

Professor David Redekop

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Faculty of Engineering
University of Ottawa, Canada

Education:

Ph.D. (Waterloo, 1977)
M.Eng. (McMaster, 1971)
B. Eng. (McMaster, 1967)

Research Interests:

Shell Structures
Engineering History

Biography:

After completing his doctoral studies, Dr. Redekop joined the Department of Civil Engineering at the University of the West Indies where he offered courses and conducted research in structures. In 1982, he joined the Department of Mechanical Engineering at the University of Ottawa. He taught courses in the mechanics stream and conducted research on stress analysis, vibration, and buckling of pressure vessels and shell structures. On two occasions, he served as Director of the Ottawa Carleton Institute of Mechanical and Aerospace Engineering. He retired in 2008.

Publications (2006 – 2006):

Papers in Refereed Journals:

Redekop, D., Three-Dimensional Free Vibration Analysis of Inhomogeneous Thick Orthotropic Shells of Revolution Using Differential Quadrature, *J. Sound & Vibr.* 291:1029-1040, 2006

Xu, B., Redekop, D., Natural Frequencies of an Orthotropic Thin Toroidal Shell of Elliptical Cross-Section, *J. Sound & Vibr.* 293:440-448, 2006

Wang, X.H., Xu, B., Redekop, D., FEM Free Vibration and Buckling Analysis of Stiffened Toroidal Shells, *Thin-Walled Struct.* 44:2-9, 2006

Wang, X.H., Xu, B., Redekop, D., Theoretical Natural Frequencies and Mode Shapes for Thin and Thick Curved Pipes and Toroidal Shells, *J. Sound & Vibr.* 292:424-434, 2006

Redekop, D., Free Vibration of an Orthotropic Hollow Body of Revolution, *Int. J. Struct. Stab. & Dyn.* 5:299-312, 2005

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Wang, X.H., Redekop, D., Natural Frequencies and Mode Shapes of an Orthotropic Thin Shell of Revolution, *Thin-Walled Struct.* 43:735-750, 2005

Balan, C., Redekop, D., The Effect of Bi-Directional Loading on Fatigue Assessment of Pressurized Piping Elbows with Local Thinned Areas, *Int. J. Pres. Ves. Piping*. 82/3:235-242, 2005

Hu, X.J., Redekop, D., Stability of a Cylindrical Shell with an Oblique End, *Struct. Eng. & Mech.* 19:43-53, 2005

Papers in Refereed Conference Proceedings:

Yao, Y., Redekop, D., Elastostatics of a Pressurized Torus Using a Variational Method, 14th Annual Conference of Mechanical Engineering (ISME 2006), Isfahan, Iran, 8 pages, accepted

Yao, Y., Redekop, D., Explicit Simulation of Hydro-Bulging of Toroidal Vessels and Elbows, 14th Annual Conference of Mechanical Engineering (ISME 2006), Isfahan, Iran, 6 pages, accepted

Wang, X.H., Xu, B., Redekop, D., Natural Frequencies and Buckling Loads of Toroidal Shells with Stiffeners, 14th Annual Conference of Mechanical Engineering (ISME 2006), Isfahan, Iran, 7 pages, accepted

Dong, Y., Xu, B., Redekop, D., Natural Frequencies and Collapse Loads for Liquid Storage Tanks, 14th Annual Conference of Mechanical Engineering (ISME 2006), Isfahan, Iran, 8 pages, accepted

Zhang, Y., Redekop, D., Shell element simulation of the push method of tube bending, 14th International Scientific Conference on Achievements in Mechanical and Materials Engineering, AMME 2006, Gliwice, Poland, 4 pages, accepted

Stannus, W., Redekop, D., Minimization of Stress Concentrations Using FEM-Based Shape Optimization, CSME 2006 Forum, Calgary, 8 pages, accepted

Ahmed, T., Redekop, D., Elastic-Plastic Finite Element Analysis of a Pressurized Tee Joint, CSME 2006 Forum, Calgary, 7 pages, accepted

Zhan, H.J., Redekop, D., Vibration Analysis of a Toroidal LPG Tank, CSME 2006 Forum, Calgary, 8 pages, accepted

Zhang, Y., Redekop, D., Experience in the Explicit FEM Simulation of the Hydroforming of a Tee-Joint, CSME 2006 Forum, Calgary, 7 pages, accepted

Marchand, P., Redekop, D., Free Vibration Analysis of a Crankshaft using FEA, Proc. 20th CANSAM, Montreal, 152-153, 2005

Jiang, W., Hu, X.J., Redekop, D., Vibration Analysis of a Toroidal Shell Using MAPLE, Proc. 20th CANSAM, Montreal, 154-155, 2005

Shafiee, A., Dong, Y., Redekop, D., Natural Frequencies of Completely Free Stepped Plates, Proc. 20th CANSAM, Montreal, 180-181, 2005

Verbit, S., Pussegoda, L.N., Redekop, D., Weighted Average Material Model for X100 Steel, Proc. 20th CANSAM, Montreal, 469-470, 2005

Martinez, D., Cabello, J.J., Goytisolo, R., Redekop, D., Comparison of Gear Standards for Bending Failure, Proc. 20th CANSAM, Montreal, 478-479, 2005

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Assane Oumarou, T., Evgin, E., Redekop, D., Stress Concentration Analysis of Tubular DT Joints, Proc. 20th CANSAM, Montreal, 482-483, 2005

Wang, X.H., Xu, L., Redekop, D., Buckling of a Torus-Cylinder Structure Using the FEM, Proc. 20th CANSAM, Montreal, 498-499, 2005

Wu, L., Redekop, D., Mohareb, M.E., Ultimate Load Carrying Capacity of Timber Shear Walls Using FEA, Proc. 20th CANSAM, Montreal, 500-501, 2005

Weicker, K., Redekop, D., Mohareb, M.E., Buckling of Web-Post in Castellated Beams, Proc. 20th CANSAM, Montreal, 510-511, 2005

Hu, X.J., Singhal, R., Redekop, D., Comparison of FEM and Experimental Shell Vibration Results, Proc. 20th CANSIM, Montreal, 604-605, 2005

Yao, Y., Redekop, D., Hydroforming Process of a Toroidal Shell, Proc. 7th Int. Conf. Computer Integrated Manufacturing, Gliwice, Poland, 274-279, 2005 (Awarded Silver Medal)

Balan, C., Xu, B., Redekop, D., A Fatigue Assessment of Pressurized Piping Elbows with Local Thinned Areas, 18th Int. Conf. on Struct. Mech. in Reactor Techn. (SMiRT18), Beijing, 2005, Paper J02-4, 12 pages