

MUHAMMAD A. WAHAB

Formosa Plastics Distinguished Professor of the *College of Engineering*
Department of Mechanical & Industrial Engineering
3261- Patrick F. Taylor Hall, Louisiana State University and A. & M. College, Ceba Lane,
Baton Rouge, LA 70803; U.S.A.
Tel.: (225) 578-5823;

E-mail: mwahab1@lsu.edu, **URL:** www.mie.lsu.edu

EDUCATION:

1984 Ph.D., Mechanical Engineering, University of Alberta, Edmonton, Canada
1978 M.Sc.E., Mechanical Engineering, Univ. of New Brunswick, Fredericton, Canada
1974 B.Sc.E., Mechanical Engineering, Univ. of Engineering and Technology, Lahore.

EXPERIENCE:

06/2014 – present: Formosa Plastics Distinguished Professor of the *College of Engineering*,
Louisiana State University (LSU), USA.
08/2013 – present: Professor, Mech. Eng., Louisiana State University, Baton Rouge, USA.
01/15/2002–08/2013: Assoc. Prof., Mech. Eng., Louisiana State Univ., Baton Rouge, USA.
11/01– 01/2002: Visiting Research Fellow, Kansai Univ. Civil Eng., Suita-Shi, Osaka, Japan
07/90–12/2001: Senior Lecturer, Mech. Eng., Adelaide Univ. of Adelaide, Australia
07/88–06/1990: Lecturer, Mech. Eng., Central Queensland Univ., Rockhampton, Australia.
01/86–07/1988: Lecturer, Mech. Eng., Univ. of Tasmania, Hobart, Australia
07/85–12/1985: Lecturer, Mech. & Production Eng., RMIT University, Melbourne, Australia.
09/76 - 07/1984: Research/Teach. Asst., Uni. New Brunswick, Calgary, and Alberta, Canada.

ARTICLES IN REFEREED ARCHIVAL JOURNALS:

- (1) [Davies, H.G. and Wahab, M.A., “Ensemble Averages of Power Flow in Randomly Excited Coupled Beams,” *Journal of Sound and Vibration*, Vol. 77, No. 3, pp. 311-321, \(1981\).](#)
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- (11) [Wahab, M.A. and Painter, M.J., "Numerical Models of Gas Metal Arc Welds using Experimentally Determined Weld Pool Shapes as the Representation of the Welding Heat Source," *The International Journal of Pressure Vessels and Piping*, Vol. 73, Issue 2, pp. 153-159, \(Sept-1997\). \[http://dx.doi.org/10.1016/S0308-0161\\(97\\)00049-5\]\(http://dx.doi.org/10.1016/S0308-0161\(97\)00049-5\)](#)
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- (20) [Sabapathy, P.N., Wahab, M.A., and Painter, M.J., "Numerical Methods to Predict Failure during In-Service Welding of Gas Pipelines," *Journal of Strain Analysis*, Vol. 36, No. 6, pp. 611-619, \(01 August, 2001\).](#)
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<http://www.sciencedirect.com/science/article/pii/S0261306913007796>
- (49) [J. Liang, S. Guo, and M. Wahab, "Localized Surface Modification on 1018 Low-Carbon Steel by Electrolytic Plasma Process and its Impact on Corrosion Behavior," *Journal of Materials Engineering and Performance \(Springer\)*, Pages: 1165-1171. Volume 23\(12\) December 2014, JMEPEG \(2014\) 23:4187–4192- ASM International, DOI: 10.1007/s11665-014-1165-7 \(2014\).](#)
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- (51) [Jasem A. Ahmed and M. A. Wahab, "Thermoelastic and Creep Analysis of a Functionally Graded Rotating Cylindrical Vessel with Internal Heat Generation," *World Journal of Engineering*, Volume 12 Number 6 2015, pp. 517-532. Multi-Science Publishing Ltd., UK](#)
- (52) Mohammad W. Dewan, Daniel J. Huggett, T. Warren Liao, Muhammad A. Wahab , Ayman M. Okeil, "Prediction of tensile strength of friction stir weld joints with adaptive neuro-fuzzy inference system (ANFIS) and neural network," *Materials and Design*, Volume 92, 15 February 2016, Pages 288–299. <http://dx.doi.org/10.1016/j.matdes.2015.12.005>;
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- (53) [D.J. Huggett, M.W. Dewan, M.A. Wahab, A. Okeil & T.W. Liao \(2016\): "Phased Array Ultrasonic Testing for Post-Weld and On-Line Detection of Friction Stir Welding Defects," *Research in Nondestructive Evaluation*, DOI: 10.1080/09349847.2016.1157660, April 4, 2016, published on line on 04-Apr. 2016, pages 1-24. Link: <http://dx.doi.org/10.1080/09349847.2016.1157660>](#)
- (54) [S.B. Aziz, M.W. Dewan, D.J. Huggett, M.A. Wahab, A. Okeil, T.W. Liao, "Impact of Friction Stir Welding\(FSW\) Process Parameters on Thermal modeling and Heat generation of Aluminum Alloy joints", *Acta Metallurgica Sinica \(English letters\)*, AMS-2016-0212, <http://link.springer.com/article/10.1007/s40195-016-0466-2>, Vol. 29, Issue-9, pp. 869 – 883, September 2016, doi:10.1007/s40195-016-0466-2, **First Online: 19 July 2016**](#)
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- (56) [Saad B. Aziz, M.W. Dewan, D. J. Huggett, M A Wahab, A.M. Okeil and T. Warren Liao, "A fully coupled thermomechanical model of friction Stir Welding and Numerical studies on Process parameters of lightweight Aluminum Alloy joints", *Acta Metallurgica Sinica \(English Letters\)*, Vol. 31, pp.1-18, <https://doi.org/10.1007/s40195-017-0658-4>,](#)

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TECHNOLOGY REVIEW (Tech Brief) PUBLISHED BY NASA-SLS:

1. Published as a “NASA Tech Note Brief,” entitled, “**On-line Phased Array Ultrasonic Testing (PAUT) System for Friction Stir Welding (FSW) Applications (MFS -33327-1, June 21, 2016** co-authored by: Daniel Huggett, Mohammad Dewan, Mohammad Wahab, Thunshun Liao, and Ayman Okeil, (Ref: Carolyn E. McMillan, MSFC- Marshall Space Flight Center, Alabama, (New Technology Representative, ZP 30/Technology Development & Transfer Office, MSFC Phone: 256-544-9151. E-mail: Carolyn.E.McMillan@nasa.gov).
2. Published as a “**NASA TECH BRIEF**” - “**On-line Phased Array Ultrasonic Testing (PAUT) System for Friction Stir Welding (FSW)**”, (#27986), MSFC Alabama, <https://www.techbriefs.com/component/content/article/tb/techbriefs/test-and-measurement/27986>; Dec. 1, 2017, *TEST & MEASUREMENT*. Coauthored by: Daniel Huggett, Mohammad Dewan, Mohammad Wahab, Thunshun Liao, and Ayman Okeil.

NASA-SLS- YEARLY ANNUAL REPORTS:

1. NASA-SLS First Annual Report, M. A. Wahab (PI), Daniel Huggett, M.W. Dewan, A.Okeil, and T. Warren Liao, “Challenges Towards Improved Friction Stir Welds Utilizing On-line Sensing of Weld Quality,” Submitted to NASA-SLS, Grant Account #: NASA SLS, # NNM13AA02G, NASA-SLS, Huntsville, Dec. 2013.
2. NASA-SLS -2nd Annual Report, M.A. Wahab (PI), A.M. Okeil, T. W. Liao, M. W. Dewan and D. J. Huggett, “Challenges towards Improved Friction-Stir-Welds using On-line Sensing of Weld Quality,” Submitted to NASA-SLS, Grant Account #: NASA SLS, # NNM13AA02G, NASA-SLS, Huntsville, Dec., 2014.
3. NASA-SLS- 3rd Annual Report, M.A. Wahab (PI), A.M. Okeil, T. W. Liao, M. W. Dewan and D. J. Huggett, “Challenges towards Improved Friction-Stir-Welds using On-line Sensing of Weld Quality,” Submitted to NASA-SLS, Grant Account #: NASA SLS, # NNM13AA02G, NASA-SLS, Huntsville, Dec. 10 & 11, 2015.

U.S. NRC PROJECT Final Report:

- (1). US NRC grant Final Report (Close-out) submitted in November 2014.

KEYNOTE PAPERS DELIVERED:

1. Bachorski, A.W., Painter, M.J., and **Wahab, M.A.**, “Application of the Shrinkage Volume Method to the Prediction of Post-Weld Distortions in Ship Bulkhead Structures,” Advances in Materials & Processing Technologies, (AMPT’98) Conference, Kuala Lumpur, August 24-28 (1998).
2. Sabapathy, P.N., **Wahab, M.A.** and Painter, M.J., “Numerical Models of In-Service Welding on Gas Pipelines,” Advances in Materials & Processing Technologies AMPT’99, Dublin, August 3 to 6 (1999).
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BOOK CHAPTERS OR ESSAYS IN BOOKS/MONOGRAPH (PUBLISHED):

The following contributions have been made in Book-Chapters, Sections/Monographs only:

- (1) Bellow, D.G., Wahab, M.A., and Faulkner, M.G., “Residual Stresses and Fatigue of Surface Treated Specimens,” **Advances in Surface Treatments - II**, Editor- A. Niku-Lari, Pergamon Press, pp. 85-94 (1986).
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BEST PAPER AWARDS:

- (1) **ASM Heat Treating Society Best Paper Award in 2013:** “*2013-ASM HTS / Bodycote Best Paper Award*” to Jiandong Liang (our graduate student).

Jiandong Liang, Shengmin Guo, M.A. Wahab, “*Localized Surface Modification on 1018 Low Carbon Steel by Electrolytic Plasma Process and its Impact on Corrosion Behavior,*” ASM International, Heat Treating Society, Award presented at the ASM Heat Treating Society Conference and Exposition held in Indianapolis, September 16-19, 2013.

“*This award, established in 1997 by the ASM Heat Treating Society, recognizes a paper that represents advancement in heat treating technology, or promotes heat treating in some substantial way or represents a clear advancement in managing the business of heat treating.*”

(The award is sponsored by Bodycote Thermal Process-North America and consists of a Recognition Plaque and prize money (\$2,500) to my graduate student, Dr. Jiandong Liang)

- (2) **BEST PAPER AWARD IN AMPT’95 IN 1995:**

Wahab, M.A., Painter, M.J., and Davies, M.H., “The Prediction of Temperature Distribution and Weld Pool Geometry in Gas Metal Arc Welding Process,” Proc. of the International Conference AMPT ‘95, Dublin, Ireland, Published in “Advances in Materials and Processing Technologies,” pp.943-952. This paper won “The Best Technical Paper (AMPT’95) Award and Bausch and Lomb Prize,” Published by- Dublin City University, August 8-12 (1995).

NASA-SLS-“END OF THE YEAR” INVITED CONFERENCE/ INVITED SEMINAR PRESENTATION:

1. Daniel H. Huggett, Washim M. Dewan, M. A. Wahab, A.M. Okeil and T. Warren Liao, “Challenges towards Improved Friction-Stir-Welds using On-line Sensing of Weld Quality,” NASA-Space Launch System (SLS) Advanced Development, Year-End invited Project Seminar presentation, NASA-MSFC, Huntsville, AB, Dec. 4 & 5th, 2014.
2. Daniel H. Huggett, Washim M. Dewan, M. A. Wahab, A.M. Okeil and T. Warren Liao, “Challenges towards Improved Friction-Stir-Welds using On-line Sensing of Weld Quality,” NASA-Space Launch System (SLS) Advanced Development, Year-End invited Project Seminar presentation, NASA-MSFC, Huntsville, AB, Dec. 4 & 5th, 2013.
3. End of the 3rd year NASA SLS report, “Challenges towards Improved Friction Stir Welds Using On-line Sensing of Weld Quality,” December 10 and 11, 2015, Marshall Space Flight Center, invited presentation at the NASA SLS.
4. Monthly Reports to NASA SLS – Quantity: 12

5. **NASA- SLS FINAL REPORT SUBMITTED June 9, 2017**

NASA SLS Final Report submitted on June 9th, 2017. The grant period which expires on April, 14, 2017 after two no-cost extensions.

Summary of Work Completed-Final Report to NASA -SLS (7.9.2017)

(NASA SLS- # NNM13AA02G-- **Challenges towards Improved Friction Stir Welds using On-line Sensing of Weld Quality**), pp. 1-214 pages; **LSU-Investigators:** M.A. Wahab (PI), Co-PIs: A.M. Okeil, T. W. Liao.`

USA PATENT APPLICATION (updated submission):

“On-line phased array ultrasonic testing system for friction-stir-welding (FSW) applications,” Patent Application No: 129769-412607--Daniel J Huggett,

Mohammad W Dewan, Muhammad A. Wahab, Ayman M. Okeil, and Thunshun Warren Liao. (**Updated Submission on Feb 9th, 2017**). This application claims priority to **U.S. Provisional Application No. 62/293,197 filed February 9, 2016**, the entire content of which is hereby incorporated by reference. This invention was made with government support under NASA-SLS grant number NNM13AA02G awarded by NASA. The government has certain rights in this invention.

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- (1) Wahab, M.A., Bellow, D.G., and Faulkner, M.G., "The Effect of Residual Stresses on the Improvement of Fatigue Life of Medium Strength Butt-Welded Steel Structures," Bicentennial International Congress in Mechanical Engineering, Institute of Engineers Australia Publications 88/4, pp.16-20, (1988).
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- (73) Wahab, M.A., Gorugantu, V.B., and Gupta, N., "Fracture Toughness Characterization of Syntactic Foams," American Society for Composites, 20th Annual Technical Conference, Philadelphia, PA, USA, September 7-9 (2005).
- (74) Alam, M.S., Peck, J.A., Wahab, M.A., and Jones, R.A., "Stress Analysis in non-Conventional Composite Pipes," American Society for Composites, 20th Annual Technical Conference, Philadelphia, PA, USA, September 7-9 (2006).
- (75) Wahab, M.A., Alam, M.S., Peck, J.A., and Jones, R.A., "Buckling of Polygonal Fiber Reinforced Polymer (FRP) Composite Tubes," Proc. Fourteenth International Conference on Composites Engineering (ICCE/14), Boulder, Colorado, July 2-8 (2006).
- (76) Wahab, M. A., Taylor, D.E., and Meletis, E., "Study of Embrittled Friction-Stir-Welds," ASME-IMECE2009 Conference, Lake Buena Vista, Florida, Nov. 13 to 19, (2009).
- (77) Wahab, M. A., Ramachandran, P., Pang, S. S., and Jones, R., "Stress Analysis of Non-Conventional Composite Pipes – An Experimental and Numerical Approach," ASME-IMECE2009 Conference, Lake Buena Vista, Florida, Nov. 13 to 19, (2009).
- (78) Wahab, M. A. Liang, J., and Guo, S., "Development and Analysis of Metal Surface Cleaning Using Electro-Plasma-Process (EPP)," ASME, IMECE2009, Lake Buena Vista, Florida, Nov. 13 to 19, (2009).
- (79) Wahab, M. A. and Raghuram, V., "Fatigue Life Prediction of Al-Li Alloy Butt-Welded Joints in Aerospace Structures," ASME- IMECE2009, Lake Buena Vista, Florida, Nov. 13 to 19, (2009).
- (80) Konka, H.P., Wahab, M.A., and Lian, K., "Sensing and Actuation of Composite Piezoelectric Materials for Smart Joint Applications," ASME, IMECE-2009, Lake Buena Vista, Florida, Nov. 13 to 19, (2009).
- (81) Liang, J., Wang, K., Wahab, M., and Guo, S., "Formation of Martensite Phase on SS-304 during Electrolytic Plasma Process (EPP)," Conf. on Materials Science & Technology 2010, Proceedings: Fundamentals, Applications, and Innovations in Heat Treatment, pp. 2383 - 2392, October 17-21, (2010), Editor(s): MS&T Publications Department, Houston, Texas, USA.

- (82) Nahid, M.N.H., Wahab, M.A., and Lian, K., “Degradation of Shape Memory Polymer Due to Water and Diesel Fuels,” Challenges In Mechanics of Time-Dependent Materials and Processes In Conventional and Multi-functional Materials, 2011 SEM Annual Conference and Exposition on Experimental and Applied Mechanics, *Experimental Mechanics in the Age of Modeling and Simulation*, Mohegan Sun, Uncasville, CT USA June 13-15, (2011).
- (83) Konka, H.P., Wahab, M. A., and K Lian, K. “Detection and Damage Monitoring in Composite Structures using Piezo-electrics,” 2011 SEM Annual Conference and Exposition on Experimental and Applied Mechanics, *Experimental Mechanics in the Age of Modeling and Simulation*, Mohegan Sun , Uncasville, CT USA June 13-15, (2011).
- (84) Liang, J., Wahab, M.A., Guo, S., “Surface Corrosion Resistance of Deformed SS-304 Stainless Steel by Electrolytic- Plasma-Process (EPP),” 2011 SEM Annual Conference and Exposition on Experimental and Applied Mechanics, *Experimental Mechanics in the Age of Modeling and Simulation*, Mohegan Sun , Uncasville, CT USA June 13-15, (2011).
- (85) Konka, H.P., Wahab, M.A., & Lian, K., 2011, “Sandwich Structures with Smart Composite Face Skin,” Proceedings of 2011 ASME International Mechanical Engineering Congress & Exposition (IMECE’11), Denver, Colorado, USA (Paper Id: IMECE 2011-62170), November11-17, (2011).
- (86) Liang, J., Zhang, PG., Wang, KY., Guo, M, Wahab, M.A., “Cleaning of Oxide Layer on Steel Surface by Electrolytic Plasma Process,” Materials Science & Technology- 2011 Conference & Exhibition, Columbus, Ohio, Oct., (2011).
- (87) Kardak, A. and Wahab, M.A., “Evolution of Mechanical Properties and Microstructural Characterization of Butt-Welded AA-6061,” Proceedings of 2011 ASME International Mechanical Engineering Congress & Exposition (IMECE-11), Denver, Colorado, USA (Paper Id: IMECE2011-62247, November11-17, (2011).
- (88) Ahmed, Jasem and Wahab, M.A., “Stress Analysis of Functionally Graded Thick-Cylinders Subjected to Mechanical and Thermal Loads,” Proceedings of 2011 ASME International Mechanical Engineering Congress & Exposition, Denver, Colorado, USA (Paper Id: IMECE2011-62707), November11-17, (2011).
- (89) Liang, J., Hossain, N.I., Wahab, M.A., Guo, S.M., “Improvement of Corrosion Resistance on a Low Carbon Steel 1018 by Electrolytic -Plasma -Process (EPP),” ASME-IMECE Houston 2012 (Nov. 9 to 15).
- (90) Dewan, M.W., Liang, J., Wahab, M.A., and Okeil, A.M., “Determination of Residual Stresses and the Influence of Post Weld Heat Treatments on the Performances of TIG Welded AA-6061 T651 Aluminum Alloy,” Proceedings of the ASME 2012 International Mechanical Engineering Congress & Exposition, IMECE2012-85889, November 9-15, 2012, Houston, Texas, USA.
- (91) Ahmed, Jasem, and Wahab, M.A., “Finite Element Analysis of Functionally Graded Thick-Cylinders Subjected To Mechanical and Thermal Loads,” ASME-IMECE Houston 2012 (Nov. 9 to 15).
- (92) M. A. Wahab and V. Raghuram, “MECE2013-63285- Technical Publication- Fatigue and Fracture Mechanics Analysis of Friction Stir Welded Joints of Aerospace Aluminum Alloys Al-2195,” ASME-IMECE 2013 Con. San Diego, CA., Nov. 15 to 21, (2013).
- (93) M. W. Dewan, J. Liang, M. A. Wahab, and A. M. Okeil, ASME-IMECE 2013 – 2973, Effect of post weld heat treatment and electrolytic plasma treatment on TIG welded 4140 steel joints,” ASME-IMECE 2013 Con. San Diego, CA., Nov. 15 to 21, (2013).

- (94) Naser I. Hossain, M.A. Wahab, and Jiandong Liang, "ASME-IMECE 2013-63241, Numerical Evaluation and Analysis of Improvements in Thermal Barrier Coating Adhesion by Adoption of Plasma Treatment and Biomimicry," ASME-IMECE 2013 Con. San Diego, CA., Nov. 15 to 21, (2013).
- (95) M. W. Dewan, M.A. Wahab, and Ayman M. Okeil, "Effect of Weld Defects on Tensile Properties of Light Weight Materials and Correlations with Phased Array Ultrasonic Nondestructive Evaluation," *ASME-MSEC* (ASME-Manufacturing Science and Engineering Conf. MSEC), Detroit, Michigan June 9 to 15, 2014.
- (96) Mohammad W. Dewan, Gustavo Gonzales, and M.A. Wahab (2015). "Effects of Rotating-Bending and Torsional Fatigue Loads on Gas Tungsten Arc (GTA) Welded AISI 1018 Low Carbon Steel Joints." Proceedings of the ASME 2015 Manufacturing Science and Engineering Conference, MSEC2015-9326, June 8-12, 2015, Charlotte, NC, USA
- (97) M. W. Dewan, **M A Wahab**, K. Sharmin, "Effects of Post Weld Heat Treatments (PWHT) on Friction Stir Welded AA2219-T87 Joints." Submitted in Dec. 2016, Accepted, Feb. 2017. Proceedings of the ASME 2017 International Manufacturing Science and Engineering Conference (**MSEC-2017**) June 4 -8, 2017, Los Angeles, CA, USA, Paper Number: MSEC2017-3021 (Pages 1-8).
- (98) Daniel Huggett, M. W. Dewan, **M. A. Wahab**, T. W. Liao, and A. M. Okeil, "On-Line Detection of Friction Stir Welded Joints by High Temperature Phased Array Ultrasonic Inspection and Control of Weld Process Parameters," Paper Number: **MSEC2017-2692**. Proceedings of the ASME 2017 International Manufacturing Science and Engineering Conference MSEC2017 June 4 -8, 2017, Los Angeles, CA, USA (Pages 1-6).
- (99) W.J. Emblom, Ayotunde Olayinka, Scott W. Wagner, T.C. Pesacreta, **M. A. Wahab**, "Multiscale sheet metal hydroforming and burst pressure estimates," **Paper # IMECE2017-70347**, Proceedings of the IMECE2017, 2017 ASME International Congress and Exposition, November 3-9, 2017, Tampa, Florida, USA. (Pages 1-10)

REFEREED ABSTRACTS/ TECHNICAL PRESENTATIONS AT THE CONFERENCES:

- (1) Jiandong Liang, Mohammad W. Dewan, and Muhammad Wahab (2013). "Effect of Post Weld Heat Treatment and Electrolytic Plasma Treatment on TIG Welded 4140 Steel Joints". ASME 2013 International Mechanical Engineering Congress & Exposition, IMECE2013-62973, November 15-21, 2013, San Diego, California, USA. (Technical Presentation)
- (2) S.B. Aziz, M.W. Dewan, D.J. Huggett, M.A. Wahab, A. Okeil, T.W. Liao , "Impact of process parameters on thermal modeling of Friction Stir Welding (FSW)," Technical presentation (Proceedings) at IMECE 2015, IMECE2015- Paper # 53222
- (3) M. W. Dewan, D. J. Huggett, M. A. Wahab, A. M. Okeil, and T. W. Liao, "Tensile Properties from FSW Processing using Adaptive Neuro-Fuzzy Inference System (ANFIS) Model," Technical Presentation (Paper Number: IMECE 2015- 52498), at the ASME-Houston 2015
- (4) S.B. Aziz, M. Dewan, D.J. Huggett, **M.A. Wahab**, T.W. Liao, and A.M. Okeil, " A Fully Coupled Thermomechanical Model of Friction-Stir-Welding (FSW) and Numerical Studies on Process Parameters of Aluminum Alloy Joints," IMECE 2017-70355, ASME 2017 International Mechanical Engineering Congress & Exposition, Tampa, FL, November 6, 2017

REFEREED POSTER-PAPER PRESENTED AT THE ASME-MSEC-(MADISON, WI) CONFERENCE IN 2013:

- (1) M. W. Dewan, J. Liang, M. A. Wahab, A. M. Okeil, “Non-destructive evaluation of weld defects and residual stresses of TIG- welded and Post-weld heat –treated aluminum alloy,” ASME-Manufacturing Science and Engineering Conference (MSFC), Madison, Wisconsin, June 10-14, (2013).

Scholarly Presentation and Speaking Engagement

1. A seminar (invited talk) was presented on: “**Challenges towards Structural Integrity and Performance Improvement of Welded Structures,**” at the University of Louisiana at Lafayette, Mechanical Engineering Department, Lafayette, on March 17th 2016, Rougeon Hall, Room 324, 5:00 pm.

NON-REFEREED PUBLICATIONS/PRESENTATIONS:

- (1) Loghman, A. and Wahab, M.A., “Thermo-Elastoplastic and Residual Stresses in Thick-Walled Cylindrical Pressure Vessels of Strain-Hardening Material,” Asia-Pacific Symposium on Advances in Engineering Plasticity and its Application. Abstract published in the proceedings, p. 176, Hong Kong, December (1992).
- (2) Ghosh, A., Oehlers, D.J., and Wahab, M.A., “A New Fatigue Design and Analysis Approach Based on Residual Strength,” Department of Civil and Environmental Engineering, Research Report No: R108, October (1993).
- (3) Oehlers, D.J., Ghosh, A., and Wahab, M.A., “Residual Strength Approach to Fatigue Design and Analysis of Welded Components,” Research Report No: R112, pp. 1-30, Dept. of Civil and Environmental Engineering, University of Adelaide, Australia (1994).
- (4) Leske, M., Estcourt-Hughes, N., Wahab, M.A., and Kollias, S., “Wedgetail” Australian Space Research Institute (ASRI) Newsletter No. 7, pp.16-17. Published by Australian Space Research Institute, ACN 051-850-563 PO Box 184 Ryde, NSW 2112, March (1996).
- (5) Wahab, M.A., “The Non-Conventional Composite Pipes - The Aspects of Design and Manufacturing,” ACAP 2005 Science, Engineering and Technology Seminars (SETS) and Diversity Summit, Houston, Texas, May 20-21 (2005).
- (6) Li, G. and Wahab, M.A., “Low Velocity Impact of Composite Sandwich Structure with Hybrid Core,” ACAP 2006 Science, Engineering and Technology Seminars (SETS) and Diversity Summit, Houston, Texas, April 28-29 (2006).
- (7) Wahab, M.A. and Alam, M.S., “Fatigue damage accumulation in aerospace structural materials,” ACAP 2007 Science, Engineering and Technology Seminars (SETS) and Diversity Summit, Sugar Land, May 25-27 (2007).
- (8) Wahab, M.A., “Design of a prototype Adaptive Filament Winder for Non-Conventional Cross-Sectional Pipes,” ACAP 2008, Science, Engineering and Technology Seminar (SETS), Sugarland Texas, May 10 (2008).
- (9) Wahab, M.A. and Raghuram, V., “Fatigue Fracture and Micro-Structural Evolution of Friction-Stir-Welded (FSW) Butt-Joints of Al-2195 alloys,” First American Academy of Mechanics (AAM) Conference, New Orleans, Louisiana, June 17–20 (2008).
- (10) Wahab, M.A., Ramachandran, P., Jones, R.A., and Helms, J.E., “Stress Analysis of Non-Conventional Composite Pipes Using Finite Element Method (FEM),” First American Academy of Mechanics (AAM) Conference, New Orleans, Louisiana, June 17–20 (2008).

- (11) Taylor, D. and Wahab, M.A., “Analysis of Embrittled Friction-Stir Welds,” First American Academy of Mechanics (AAM) Conference, New Orleans, Louisiana, June 17–20 (2008).
- (12) Rials, D., Nettles, O., Liu, R., Hasan, A.B. M., Guo, S.M., and Wahab, M.A., “Metal Surface Cleaning Using Electro-Plasma Process,” First American Academy of Mechanics (AAM) Conference, New Orleans, Louisiana, June 17–20 (2008).
- (13) Konka, H.P., Wahab, M.A., and Lian, K., “Characterization of Microfiber Composite (MFC) Piezoelectric Material as a Sensor and Actuator for the Smart Adhesively Bonded Joint Applications,” 2nd International Conference on Self-Healing Materials - ICSHM2009, Chicago, IL, USA, 28 June - 1 July (2009).
- (14) Wahab, M.A., “Fracture Characterization and Effects of Compressive Stresses on Syntactic Foam,” Paper will be presented at 2009 ACAP/SETS: Nano and Composite Technology Symposium, Sugarland, Texas, June 6th, (2009).
- (15) Wahab, M.A., Liang, J., Guo, S., “Novel Development of Metal Surface Cleaning using Electro-Plasma Processes (EPP),” ICCE- ICCE-17, Hawaii USA, July 26-31, (2009).
- (16) Wahab, M.A., and Raghuram, V., “Fracture Characterization and Compressive Properties of Syntactic Foam,” ICCE- ICCE-17, Hawaii USA, July 26-31, (2009).
- (17) Nahid, M.N.H., Wahab, M.A., Lian, K. and Pang, S., "Characteristics of Recovery Force and General Degradation of Shape Memory Polymer in Water/Diesel Environment," Paper presented at the ACAP-2010 Conference on: *Science, Engineering and Technology Seminars* (SETS), 2010, Sugarland, Texas, June 11-13,(2010).
- (18) Wahab, M.A., Nahid, M.N.H., and Lian, K., “An Experimental Approach to Shape Memory Polymer’s Degradation Behavior in Water and Diesel Fuels,” Presented at the 2011 ASME-International Mechanical Engineering Congress & Exposition (IMECE-2011), Denver, Colorado, USA (Paper Id: IMECE-2011-62259, November11-17,(2011).
- (19) Saba, B., and Wahab, M. A., “Comparison of Finite Element Analysis Results to Physical Laboratory Results for F2077 IBFD Testing and Select F1717 Vertebrectomy Plate Testing,” ASME 2012 Verification and Validation Symposium, May 2 to 4, Las Vegas, Nevada, USA.
- (20) Wahab, M.A., Dewan, M.W., and Huggett, D.J., “Challenges towards improve Friction-Stir-Welds,” Paper presented at the ACAP-2014 Conference on: *Science, Engineering and Technology Seminars* (SETS), 2014, Sugarland, Texas, June 21-22, (2014).

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:

- (i) Member, American Society of Mechanical Engineers (**ASME**), (06/01/2002 to present)
- (ii) Member, American Welding Society (**AWS**), (1997 to 2002, and from 10/01/2009 to present)

GRADUATE COMMITTEES AT LSU:

CURRENT Ph.D. STUDENTS (MAJOR PROFESSOR): Ph.D. (LSU)

- (1) **Saad Bin Aziz, (Ph.D., M.E., LSU, Chair)**, “Coupled thermos- mechanical modeling of friction-stir-welding (FSW) and fatigue life improvement of friction-stir-welded structures,” Expected graduation, July- 2018. (Started Jan 2014, General Exam passed- 21st Feb 2017).

COMPLETION OF GRADUATE ADVISING AT LSU AND AT ADELAIDE UNIVERSITY-AUSTRALIA:

COMPLETION OF ADVISING – Ph.D. DISSERTATIONS (LSU):

- (1) **M. Shah Alam**, “Structural Integrity and Fatigue Crack Propagation Life Assessment of Welded and Weld-Repaired Structures,” (Ph.D., LSU, ME, Chair), Graduated, Dec. 2005.
- (2) **A. B. Mahmud Hasan**, “Experimental and Numerical Analysis of Fuel Cells,” (Ph.D., LSU, ENG. Sc., Co-Chair with Dr. S.M. Guo), Graduated, June 2010.
- (3) **Hari Prasad Konka**, “Embedded Piezoelectric Fiber Composite Sensors for Applications in Composite Structures,” (Ph.D., LSU, ME., Chair), Graduated, December, 2011.
- (4) **Jiandong Liang**, “A Study on the Cleaning and Modification of Metal Surfaces by Direct Current Cathodic Electrolytic Plasma Process,” (Ph.D., LSU, ME., Chair), Graduated, August 9th, 2013
- (5) **Mohammad Washim Dewan**, “Challenges Towards Structural Integrity and Performance Improvement of Welded Structures”, (Ph.D., LSU, ME), Graduated Dec., 2015. (Outstanding Dissertation Award from College of Engineering-2015).
- (6) **Jasem Ahmed**, “Analytical Solutions and Multiscale Creep Analysis of Functionally Graded Cylindrical Pressure Vessels,” August 2017 (PhD, LSU, ME, Chair)
- (7) **Daniel James Huggett**, “Friction Stir Welding Manufacturing Advancement by Online High Temperature Phased Array Ultrasonic Testing and Correlation of Process Parameters to Joint Quality”, (PhD., LSU, ME, Chair) (Final defense: 10.19.17) Graduated 15 Dec. 2017.

COMPLETION OF Ph.D. DISSERTATIONS ADVISING (ADELAIDE UNIVERSITY-AUSTRALIA):

- (1) **Mark H. Davies** (Ph.D., AU, ME, Chair), Graduated 1996, “Numerical Modeling of Weld Pool Convection of Gas Metal Arc Welding”. (Jointly with Dr. M. J. Painter of CSIRO-Australia)
- (2) **Abbas Loghman** (Ph.D., AU, ME, Chair), Graduated 1996, “Thermo-elastoplastic and Creep Analysis of Thick-walled Cylinders”.
- (3) **Ninh T. Nguyen** (Ph.D., AU, ME, Chair,), Graduated 1996, “Advanced Modeling of the Fatigue of Butt-Welded Structures”
- (4) **Abir Ghosh** (Ph.D., AU, ME/CE, Joint-Supervision with Prof. D. J. Oehlers), Graduated 1997-“Residual Strength Approach to Fatigue Design of Engineering Structures”
- (5) **Prakash Sabapathy** (Ph.D., AU, ME, Chair), Graduated 2002, “Predicting Weld Cooling Rates and the Onset of Failure during In-Service Welding”; (Jointly with Dr. M. J. Painter of CSIRO-Australia)
- (6) **Alex Dunstone** (Ph.D., AU, ME) Graduated 2004, “Numerical Modeling of Pipelines Constructions” (Direct supervision till 2001 and then remote supervision; jointly with Dr. M. J. Painter of CSIRO until completion of Dissertation in 2004).
- (7) **David Thompson** (Ph.D., AU, ME), “Numerical Optimization of Biomedical Implant Characteristics for Increased Service Life,” Completed in 2006 (Direct supervision till 2001 and then remote supervision, jointly with Dr. M. J. Painter of CSIRO-MST)-Degree awarded March 16, 2007.

COMPLETION OF MASTER THESES)**MASTER OF ENGINEERING: (LSU):**

- (1) **Jin Hee Park**, “Effects of Corrosion Prevention Compounds and Overload Induced Residual Stress Field in the Fatigue of Aluminum Alloy,” (MS., LSU, ME, Chair), (Graduated, August 2004).
- (2) **Vijay Gorugantu**, “Fracture Toughness Characterization of Syntactic Foams,” (MS., LSU, ME, Chair), (Graduated in August 2004).
- (3) **Prashanth Ramachandran**, “Failure Analysis, Fabrication and Modeling of Non-Conventional Composite Pipes,” (MS., LSU, ME, Chair), Graduated, December, 2009.
- (4) **David Taylor**, “Effect of Processing Parameters on Embrittlement of Self-Reacting Friction Stir Welds,” (MS., LSU, ME, Chair), Graduated, December 2009.
- (5) **Vinay K. Raghuram**, “Fatigue and Microstructural Analysis of Aerospace Structural Materials,” (MS., LSU, ME, Chair), Graduated, December 2009,
- (6) **Hari Prasad Konka**, “Characterization of Composite Piezoelectric Materials for Smart Structure Applications,” (MS., LSU, ME, Chair), Graduated, May 2010.
- (7) **Nazmul Hasan Nahid**, “Degradation Behavior of Shape Memory Polymer due To Water and Diesel Fuel,” (MS., LSU, ME, Chair), Graduated, May 2010.
- (8) **Diane Van Ho**, “The Design and Modification of a Sputter System for DC Reactive Sputtering of Alumina and Zirconia Thin Films,” (MS., LSU, ME, Chair), Graduated, July 2011.
- (9) **Naser Imran Hossain**, “Numerical Evaluation and Analysis of the Adhesion Phenomena in Thermal Barrier Coating Systems through Bio-Mimicking Plasma Process,” (MS., LSU, ME, Chair), August 9th, 2013.0
- (10) **Gustavo Gonzalez**, “Effects of Rotating Bending and Torsional Loads on Gas Tungsten Arc-Welded AISI 4140 and AISI 1018 Steel Welded Joints,” MS (*Non-Thesis Project*), LSU, ME, Chair, May 2014)
- (11) **James Roberts**, “Weld Quality Classification from Sensory Signatures in Friction-Stir-Welding (FSW) Using Discrete Wavelet Transform and Advanced Metaheuristic Techniques,” October 2016, Started Master program in Jan 2015. Graduated Dec. 2016 (MS., LSU, ME, Chair),
- (12) **Ahmet Eren**, “Frequency Effect of Torsion on Rotating Bending Fatigue Behavior of Gas Tungsten Arc-Welded AISI- 1018 And AISI- 4140 Welded Joints,” MS (**Non-Thesis Project**)- May, 2017.

COMPLETION OF MASTER THESES ADVISED at Adelaide University:

- (1) **Geoffrey R. Rohrsheim** (MS., AU, ME, Chair), Graduated 1995, “The Influence of Overloads on Constant Amplitude Fatigue Crack Growth in Aluminum 7050-T7451.”
- (2) **Gregg R. Redden** (MS., AU, ME, Chair), Graduated 1996, “The Influence of Heat Input on the Microstructure and Mechanical Properties of a High Strength Flux-Cored Weld Metal.”
- (3) **Peter Chaplin** (MS., AU, ME, Chair), Graduated 1996, “A Model Analysis of an Active Vehicle Suspension System using Hydraulic Control.”
- (4) **William Joe-Yan Buttery** (MS., AU, ME, Chair), Graduated 1999, “Finite Element Analysis and Fatigue Behavior of Welded Aluminum Alloy T-Joints.” (Jointly supervised with Dr. Mike Painter of CSIRO-MST)

- (5) **Allan Smailes** (MS., AU, ME, Chair), Graduated 1999, “Numerical Modeling of Heat Transfer in Gas Metal Arc Welding.”
- (6) **Paul Colegrove** (MS., AU, ME, Chair), Graduated 2001, “Numerical Modeling of Friction-Stir Welding” (Joint-supervision with Drs. M.J. Painter & D. Graham, CRC-MW&J/WS- Master project.)
- (7) **Rudolf Zettler** (MS., AU, ME, Remote Co-Supervision with D. Graham), Graduated 2006, “The development of Process Technology for the Friction-Stir Welding of Thick Section Aluminum Alloy,”- Adelaide University, Australia.

COMMITTEE MEMBERSHIP FOR NON-SUPERVISED STUDENTS AT LSU:

- (1) Brent M. Saba (MS., LSU, ME), Member, 2003
- (2) Udhaya B. Nallamuttu (Ph.D., LSU, ME), Member, 2004
- (3) Bo Shi (Ph.D., LSU, ME), Member, 2004
- (4) Indrani V. Volety (MS., LSU, ME), Member, 2005
- (5) Dinesh Maricherla (MS., LSU, ME), Member, 2005
- (6) Priya David (MS., LSU, ME), Member, 2004
- (7) Manu Kuruvila John (Ph.D., LSU, ME), Member, 2005
- (8) Dinesh Venkata Muthyala (Ph.D., LSU, ME), Member, 2007
- (9) Panchangram Nivarthi, Amar (MS., LSU, ME), Member, 2007
- (10) Lu Deng (Ph.D., LSU, C & E), Member, 2007
- (11) Mehdi Naderi Abadi (Ph.D., LSU, ME), Member, 2007
- (12) Berner, Darrick J. (MS., LSU, ME), Member, 2007-2013
- (13) Mehdi Ameri Darehbidi (Ph.D., LSU, ME), Member, 2007
- (14) Ranran Liu (Ph.D., LSU, ME), Member, 2007
- (15) Peigen Zhang (Ph.D., LSU, ME), Member, 2007
- (16) Luping Li (MS., LSU, ME), Member, 2007
- (17) Diego F. Gonzalez (MS., LSU, ME), Member, 2007
- (18) Jeffrey Alan Kornutta (MS., LSU, ME), Member, 2008
- (19) Christopher D Delhom (MS., LSU, ME), Member, 2007
- (20) Manthan Malde (MS., LSU, I&CE), Member, 2007,
- (21) Shivani Dafftardar (MS., LSU, I&CE,), Member, 2008
- (22) Sukumar Adulla (MS., LSU, ESc.), Member, 2008
- (23) Venkata S. Chakka (MS., LSU, ME), Member, 2008
- (24) Archana Nair (Ph.D., LSU, C& E), Member, 2008
- (25) Paul Wehmer (MS., LSU, ME), Member, 2008
- (26) Ryan Mayer (MS., LSU, ME) Member, 2008
- (27) Wei Zhang (Ph.D., LSU, C& E), Member, 2009
- (28) Mohammad Tanvir Hossain Ph.D., LSU, C&E), Member 2009
- (29) Miao Xia (Ph.D., LSU, C & E), Member, 2010
- (30) Xuan Kong (Ph.D., LSU, C&E), Member, 2010
- (31) Jean-Philippe Junca-Laplace (MS, LSU, ME), 2010
- (32) Mohammad Tanvir Hossain, (Ph.D., LSU, C& E), Member, 2010
- (33) Masjedi Mohammad (Ph.D., LSU, ME), Member, 2010
- (34) Paul Williams (Ph.D., LSU, ME) Member, 2012
- (35) Richard Purvis (MS, LSU, ME) Member, 2013
- (36) Ali Kahirdeh (Ph.D., LSU, ME) Member, 2011-2014

- (37) Ali Behesti (Ph.D., LSU, ME) Member; (2011-2013)
- (38) Jonah Champagne (MS, LSU, ME) Member (2012-2013)
- (39) Gregory Lewis Vick (MS, LSU, ME) Member (2012-2013)
- (40) Solomon Bengan (MS, LSU, ME) Member (2012-2013)
- (41) Li, Wang (Ph.D., LSU, ME) Member; (2011-2013)
- (42) Domingo Elias (MS, LSU, ME) Member (2012-2016)
- (43) Afshin Babae Aghdam (Ph.D., LSU, ME) Member; (2011-2014)
- (44) Aniruddha Joshi (MS, LSU, IE), Member April 2014.
- (45) Md. Liakot Ali (Ph.D., LSU, ME) Member; (2011-2015)
- (46) Manish Patel (MS, LSU, ME), Member, (1.15.2015-)
- (47) Boliang Zhang (PhD, LSU, ME- “Design and validation of new potential high entropy alloy”), Member (2013- present), GE 2nd Feb 2016, Final PhD Defense 11.01.2017
- (48) Yi Zhang (PhD, LSU, ME- “Electromagnetic Interference Shielding Effectiveness and Physical Property Measurements of Silicon Carbide based Composite Materials,”), Member (Fall-2014), General Examination, March 2016, Final Dissertation: Electromagnetic interference shielding effectiveness of advanced composite material, Dissertation Defense- Nov. 4th, 2016.
- (49) Md. Shahriar Jahan Hossain (MS, LSU, IE), Member (2016- MS Completed); (PhD, LSU, IE), Member (2015----), “Throughput and yield improvement for a continuous discrete-product manufacturing system,” Ph.D. General Examination (9.18.2017)
- (50) Praveen Gummadi (MS, LSU, EE), Member 2015)
- (51) Wenbo Zhao (Ph.D. /MS, LSU, MIE (IE)), Member 2015--), “Finite Element study of pipe forming process,”(Master degree)- 9 May -2017
- (52) Domingo Elias (MS, LSU, ME) Member (2012- ---)
- (53) Venkata Sai Swaroop Nannaka (MS, EE, LSU, member)- “Defect Detection in Phased Array Ultrasonic Testing,” --MS Defense Exam May 5, 2017
- (54) Xiaodan Cui (PhD., MIE, Member) GE: “Novel earth-abundant nanomaterials for electrocatalysis and photocatalysis” 12.04.2017 (Major Prof. S. M. Guo).

COMMITTEE MEMBERSHIP IN Ph.D. COMMITTEES AS DEAN’S REPRESENTATIVE

- (1) **Gregory Todd McCandless**, 31 Oct 2012 (Chemistry -Dean’s Representative)
- (2) **Huanhuan Xu**, (Computer Science-Dean’s Representative)
- (3) Trevor McGuire (Mathematics-Dean’s Representative)
- (4) **Prashanna D. Bhattarai** (Electrical Engineering- April 2015-Dean’s Representative, Final Defense- April 5th 2016), The Division of Electrical and Computer Engineering, PhD Dissertation title: “Powers and compensation in three-phase systems with non-sinusoidal and asymmetrical voltages and currents,”
- (5) **Milad Rezaee**, Started PhD Fall -2014, GE passed on Dec. 13, 2016, Civil & Environmental Engineering (Advisor Aly M Aly)-- “Vibration Control in Wind Turbines For Multi Hazards”
- (6) **Jing He**, Ph.D. General Exam, 04 Nov. 2017, “System nonlinear performance of low-rise buildings under database-assisted hurricane loads,” Advisor: Dr. Steve C.S. Cai, Department of Civil and Environmental Engineering.
- (7) **Mahdi Moinul**, Ph.D., “Performance Evaluation and Development of Mechanistic Empirical Pavement Design Procedure of Thin RCC Pavements”, Advisor: Dr. Zhong Wu, Department of Civil and Environmental Engineering, 02 Aug. 2017

ADVISED SENIOR DESIGN PROJECTS AT LSU:

- (i) Project Title: “Cane Sugar Load Sensor,” (M.A. Wahab, W. Waggenspack, and J. Helms);
Group Members: *Damon Bruno, Jason Judice, Nick Picou, Jason Riggs* (2002).
- (ii) Project Title: “Mobile Remote Control Heavy Equipment Jack,” (M.A. Wahab, Fall Semester only);
Group Members: *Jennifer Butler, Steve Cortez, Phillip S. Losh, Timothy Miller* (2003).
- (iii) Project Title: “Tabletop Engraving System,” (M.A. Wahab); Group Members:
Robert Hoover, Justin Morgan, Oddvar Spjeld (2003).
- (iii) Project Title: “Portable Exercise Unit for Diabetics,” (M.A. Wahab);
Group members: *Denis Aidoo, Fernando Marcheselli, Au Song Nguyen, Mark E. Schoor, Jr.* (2004).
- (v) Project Title: “Sugar Cane Cleaner System-II,” (M.A. Wahab);
Group Members: *James P. Callaghan, Jeremy K. Harris, Kelly L. Lawson, Michael O. Robert* (2004).
- (vi) Project Title: “Long-reach Mower,” (M.A. Wahab);
Group Members: *Benjamin Castognos, Casey Hoffman, Ken Starkovitch, Christopher Tramonte*, (2005). The team received **Ben Burns Jr. Award in 2005**.
- (vii) Project Title: “Adaptive Filament Winder for Non-Conventional Cross-Sectional Pipes,” (M.A. Wahab and G. Li.); Sponsor: M. A. Wahab;
Group Members: *Ben Bales, Scott Netherland, Justin Templet, Jeremy Turner* (2008)
- (viii) Project Title: “Metal Surface Cleaning Using Electro-Plasma Water Jet”, (S.M. Guo and M.A. Wahab);
Group Members: *Owen Nettles and David Rials* (2008)
- (ix) Project Title: Thermocouple Analysis for Cryogenics (M A Wahab /S.M. Guo)/Sponsor: Mark S. Hughes-NASA Stennis Center, (2009)
Group Members (4): *Stephen Edelblut; Brian Geddes; Gene LeFevre; Mayowa Olofin*.
- (x) Project Title: Design and built a Machine Design Lab Experiment on “Stress Concentration,” (Group Members: *David Nelson, Jacques Collet-Dofny, Ronald Strauss, and Jessica Ramirez*, Sponsor -Mechanical Engineering Department, (2014).
- (xi) ME 4243: Project Title “Team # 15, 3D Printing with TIG (Tungsten Inert Gas) Welding,” (ME 4243 Fall -2016, Spring -2017):
Team Members: *Cothren, Preston (ME), Farque, Zachary (ME), Hoffmann, Jonathan (ME), Hoffstadt, Jonathan (ME), Rivet, Jared (ME)*;
Sponsor(s): Scott Dailey (Intralox, Laitram), Dimitris E. Nikitopoulos,
Faculty Adviser(s): Shengmin Guo and M. A. Wahab- Final presentation: 12/01/ 2016- (ME 4243) and ME 4202 Final Presentation Spr-2017.

RESEARCH ACTIVITIES: (FUNDED RESEARCH GRANTS RECEIVED SINCE JOINING LSU in 2002.)**FUNDED PROJECTS AS PI: (GRANTS RECEIVED AT LSU):**

- (1). “Effect of Corrosion Prevention Compounds on Fatigue Crack Propagation in Aluminum Alloy for Aerospace Application,” NASA/Louisiana Space Consortium, (PI: **M.A. Wahab**), 03/15/03 - 03/14/04, \$24,539. LSU Account No: 127-40-4103.
- (2). “Development of Unconventional Composite Pipes, Ducts, Joints, and Fittings for Low-to-Moderate Pressure Marine Applications,” Louisiana Board of Regents, (PI: **M.A. Wahab**; Co-PIs: S.S. Pang, H.D. Jerro), 06/01/04 - 06/30/08, \$155,000. LSU Acct. No: 127-40-4166.

- and EDO Fiber Science/EDO Specialty Plastics (Matching for the BoR/ITRS project), \$90,000. (\$45,000 cash and \$45,000 in-kind); LSU Acct. No: 127-40-6170.
- (3). “Finite Element Prediction of Distortion and Measurement of Restraining Forces for a Gas Metal Arc Welded Joint,” LSU Faculty Research Grant Proposal, 01/01/03 - 09/30/03, (PI: **M.A. Wahab**), \$10,000. LSU Account No: 127-40-9101.
 - (4). “Fatigue Damage Accumulations in Aerospace Structural Materials,” NASA/ Louisiana Space Consortium, Research Enhancement Award Program, \$24,983. 04/01/05- 03/31/06, (PI: **M.A. Wahab**). LSU Acct. No: 127-40-4104.
 - (5). “Effect of Processing Parameters on Embrittlement of Self-Reacting Friction Stir Welds,” “University of New Orleans Research and Technology Foundation,” Project No. NCC8-233/Foundation Project No. 58404-S15, Prime Agency NASA, 12/01/04 -03/15/05. (PI: **M.A. Wahab**, effective from 01/15/05). Extension of this Project, Sub-Award Amendment No. 02, Project extended from 03/15/05 to 06/15/05., Total Amount \$75,000. LSU Account No: 127-40-6169/ 127-40-6181.
 - (6). “Towards Miniaturization of the Naval Nuclear Propulsion Reactors: Novel Processing Routes of Fabricating Microstructures on Pressurized Water Reactors,” U.S. Department of Energy, (Prime Contractor: Southern University, PI: S.I. Ibekwe; Subcontractor: CAMD and LSU), **LSU Subcontractor PI: M.A. Wahab**; LSU Co-PIs: K.V. Singh, M. Tyagi), 10/01/05–09/30/09, LSU Subcontractor Budget: \$176,840; LSU Acct. No: 127-40-4121.
 - (7). “Fatigue and Micro-Characteristics Analysis of Friction-Stir Welded Joints of Al-2195 Alloys,” NASA/Louisiana Space Consortium, Developing Aerospace Research & Technology (DART), (PI: **M.A. Wahab**), 06/01/05 - 06/31/07, \$33,758. LSU Acct. No: 127-40-4186.
 - (8). “Experimental Determination of Compressive Properties and Fracture Characteristics of Syntactic Foam,” Louisiana Space Consortium (LaSpace), (PI: **M. A. Wahab**), 04/01/08 to 03/31/09; \$30,000. LSU Acct. No: 127-40-4168.
 - (9). “Structural Integrity and Creep Modeling of Friction-Stir-Welded Joints of Al-2195 Alloy,” NASA-EPSCoR-Phase 3, DART-3 (Developing Aerospace Research and Technology), (PI: **M. A. Wahab**, 03/01/2009 to 01/03/2011); \$32,000, Contract NASA (2009) DART-31, LSU Account# 127-40-4132.
 - (10-a). “Challenges towards Improved Friction-Stir-Welds using On-line Sensing of Weld Quality,” NASA-Space Launch System (SLS) Advanced Development, NRA: NNM12ZPS002N, (possibility for 3 years: **Yr.-1**. (Base Yr.) (**\$249,808**), (PI: **M.A. Wahab**, Co-PI: S. S. Pang, A. M. Okeil, T. W. Liao). LSU Account No: 127-40-5194. (Jan’ 2013 to Jan 2014)
 - (10-b). “Challenges towards Improved Friction-Stir-Welds using On-line Sensing of Weld Quality,” NASA-Space Launch System (SLS) Advanced Development, NRA: NNM12ZPS002N, (possibility for 3 years: **Yr.- 2** funding (**\$199,833**), (PI: **M.A. Wahab**, Co-PI: A. M. Okeil, T. W. Liao). LSU Account No: 127-40-5194. (Jan’ 2014 to Jan’ 2015)
 - (10-c). “Challenges towards Improved Friction-Stir-Welds using On-line Sensing of Weld Quality,” NASA-Space Launch System (SLS) Advanced Development, NRA: NNM12ZPS002N, (possibility for 3 years: Total Award \$649,223). **Yr.- 3** (**\$199,582**), (PI: **M.A. Wahab**, Co-PI: A. M. Okeil, T. W. Liao). LSU Account No: 127-40-5194. (**No-cost Extension from 15 Jan’ 2015 to 14 April 2017**).
 - (11). National Aeronautics & Space Administration – NASA-LaSpace- GSRI Fellowship: **\$8,000** received for Project *Title*: Defects Detection in Friction-Stir-Welding (FSW) using Discrete Wavelet Analysis, 7/16/2015 - 7/15/2016.

FUNDED PROJECTS AS CO-PI/OTHER INVESTIGATOR/PARTICIPANT AT LSU:

- (1) “Composite Columns and Poles for Infrastructure and Homeland Security Applications,” Louisiana Board of Regents, (PI: G. Li; Co-PIs: Y.M. Ram; Other Investigators: **M.A. Wahab**, E. Woldesenbet), 06/01/04 - 06/30/07, \$150,000. LSU Acct. No: 127-40-4171. And EDO Fiber Science & EDO Specialty Plastics (Matching for the BoR/ITRS project), \$90,000. (\$45,000 cash, \$45,000 in-kind). LSU Acct. No: 127-40-6171.
- (2) “Comprehensive Mechanical Engineering Analyses of the Critical Components of Weaving Process Toward Achieving Size-Free Weaving,” U.S. Department of Agriculture, (PI: S.S. Pang; **Co-PIs**: K.V. Singh, Y.M. Ram, G. Li, and **M.A. Wahab**), 02/01/05 - 12/31/07, \$85,000. (LSU Acct. No: 127-40-5139)
- (3) “Development of Effective and Efficient Methods for Joining Composite Pipes, La BoR- (No. SCI-012B-07); PI: S.S. Pang; Co-PIs: **M.A. Wahab**, J.Q. Cheng, and G. Li; 07/01/2007 to 06/30/2010, Total: \$224,516. (\$190,516. BoR, \$30,000. EDO), LSU Acct. No: 127-40-4157/127-40-6118.
- (4) “Smart Adhesively Bonded High Performance Joint for Composite Structures,” NASA/EPSCOR-2007-Total: \$1,434,000. (PI: John Wefel/G. Li; Co-PIs: S.S. Pang, **M.A. Wahab** and J. Cheng, K. Lian (CAMD); from S.U: M.A. Stubblefield (S.U.-PI), Co-PIs: S.I. Ibekwe, and D.H. Jerro); 10/01/07 to 09/30/10; LSU Account No: 127-40-4191 (NASA), and 127-40-4199 (BoR).
- (5) “Novel Nano-Structured Thermal Barrier Coatings,” (PI: John Wefel / Shengmin Guo, Co-PI: S. Acharya, **M. A. Wahab**, NASA/EPSCoR-2009, **\$1,500,000.**, 10/01/2009 to 09/30/2012. (LSU Acct. No: 127-85-4117 & 127-85-4118), NASA/LEQSF (2009-12) Phase 3-03

EQUIPMENT ENHANCEMENT PROJECT GRANTS RECEIVED SINCE JOINING LSU:

- (1) Equipment Enhancement Grant: “Research Enhancement through the Acquisition of Universal Materials Testing Systems,” Louisiana Board of Regents, Enhancement Grant, 2004-2005, \$65,200. PI: **M.A. Wahab**, Co-PIs: G. Li, S.S. Pang, M. Khonsari, David P. Young (Phy.), Robert Strongin (Phy.) Phillip Sprunger (Chem.) LSU Acct. No: 127-40-4198.
- (2) Equipment Enhancement Grant: “A Plasma Spray System for the Fabrication of Solid Oxide Fuel Cells,” Louisiana Board of Regents, (PI: S.M. Guo; **Co-PIs**: D.E. Nikitopoulos, **M.A. Wahab**, S. Acharya), 06/01/06 - 06/30/07, \$142,670. (LSU Acct. No: **127-85-4106**).
- (3) Equipment Enhancement Grant, La Board of Regents-2008, “A Quantum-Design Physical Property Measurement System (PPMS) for Novel Thermoelectric Material Studies (006PHY-08),” \$223,090. PI: S.M. Guo, Co-PIs: **M.A. Wahab** and D. P. Young (Physics), D. Zhang (Chemistry) and D. M. Cao (Materials Characterization Center-ME); LSU Account No: 127-85-4114. 06/01/2008 to 06/30/2010, LEQSF (2008-09) ENH-TR-06
- (4) Equipment Enhancement Grant, La Board of Regents “Acquisition of a Strong Reaction Floor for Large-scale Testing of Coastal Infrastructure System,” PI: Voyiadjis, G. Z, Co-PIs- A. M. O’Keil, **M.A. Wahab**, Chuncheng Cai, Marwa M. Hasan, \$125,000, LaBoR (Equipment Enhancement), 06/01/2013 - 06/30/2014
- (5) **Equipment Enhancement Grant**, La Board of Regents Project Title: Hurricane Flow Generation at High Reynolds Number for Testing Energy and Coastal Infrastructure, **\$125,185.00** (PI: Aly Mousaad Aly; Co -PIs Voyiadjis, George Z; **Wahab, M. A**; Slack, Tim A;

- Friedland, Carol J; Keim, Barry D.; Nikitopoulos, Dimitris E.; Twilley, Robert R.), 06/01/2016 – 05/30/2017.
- (6) **LaSpace GSRI Fellowship:**
Project Title: Defects detection in Friction Stir Welding (FSW) using Discrete Wavelet Analysis, NASA Goddard Space Flight Center (03) \$8000,00 07-16-2015 to 07-15-2016.
- (7) Friction stir welding of aluminum alloy, pipe welding and high temperature phased array ultrasonic testing (PI- T. W. Liao, Co-PI: M A Wahab, and A. M. Okeil), Louisiana-BOR PoC/P, LEQSF(2017-18)-RD-D-04.), **\$38,550.00**, 06/01/2017-5/31/2018.
- (8) An On-Line Phased Array Ultrasonic Testing (PAUT) System for Manufacturing and In-Service Non- Destructive Testing (NDT) Inspection PI- T W Liao, Co-PI: M A Wahab, A.M. Okeil), Board of Supervisors of LSU and A&M College (Board), **\$30,000.00**, 01/1/2017 – 12/31/2017

LSU/(BOR)- COMPETITIVE ECONOMIC DEVELOPMENT ASSISTANTSHIPS (EDA) FUNDS- (FUNDS FROM STATE OF LOUISIANA ALLOCATIONS):

(PI: M.A. Wahab):

- (1) Louisiana Economic Development Assistantship (EDA) LSU-Fund from State Allocations (La Board of Regents) from 07/01/2002-06/30/2004, Total \$50,000. (Graduate Student supported: M. Shah Alam on the EDA project- Fatigue of Welded Steel Structures)
- (2) Louisiana Economic Development Assistantship (EDA) LSU-Fund from State Allocations (La Board of Regents) from 07/01/2008-06/30/2011, Total \$100,000. (Graduate Student supported: Jiandong Liang on the Processing of Electro-Plasma Processing)
- (3) Louisiana Economic Development Assistantship (EDA) LSU-Fund from State Allocations (La Board of Regents) from 07/01/2010-06/30/2014, Total \$100,000. (Graduate Student supported: Jasem Ahmed on the -Functionally Graded Pressure Vessels)
- (4) Louisiana Economic Development Assistantship (EDA) LSU-Fund from State Allocations (La Board of Regents) from 01/15/2014-01/14/2018, Total \$100,000. (Graduate Student supported: Saad Bin Aziz on - Numerical Modeling of FSW on the Lightweight Materials-Pin-tool design, Modeling of fluid flow, and thermal modeling)

EDUCATION GRANTS FOR TEACHING:

The following 3-Education Grants were awarded by NSF/GK-12, and U.S. N.R.C. programs.

- (i) “Track 1, GK-12: National Science Foundation GK-12 Fellows Program at Louisiana State University,” National Science Foundation (GK-12 Program), (PI: F.M. Neubrander; Co-PIs: S.S. Pang, I.M. Warner, L.F. Richardson, F.K. Cartledge; Senior Personnel and Task Co-Leader: **M.A. Wahab**), 05/15/05 -- 05/14/09, \$1,558,502. (LSU Acct. No.: 127-60-5157/5158/5757).
- (ii) “Welding and Nondestructive Evaluation Technology for Nuclear Engineering Applications (**PI: M.A. Wahab** and Co-PIs: A.M. Okeil and S.S. Pang), U.S. Nuclear Regulatory Commission #NRC-HQ-11-G38-0052, **\$279,035**, LSU Account # 127-40-5003, 08/22/2011 to 08/31/2014.
- (iii) “Curriculum Development in Health Physics and Nuclear Engineering (PI: Sajo, Erno; Co-PIs: Cherry M. L.; Guzik, T. G.; Charalampopoulos, T.T.; Gonthier, K. A.; Moldovan, D.; Nikitopoulos, D.E.; and **Wahab, M.A.**, Nuclear Regulatory Commission (NRC), \$562,662.00; 06/01/2009 to 05/31/2012; LSU Account Number: 115-30-5011.

JOURNAL MANUSCRIPTS REFEREED:

Journal Review: Frequent reviewer of the following Journals:

1. Reviewer for ASME- JERT (Journal of Energy Resources Technology)
2. Reviewer for Journal of Materials Processing Technology
3. Reviewer for International Journal of Pressure Vessels and Piping
4. Reviewer for the Journal of Composites, Part B: Engineering
5. Reviewer for Journal of Engineering Structures
6. Reviewer for the Journal of Materials Science Engineering -A
7. Reviewer for the Journal of the Composite Science and Technology
8. Reviewer for Journal of Hazardous Materials
9. Reviewer for the Journal of Mechanics of Materials
10. Reviewer for the Journal of the Surface and Coating Technology Canadian
11. Reviewer for the Journal of Engineering Fracture Mechanics
12. Reviewer for the Int. Journal of Mechanical Sciences
13. Reviewer for the Journal of Computational Materials Science
14. Reviewer for the Journal of Mechanics of Time-Dependent Materials (MTDM)
15. Reviewer for the Journal of Sensors
16. Reviewer Journal “Kovove Materialy”-Metallic Materials (Slovakia)
17. Reviewer of the International Journal of Fatigue.
18. Reviewer of the Journal, Materials & Design.

CONFERENCES (REVIEWED CONFERENCE PAPERS/ INTERNATIONAL ADVISORY COMMITTEE MEMBERSHIP/ CHAIRED SESSIONS/ATTENDED):

- (1) Central Queensland Engineering Conference, Institution of Engineers-Australia sponsored Conference, (1989).
- (2) 12th “Australasian” Conference on Mechanics of Structures, Brisbane, Australia, September (1990).
- (3) 39th National Conference of the Welding Technology Institute of Australia, August (1991).
- (4) International Welding Conference, “PACRIM- Weldcon- ‘92”, Darwin, (1992).
- (5) The 13th Australasian Conference on the Mechanics of Structures and Materials, Wollongong, July (1993).
- (6) WTIA/AINDT Conference, Wollongong, September (1993).
- (7) The Second Asia-Pacific Conference in Material Processing Technology, Singapore, November (1994).
- (8) 42nd Annual Welding Conference, Melbourne, October (1994).
- (9) 14th ACMSM (Australasian Conference on the Mechanics of Structures and Materials, Hobart, (1995)
- (10) 15th ACMSM (Australasian Conf. on the Mechanics of Structures and Materials) in Melbourne, December 8-10 (1997).
- (11) AMPT-97 (Advances in Materials and Processing Technologies) in Portugal, July 20 -26 (1997)
- (12) AMPT’98 (Advances in Materials and Processing Technologies) Conference, Kuala Lumpur, Malaysia, August 24 to 28 (1998).
- (13) Structural Integrity and Fracture Conference, Melbourne, Australia (1998).
- (14) MSMS’99 International Conference on Mechanics of Structures, Materials and Systems-99, (1999).

- (15) Advances in Materials and Processing Technologies -AMPT'99, Dublin, Ireland, August 3 - 6 (1999).
- (16) International Conference on Advances in Materials and Processing Technologies, Leganes', Madrid, Spain, 18 to 21st September (2001).
- (17) International Conference on Manufacturing, Keynote address at ICM 2002, Dhaka, 9 to 11 August (2002).
- (18) International Conference on Advances in Materials and Processing Technologies, AMPT-03, Dublin, July 8 to 11 (2003).
- (19) International Conference on Composites/Nano Engineering (ICCE-11), Hilton Head, South Carolina, August 8 -14 (2004).
- (20) Member of AMPT International Advisory and Conference Papers Review Committee (1996-2008).
- (21) First American Academy of Mechanics (First AAM) Conference, New Orleans, June 17-20 (2008).
- (22) Topic Co-Organizer and Session Chair for the ASME-IMECE-2012 Congress in Houston (for 3- Tracks, Reviewed over 10- Papers for the ASME-IMECE 2012 Conf. as a Topic Co-organizer for : Track 3- Design, Materials, and Manufacturing (sub-Tracks: 3-4, 3-14, 3-18 and 3-14-A).
- (23) Conference Paper Review, ASME-IMECE San Diego-CA, Nov. 15-21, 2013.
- (24) Conference Paper Review, ASME-MSEC, Michigan June 9 to 15, 2014
- (25) Conference Papers Reviewed, ASME-IMECE, Houston 2015.

BOOK REVIEW:

- (1) **Mechanical Design of Machine Elements** by Jack Collins (2003) John –Wiley and Sons, Inc., March 2003.
- (2) **Mechanical Engineering Design** by Joseph E. Shigley, Charles R. Mischke and Richard G. Budynas, 7th Edition, McGraw Hill, November 2004.
- (3) **Fundamentals of Machine Component Design**, Robert C. Juvinall and Kurt M. Marshek, updated Third Edition (Chapters 4 and 5 only), John Wiley, December 6 (2004).
- (4) **Engineering Design** (published by Elsevier)- reviewed five chapters, May 2012.
- (5) **Engineering Design Manuscript Review** (published by Elsevier)- reviewed 5- chapters, May 2012. [Engineering Design, Planning, and Management by Hugh Jack ISBN: 978 0 12 397158-6.].
- (6) Peer Review of the Full “e-book “**Frontiers in Aerospace Science Vol. 1 Aerospace Structures and Materials;**” edited by Y. Liu, by Bentham Science Publishers, UK. - Frontiers in Aerospace Science Vol. 1 - Aerospace Structures and Materials; Published Date: 2016-05-31. **Web- address:** <http://www.eurekaselect.com/146097>

External Examiner for Ph.D. Dissertations and Master Theses Examinations:

- | | |
|---|-------------------------------------|
| (1) University of New South Wales | 2- Ph.D. Dissertations (1997, 1999) |
| (2) Wollongong University | 1- Ph.D. Dissertation (1998) |
| (3) Wollongong University | 1- Master Thesis (2000) |
| (3) Melbourne University | 1- Master Thesis (1998) |
| (4) University of Adelaide (Civil and Env. Engg.) | 1-Master Thesis (2001) |
| (5) National University, Singapore | 1- Master Thesis (1999) |
| (6) Australian Defense Force Academy of the University of New South Wales, Canberra | 1- Master Thesis (2002). |

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|------|---|------------------------------|
| (7) | RMIT University, Melbourne: | 1- Master Thesis (2002). |
| (8) | IIT- Roorkee, India | 1-Ph.D. Dissertation (2008) |
| (9) | National University of Science &
Technology, (NUST) Rawalpindi | 1-Ph.D. Dissertation (2008) |
| (10) | National University of Science &
Technology, (NUST) Rawalpindi | 1-Ph.D. Dissertation (2009) |
| (11) | Anna University Chennai, India | 1- Ph.D. Dissertation (2011) |
| (12) | Annamalai University, Chennai, India | 1- Ph.D. Dissertation (2016) |
| (13) | Annamalai University, India. | 1- PhD. Dissertation, (2017) |