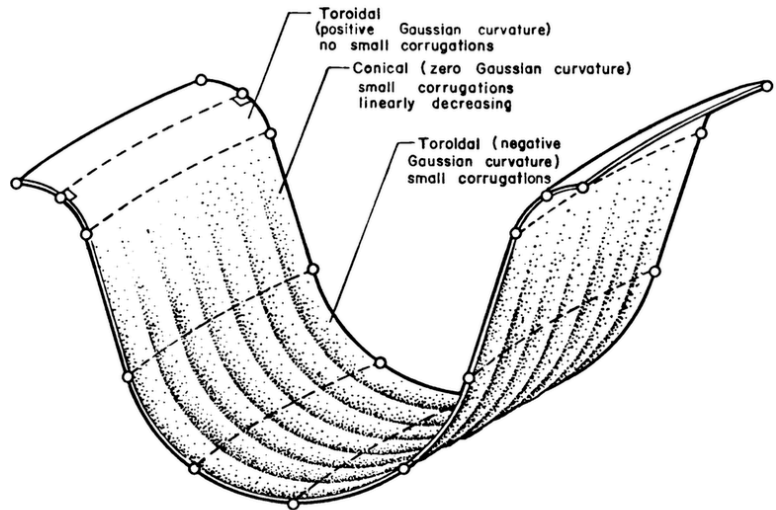**Professor Herbert Anton Mang**

Figure 1.3 Finite Element Model of a Portion of a Panel

From: Herbert Anton Mang (Texas Tech University, USA), "Analysis of doubly corrugated shell structures by the finite element method", Ph.D. Dissertation, August, 1974

See:
http://congress.cimne.com/fem42/frontal/Doc/Mang_CV_FEM42.pdf
https://www.researchgate.net/publication/263931297_Professor_Herbert_A_Mang
https://de.wikipedia.org/wiki/Herbert_Mang

Institute of Structural Analysis and Strength of Materials
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Biography:
1942: born in Vienna, Austria
1967: Dipl.-Ing. (Civil Engineering), Vienna University of Technology
1970: Dr. techn., Vienna University of Technology
1974: Ph.D. (Major: Structural Engineering, Minor: Mathematics), Texas Tech University, USA
1977: Habilitation, Vienna University of Technology
1983: Full Professor (Strength of Materials), Vienna University of Technology
1984-2004: Head, Inst. for Strength of Materials, Vienna University of Technology, Austria
1991-1994: Dean (Chairman), Department of Civil Engineering, Vienna University of Technology
1994-1995: Prorector (Vice President), Vienna University of Technology
1995-2003: Secretary General, Austrian Academy of Sciences
2003-2006: President, Austrian Academy of Sciences
2003 - :Member (2010- : Vice Chairman) of the Austrian Science Council
2008-2010: Head, Inst. for Mechanics of Materials and Structures, Vienna University of Technology
2010 - : Prof.emeritus, Institute for Mechanics of Materials and Structures

Academic and Professional Activities Abroad:
1971-1973: Fulbright Fellow, Texas Tech University, USA
1975-1976: Max Kade Fellow, Cornell University, USA

1979 (3 months): Visiting Associate Prof., Tokyo University, Japan
1981 (3 months): United Nations Field Expert, Zhengzhou Research Institute for Mechanical Engineering, People's Republic of China
2010 (3 months): Visiting Prof., Tongji University Shanghai, China

Scientific Activities:
Basic and applied research in mechanics of deformable solids, structural mechanics, computational mechanics, computational acoustics, multi-field analysis, multi-scale analysis
21 books and book editorships, 442 articles in scientific journals and conference proceedings; co-editor of 3 international journals, member of the editorial board of 38 scientific journals

Activities in Scientific Organizations:
1992-1995: President of the Central European Association for Computational Mechanics (CEACM)
1998-2010: Vice President of the International Association for Computational Mechanics (IACM)
2005-2009: President of the European Community on Computational Methods in Applied Sciences (ECCOMAS)

Awards and Recognition:
6 honorary doctorates (Cracow University of Technology, University of Innsbruck, National Technical University of Ukraine in Kiev, Czech Technical University in Prague, University of Mining in Leoben, Technical University of Vilnius), honorary professorship (Tongji University Shanghai)
Full Member of the Austrian Academy of Sciences, Foreign Associate of the U.S. National Academy of Engineering, the Polish Academy of Sciences (Warsaw), the Hungarian Academy of Sciences, the Croatian Academy of Sciences and Arts, the Polish Academy of Sciences and Arts (Cracow), the Slovak Academy of Sciences, the Albanian Academy of Sciences, the Georgian National Academy of Sciences, the German Academy of Technical Sciences, the Engineering Academy of the Czech Republic, the Slovak Academy of Engineering Sciences, the Academy of Sciences of Lisbon (Academia Lusitana), the National Academy of Sciences of Ukraine, the Brunswick Scientific Society, the European Academy of Sciences and Arts (Salzburg), and the Académie Européenne des Sciences, des Arts et des Lettres (Paris)
Fellow of 3 international professional societies, Honorary Member of 3 foreign professional societies 9 (major) national and 7 (major) foreign distinctions (prizes, medals, decorations)

Selected Publications:
Book:
Proceedings of the Fifth World Congress on Computational Mechanics (WCCM V), Mang HA, Rammerstorfer FG, Eberhardsteiner J. (eds.), Vienna Institute of Technology, Austria, ISBN 3-9501554-0-6, 2002

Journal Articles:
Herbert Anton Mang (Texas Tech University, USA), "Analysis of doubly corrugated shell structures by the finite element method", Ph.D. Dissertation, August, 1974
Mang, H.A. (1977) Finite element instability analysis of hyperbolic cooling towers. Advances in Civil Engineering Through Engineering Mechanics. ASCE, New York, pp. 246-249
Kanodia, V.L.; Gallagher, R.H.; Mang, H.A.: Instability analysis of torispherical pressure vessel heads with triangular thin-shell finite elements. J. Press. Vess. Tech., Trans. ASME 99 (1977) 64–74.
Unger, C.; Mang, H.A.: Zum spannungs- und stabilitäts-problem von kesselböden unter innendruck. Der Stahlbau, 12/1980, 373–379.

Mang, H. A., 1980, "Symmetricability of Pressure Stiffness Matrices for Shells With Loaded Free Edges," Int. J. Numer. Meth. Eng., 15(7), pp. 981–990.

Mang, H.A.; Gallagher, R. H.: Finite Element Analysis of Thin Shells of General Form for Displacement Dependent Loads. In: Hughes, T.J.R.; Pifko, A.; Jay, A. (eds.): Nonlinear Finite Element Analysis of Plates and Shells. Proc. AS ME — Winter Annual Meeting, Washington, 1981, AMD — Vol. 48, pp 65–82.

Gallagher RH, Mang HA. On the unsymmetric eigenproblem for the buckling of shells under pressure loading. Journal of Applied Mechanics 1983; 50:95-100.

Herbert A. Mang, Helmut Floegl, Friedrich Trappel and Herbert Walter, "Wind-loaded reinforced-concrete cooling towers: buckling or ultimate load?", Engineering Structures, Vol. 5, No. 3, July 1983, pp. 163-180

Mang, H.A., et al., Physically linear buckling analysis of reinforced concrete cooling towers—Design necessity or academic excercise?, IASS-RUB (1984), 279–297.

Mang HA. On bounding properties of eigenvalues from linear initial FE stability analysis limits from geometrically non-linear pre-buckling analysis. International Journal for Numerical Methods in Engineering 1991; 31:649-676.

Mang HA. On special points on load-displacement paths in the pre-buckling domain of thin shells. International Journal for Numerical Methods in Engineering 1991; 31:207-228.

Helnwein P., Mang H.A., Pichler B., Ab initio estimates of stability limits on nonlinear load-displacement paths: potential and limitations. Computer Assisted Mechanics and Engineering Sciences 6, (1999), 345-360.

H.A. Mang, Ch. Schranz, P. Mackenzie-Helnwein. "Conversion from imperfection-sensitive into imperfection-insensitive elastic structures I: Theory." Comp. Meth. Appl. Mech. Eng., Vol. 195: 13-16, 1422–1457, 2006.

H.A. Mang, Ch. Schranz, P. Mackenzie-Helnwein. "Conversion from imperfection-sensitive into imperfection-insensitive elastic structures II: Numerical investigation." Comp. Meth. Appl. Mech. Eng., Vol. 195: 13-16, 1458–1479, 2006.

Steinboeck A, Jia X, Hoefinger G, Mang H A. Conditions for symmetric, antisymmetric, and zero-stiffness bifurcation in view of imperfection sensitivity and insensitivity [J]. Computer Methods in Applied Mechanics and Engineering, 2008, 197: 3623–2626.