

Magdi Emile Mohareb, Ph.D., P. Eng.

Professor of Structural Engineering
Department of Civil Engineering
University of Ottawa
Ottawa, ON, K1N 6N5
Email: mmohareb@uottawa.ca
Phone: (613) 562-5800 X6130

GRADUATE STUDENT SUPERVISIONS

Students graduated/completed their research

Ph. D. Students:

1. E. Erkmen (2006), *Finite Element Formulations of Thin Walled Members*
2. Ozkan (2008), *Experimental and Numerical Analysis of Steel Pipes Subjected to Combined Loads*
3. L. Wu (2010), *Finite Element Formulations for Lateral Torsional Buckling of Shear Deformable Planar Frames*
4. R. Salahifar (Ph. D.), *Finite Element Formulations for Pipelines under Harmonic Forces*, (thesis submitted Sep. 2010)

M. A. Sc. Students:

1. I. Ozkan, (2002), *Plastic Interaction Relations for Hollow Structural Steel Sections*
2. F. Nowzartash, (2002), *Elasto-Plastic Finite Element for Pipelines*
3. K. Weicker (2008), *Finite Element Formulation for Thin-walled Pipes*
4. A. Rivet (2010), *Distortional Analysis of Thin-Walled Beams*
5. N. Markiz, *Experimental Investigation of Lateral Torsional Buckling of Greber Frames*, (thesis submitted Oct. 2010)

M. Eng. Students:

1. Dabbas, (2002), *Lateral Stability of Partially Restrained Cantilever Support*
2. Zinoviev (2003), *Analysis and Design of Laterally unsupported Portal Frames*
3. O. Kutlukaya (2003), *Lateral Stability of Planar Structures*

Presently Supervised

1. M. Hjadi (Ph.D.), *Finite Element Formulations for Thin Walled Members Under Harmonic Forces*, Sep. 2004-present
2. F. Nowzartash (Ph.D.), *Interaction Relations for Elliptical Hollow Sections*, Jan. 2007-present
3. G. Saad (Ph. D.), *Lateral Torsional Buckling of Beams under Moment Gradients*, (Sep. 2008-present)
4. D. Bernard (M. A. Sc.), *Transient Analysis of Fluid-Pipe Interaction* Jan. 2007-present (co-supervised with Dr. Nistor)

Book (1)

- B1. Erkmen, RE and Mohareb, M (2009) *Finite Element Formulations for Thin Walled Members*, VDM Publishing, Saarbrücken, Germany, (344 pp)

Full Papers in Refereed Journals (30)

- J1. Wu, L. and Mohareb, M. (2011), *Finite Element Formulation for Shear Deformable Thin-Walled Beams*, Canadian Journal of Civil Engineering, accepted for publication
- J2. Wu, L. and Mohareb, M. (2011), *Buckling Formulation for Shear Deformable Thin-Walled Members-I. Variational Principle and Analytical Solutions*, Thin-walled Structures, 49(1), pp. 197-207.
- J3. Wu, L. and Mohareb, M. (2011), *Buckling Formulation for Shear Deformable Thin-Walled Members-II. Finite Element Formulation*, Thin-walled Structures, 49(1), pp. 208-222.

- J4. Nowzartash, F. and **Mohareb, M.**, (2010), Upper Bound Plastic Interaction Relations for Elliptical Hollow Sections, ASCE, Journal of Engineering Mechanics, 136(8), pp. 1015-1027
- J5. Weicker, K., Salahifar, R., and **Mohareb, M.**, (2010), Shell Analysis for Thin-Walled Pipes- Part I- Field Equations and Solution, International Journal of Pressure Vessels and Piping, 87(7), pp. 402-413
- J6. Weicker, K., Salahifar, R., and **Mohareb, M.**, (2010), Shell Analysis for Thin-Walled Pipes- Part II- Finite Element Formulation, International Journal of Pressure Vessels and Piping, 87(7), pp. 414-423
- J7. Salahifar, R. and **Mohareb, M.** (2010), Analysis of Circular Cylindrical Shells under Harmonic Forces, Thin-walled Structures, 48(7), pp. 528-539
- J8. Nowzartash, F. and **Mohareb, M.** (2010), Plastic Interaction Relations for Semi-Elliptical Hollow Sections, Thin-walled structures, 48(1), pp. 42-54
- J9. Erkmen R. E., and **Mohareb, M.**, and Bradford, M., A. (2009), Formulation for Torsional Buckling of Columns based on Complementary Energy, ASCE, Journal of Engineering Mechanics, 135(12), pp. 1420-1426
- J10. Nowzartash, F. and **Mohareb, M.** (2009), Plastic Interaction Relations for Elliptical Hollow Sections, Thin-walled structures, 47(6-7), pp. 681-691
- J11. Ozkan, I. and **Mohareb, M.** (2009), Moment Resistance of Steel Pipes Subjected to Combined Loads, International Journal of Pressure Vessels and Piping, 86(4), pp. 252-264
- J12. Ozkan, I. and **Mohareb, M.** (2009) "Testing and Analysis of Steel Pipes under Bending, Tension and Internal Pressure", ASCE, Journal of Structural Engineering, 135(2), pp. 187-197
- J13. Erkmen, R. E. and **Mohareb, M.**, (2008), Buckling Analysis of Thin-walled Open Members - A Complementary Energy Variational Principle", Thin-walled structures, 46(6), pp. 602-617
- J14. Erkmen, R. E. and **Mohareb, M.**, (2008), Buckling Analysis of Thin-walled Open Members - A Finite Element Formulation", Thin-walled structures, 46(6), pp 618-636
- J15. Zhang C., Bao, X., Ozkan, I., Mohareb, M., Ravet, F., and Zou, L., (2008), "Novel Signal Processing for Distributed Brillouin Fiber Sensors for the Prediction of Pipe Buckling", Optical Fiber Technology, 14(2), pp. 109-113
- J16. Erkmen, R. E. and **Mohareb, M.** (2006), "Torsion Analysis of Thin-Walled Beams Including Shear Deformation Effects", Thin-walled structures, 44(10), pp. 1096-1108
- J17. Erkmen, R. E. and **Mohareb, M.** (2006), "Non-orthogonal solution for thin-walled members – A finite element formulation", Canadian Journal of Civil Engineering, 33(4), pp. 421-439
- J18. Erkmen, R. E. and **Mohareb, M.** (2006), "Non-orthogonal solution for thin-walled members – Applications and modeling considerations", Canadian Journal of Civil Engineering, 33(4), pp. 440-450
- J19. Nowzartash, F. and **Mohareb, M.** (2005), "Planar Bending of Sandwich Beams with Transverse Loads off the centroidal axis", ASCE, Journal of Engineering Mechanics, 131(4), pp. 385-396
- J20. Nowzartash, F., and **Mohareb, M.** (2004), "An Elasto-Plastic Finite Element for Pipelines", International Journal of Pressure Vessels and Piping, 81(12), pp. 919-930
- J21. **Mohareb, M.** and Ozkan, I. (2004) "Interaction Relations for Square Hollow Structural Sections – A Lower Bound Solution", ASCE, Journal of Structural Engineering, 130(9), pp. 1381-1391
- J22. Zinoviev, I. and **Mohareb, M.** (2004) "Analysis and Design of Laterally Unsupported frames for out-of-plane stability", Canadian Journal of Civil Engineering, 31(3), pp. 440-452
- J23. Ozkan, I. and **Mohareb, M.** (2003) "Experimental Investigation of Pipe Sections under Bending, Twist, and Shear", ASCE, Journal of Structural Engineering, 129(10), pp. 1350-1357
- J24. **Mohareb, M.** and Nowzartash, F. (2003) "Exact Finite Element for Warping Torsion of Open Steel Sections", ASCE, Journal of Structural Engineering, 129(2), pp. 215-223
- J25. **Mohareb, M.** (2003) "Plastic Resistance of Pipe Sections: Upper Bound Solution", American Society of Civil Engineers, Journal of Structural Engineering, 129(1), pp. 41-48
- J26. **Mohareb, M.**, (2002) "Plastic Interaction Relations for Pipe Sections", ASCE, Journal of Engineering Mechanics, 128(1), pp 112-120.
- J27. **Mohareb, M.**, (2001) "Exact yield hyper-surface for thin pipe sections", International Journal of Pressure Vessels and Piping, 78(7), pp 507-514.
- J28. **Mohareb, M.**, Kulak, G. L., Elwi, A., and Murray, D. W. (2001), "Testing and Analysis of Steel Pipe Segments", ASCE, Journal of Transportation Engineering, 127(5), pp 408-417.

- J29. **Mohareb, M.** and Murray, D. W. (1999), “Mobilization of Fully Plastic Moment Capacity for Pressurized Pipes Subjected to Axial Loading”, ASCE, Journal of Offshore Mechanics and Arctic Engineering, Vol. 121, November, pp 237-241.
- J30. Girija Vallabhan, C. V., Das, Y. C., **Mohareb, M.**, Mehmet, A. and Bailey J. R., (1993), “Analysis of Laminated Glass Units”, ASCE, Journal of Structural Engineering, Vol. 119 (5), pp 1572-1585.

Papers in Refereed Conference Proceedings (19)

- C1. **Erkmen, R. E.**, Bradford, M. and **Mohareb, M.**, (2008), A Complementary Energy Formulation for Torsional Buckling Analysis of Columns, The 20th Australian Conference on the Mechanics of Structures and Materials (ACMSM20), Dec. 2-5, Toowoomba, Australia.
- C2. Zhang C., Bao X., **Ozkan I. F.**, **Mohareb M.**, Ravet F., and Zou L., (2007), Predict the pipeline buckling using the broadening factor of Brillouin spectrum width, Proceedings of Photonics North, Vol. 6796, SPIE- International Society for Optical Engineering, June, Ottawa, Ontario, Canada
- C3. **Ozkan I.** and **Mohareb, M.** and Zhou, J. (2007), Effect of Axial Tension on Buckling Strains of Steel, Rio Pipeline Conference and Exposition, Rio de Janeiro, Brazil, October.
- C4. **Ozkan, I.** and **Mohareb, M.** (2006), Experimental Setup for full-scale testing of pipes under combined loads, International Pipeline Conference, Calgary, September
- C5. **Erkmen, R. E.** and **Mohareb, M.** (2006), Non-orthogonal solution for thin-walled members - Generalized expressions for stresses. The Eighth International Conference on Computational Structures Technology, Las Palmas de Gran Canaria, Spain, September 2006
- C6. **Mohareb, M.**, Nowzartash, F., and **Erkmen, R. E.**, (2006), Torsional Analysis of Wide Flange Beams Including Shear Deformation Effects, The Eighth International Conference on Computational Structures Technology Las Palmas de Gran Canaria, Spain, September 2006
- C7. **Weicker, K.J.**, Redekop, D. and **Mohareb, M.** (2005), “Buckling of Web-Post in Castellated Beams”, the 20th Canadian Congress of Applied Mechanics, Montreal, Quebec, May-Jun.
- C8. **Wu, L.**, Redekop, D. and **Mohareb, M.** (2005), “Ultimate Load Carrying Capacity of Timber Shear Walls using FEA”, the 20th Canadian Congress of Applied Mechanics, Montreal, Quebec, May-Jun.
- C9. Evgin, E., Edde, C., and **Mohareb, M.** (2003), “Numerical Analysis of Stress-Strain States in a Soil Structure Interface Test”, the 56th Canadian Geotechnical Conference CD-ROM Proceedings, Winnipeg, Manitoba, Sep.-Oct. 2003
- C10. **Nowzartash, F.**, and **Mohareb, M.** (2003), “Finite Element for Elasto-Plastic Response of Moderately Thick Steel Pipes”, the 19th Canadian Congress of Applied Mechanics, Calgary, Alberta, Jun., pp 196-197 (refereed by abstract)
- C11. Evgin, E., Fakharian, F., and **Mohareb, M.** (2003), “Numerical Analysis of Stress States in Soil-Structure Interaction Tests”, The 13th International Offshore and Polar Engineering Conference, Vol. II, Honolulu, Hawaii, International Society of Offshore and Polar Engineers, Golden, Co., May, pp 641-647.
- C12. **Mohareb, M.**, and **Dabbas, A.** (2003), “Lateral Stability of Partially Restrained Cantilever Supports”, Proceedings of the Annual Technical Session and Meeting, Baltimore, MD, Structural Stability Research Council, April, pp. 671-694.
- C13. **Mohareb, M.**, and **Ozkan, I.** (2002), “Plastic Design of Square Hollow Structural Steel Sections”, CD-Rom Proceedings of 30th Annual Conference of the Canadian Society for Civil Engineering Montreal, Quebec, Canada, June, (10 pp)
- C14. **Ozkan, I.**, and **Mohareb, M.** (2002), “Plastic Design of Steel Pipe Sections Under General Stress Resultant Combinations”, CD-Rom Proceedings of 30th Canadian Society for Civil Engineering, Montreal, Quebec, Canada, June, (10 pp)
- C15. **Mohareb M.**, Alexander S. D. B., Kulak G. L., and Murray D. W. (1993), “Laboratory Testing of Line Pipe to Determine Deformational Behavior”, The 12th International Conference on Offshore Mechanics and Arctic Engineering, ASME, Glasgow, Scotland, June 21, pp. 109-114
- C16. Girija Vallabhan, C. V., Das Y. C., **Mohareb, M.**, Mehmet, A., and Bailey, J. R., (1991) “Analysis of Laminated Glass Units”, Proceedings of the Asian Pacific Conference on Computational Mechanics, Hong Kong, Dec., pp. 1037-1042

- C17. Girija Vallabhan, C. V., Das, Y. C., **Mohareb, M.**, Mehmet, A., and Bailey, J. R., (1991) "Experimental Verification of the Analytical Solution of the Laminated Glass Units", presented at the Texas Section ASCE Meeting, San Antonio, Texas, Nov. 12,
- C18. Girija Vallabhan, C. V., Das Y. C., and **Mohareb, M.**, "A Mathematical Model for Analysis of Laminated Units", (1991), Advanced Composite Materials in Civil Engineering Structures Proceedings, Material Engineering Division, ASCE, Las Vegas, Jan. 31, pp. 325-335.
- C19. Girija Vallabhan, C. V., Das, Y. C., **Mohareb, M.**, Mehmet, A., and Bailey, J. R., (1991) "Experimental Verification of the Analytical Solution of the Laminated Glass Units", Advanced Composite Materials in Civil Engineering Structures Proceedings, Material Engineering Division, ASCE, Las Vegas, Jan. 31, pp. 417-428.