



Professor Krzysztof Magnucki, Poznan University of Technology

See:

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Graduation:

- ◆ M.Sc in Mechanics, Mechanical Engineer at the Poznan University of Technology in 1971,
- ◆ M.Sc in Mathematics at the Adam Mickiewicz University, Poznan in 1971,
- ◆ Ph.D in Mechanics at the Poznan University of Technology in 1978,
- ◆ DSc in Mechanics at the Poznan University of Technology in 1994,
- ◆ Professor – full professor since 2001.

Places of employment and positions:

- ◆ The Railway Stock Design Centre – design engineer, Poznan, 1971-1975,
- ◆ Poznan University of Technology – assistant lecturer, Poznan, 1975-1995,

- ◆ University of Zielona Gora – associate/full professor, Zielona Gora, 1995-2002,
- ◆ Poznan University of Technology – full professor, Poznan, since 2002.

Fields of research interest:

- ◆ Mathematical modelling of thin-walled structures – shells,
- ◆ Elastic buckling of thin-walled structures: shells, pressure vessels, thin-walled beams,
- ◆ Strength of materials,
- ◆ Optimization of structures.

Selected Publications:

Magnucki K.: Analysis of stability of a sandwich conical panel. *Archiwum Budowy Maszyn – The Archive of Mechanical Engineering*, Vol. **XXVII**, (4), 1980, 397-409. (in Polish).

Magnucki K., Wegner T., Szyk W.: On buckling of ellipsoidal cups under internal pressure. *Ingenieur-Archiv* **58**, 1988, 339-342.

Wegner T., Magnucki K.: The stability of a ribbed shell of a rectangular cross-section under transverse load. *The Archive of Mechanical Engineering*, Vol. **XXXVIII**, (4), 1991, 287-292.

Magnucki K., Szyk W.: On stability problems of pressure vessel ellipsoidal heads. *The Archive of Mechanical Engineering*, Vol. **XLVI**, (1), 1999, 43-55.

Magnucki K., Szyk W.: Stability of ellipsoidal heads of cylindrical pressure vessel. *Applied Mechanics and Engineering*. **5**, (2), 2000, 389-404.

Magnucki K., Stasiewicz P.: Critical sizes of ground and underground horizontal cylindrical tanks. *Thin-Walled Structures*, **41**, (4) 2003, 317-327.

Magnucka-Blandzi E., Magnucki K.: Elastic buckling of an axially compressed open circular cylindrical shell. *Proceedings in Applied Mathematics and Mechanics, PAMM*, **4**, 2004, 546-547.

Magnucki K., Lewiński J., Stasiewicz P.: Optimal sizes of a ground-based horizontal cylindrical tank under strength and stability constraints. *Intl Journal of Pressure Vessels and Piping*, **81**, 2004, 913-917.

Magnucki K. Lower critical stress analysis of axially compressed cylindrical shells. *Proc. of the 10th Int. Conference on Civil, Structural and Environmental Engineering Computing*, B.H.V. Topping (Editor), Civil-Comp Press, Stirling, Scotland 2005, (CD-Rom, paper 52).

Magnucki K., Maćkiewicz M.: Elastic buckling of an axially compressed cylindrical panel with three edges simply supported and one edge free. *Thin-Walled Structures*, **44**, (4), 2006, 387-392.

Szyk W., Laszczyk Z., Magnucki K.: Elastic buckling compressed sandwich cylindrical panel with three edges simply supported and one edge free. *Thin-Walled Structures*, **44**, 2006, 910-918.

Jasion P., Magnucki K.: Elastic buckling of barrelled shells under external pressure. *Thin-Walled Structures*, **45**, 2007, 393-399.

Wilde R., Zawodny P., Magnucki K.: Critical state of an axially compressed cylindrical panel with three edges simply supported and one edge free. *Thin-Walled Structures*, **45**, 2007, 955-959.

Belica T., Magnucki K., Dynamic stability of a porous cylindrical shell subject to impulse of forces combined. *Journal of KONES – Powertrain and Transport*, **14** (3), 2007, 39-48.

- Blachut J., Magnucki K., Strength, stability and optimisation of pressure vessels – review of selected problems. *Applied Mechanics Reviews*, **61**, November 2008, 1-33
- Jasion P., Magnucki K., The influence of axial load on elastic buckling of shells of revolution. *The Archive of Mechanical Eng.*, Vol. **LV** (2), 2008, 93-101.
- Jasion P., Magnucki K., Stress and stability analysis of a horizontal barrelled tank filled with liquid. *The 12th Intl Conference on Pressure Vessel Technology*, ICPVT-12, Phoenix Island, Jeju, Korea, September 2009, Abstract Book, pp.15, (CD pp. 93-98).
- Magnucki K., Wittenbeck L., Stability of elastic orthotropic circular cylindrical vessel. *Proc. of the ASME 2010 Pressure Vessels and Piping Division Conference*, Bellevue, Washington, USA, July, 2010, PVP2010-25221, 1-7.
- Belica T., Malinowski M., Magnucki K., Dynamic stability of an isotropic metal foam cylindrical shell subjected to external pressure and axial compression. *Journal of Applied Mechanics*, **78**, 2011, 041003-1 – 041003-8.
- Joniak S., Magnucki K., Szyc W., Buckling study of steel open circular cylindrical shells in pure bending state. *Strain, An Intl Journal for Experimental Mechanics*, **47**, 2011, 209-214.
- Jasion P., Magnucki K., Elastic buckling of horizontal barrelled shells filled with liquid – numerical analysis. *Thin-Walled Structures*, **52**, 2012, 117-125.
- Jasion P., Magnucki K. Post-critical behaviour of sandwich cylindrical shells with variable thicknesses. *Proc. of the 22nd Australian Conference on the Mechanics of Structures and Materials. ACMSM22*, Sydney 11-14 December 2012. In: B. Samali, M.M. Attard, Ch. Song (Eds.) *From Materials to structures: Advancement through Innovation*. CRC Press, Taylor & Francis Group, pp. 91-94.
- Magnucki K., Jasion P., Analytical description of pre-buckling and buckling states of barrelled shells under radial pressure. *Ocean Engineering*, **58**, 2013, 217-223.
- Belica T., Magnucki K., Stability of an isotropic porous-cellular cylindrical shell subjected to combined loads. *Journal of Theoretical and Applied Mechanics*, 2013. (in Print).