

## **CURRICULUM VITAE - Vincent Y. Blouin**

### **PERSONAL DATA**

Associate Professor  
Joint Appointment: School of Architecture / Department of Materials Science & Engineering  
Clemson University  
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Phone: (864) 985-3124  
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### **EDUCATION**

Ph.D., University of Michigan, 2001, Naval Architecture and Marine Engineering  
M.S., University of Michigan, 1999, Naval Architecture and Marine Engineering  
M.S., University of Michigan, 1999, Mechanical Engineering  
B.S., Ecole Centrale Nantes, France, 1993, Mechanical Engineering

### **PROFESSIONAL EXPERIENCE**

Clemson University, 2013-present, Associate Professor, Architecture / Materials Science & Engineering  
Clemson University, 2007-2013, Assistant Professor, Architecture / Materials Science & Engineering  
Clemson University, 2005-2006, Visiting Assistant Professor, Mechanical Engineering  
Clemson University, 2004-2005, Research Assistant Professor, Mechanical Engineering  
Clemson University, 2000-2004, Research Associate, Mechanical Engineering  
University of Michigan, 1993-1995, Visiting Scholar, Naval Architecture and Marine Engineering,  
sponsored by Elf Aquitaine Production, France

### **CONSULTING**

Glen Raven Custom Fabrics, Anderson, South Carolina (2013), "Load distribution in fabrics under wear test."  
Wind Turbine Drive-Train Testing Facility, Charleston, South Carolina (2010), "Finite element analysis of the integrated foundation/building/drive-train system."  
Michelin Americas Research & Development Corp., Greenville, South Carolina (2006), "Simulation of metallic shear beam structures useful for space applications."  
David Tein Consultants, Ltd., Houston, Texas (1998), "Nonlinear mechanics of marine risers and pipes under random excitation."  
Chevron, Houston, Texas (1997), "Topology and shape optimization of an inverse tripod structure for offshore applications."

### **MEMBERSHIPS**

Associate Member, American Society of Heating, Refrigerating, Air-Conditioning Eng., (2010-2011).  
Member, South Carolina Chapter of U.S. Green Building Council, USGBC, (2007).  
Member, American Society of Mechanical Engineers, ASME, (1998-2007).  
Member, American Institute of Aeronautics and Astronautics, AIAA, (2002-2006).  
Member, International Council on Systems Engineering, INCOSE, (2005-2007).  
Member, Society of Naval Architects and Marine Engineers, SNAME, (1996-2003).  
Member, The Scientific Research Society, Sigma Xi, (2001-2003).

## PUBLICATIONS

### In Preparation

1. Poudel N., Blouin Y., “Architectural engineering today and its role in technology transfer,” to be submitted to *Journal of Architectural Engineering Technology*.
2. Poudel N., Blouin V., “Selection of Melting Temperature of PCM Based on Climate for Optimum Building Performance,” in preparation
3. Poh C., Blouin V., “Synthesis and Characterization of PU-PEG and CDA-PEG Phase Change Materials,” in preparation
4. Poh C., Blouin V., “Embodied Energy of Micro-Encapsulated n-Alkane Phase Change Materials by Life Cycle Assessment,” in preparation
5. Kadali H., Blouin V., Richardson K., Joseph P., “On The Characterization of Stress Relaxation of Glass Using Helical Samples,” to be submitted to *Engineering*.

### Refereed Journal Publications

1. Koontz E., Blouin V., Wachtel P., Musgraves J., Richardson K., “Prony Series Spectra of Structural Relaxation in N-BK7 for Finite Element Modeling,” *Journal of Physical Chemistry* (Accepted).
2. Wang W., Blouin V.Y., Gardenghi M., Wiecek M.M., Fadel G.M., Sloop B., “A Cutting Plane Method for Analytical Target Cascading with Augmented Lagrangian Coordination,” *Journal of Mechanical Design* (Accepted).
3. Ananthasayanam B., Joseph P.F., Joshi D., Gaylord S., Petit L., Blouin V.Y., Richardson K.C., Cler D.L., Stairiker M., Tardiff M., “Final shape of precision molded optics: Part I – Computational approach, material definitions and the effect of lens shape,” *Journal of Thermal Stresses*, 35, pp. 550-578, 2012.
4. Ananthasayanam B., Joseph P.F., Joshi D., Gaylord S., Petit L., Blouin V.Y., Richardson K.C., Cler D.L., Stairiker M., Tardiff M., “Final shape of precision molded optics: Part II – Validation and sensitivity to material properties and process parameters,” *Journal of Thermal Stresses*, 35, pp. 614-636, 2012.
5. Kaufmann G.B., Blouin V.Y., Triana D., Cole C., Summers J., Joseph P., “Design of Lunar Wheel Treads Made of Textile Fabrics,” *AATCC Review*, May/June, 2011.
6. Wiecek M.M., Blouin V.Y., Fadel G.M., Engau A., Hunt B.J. and Singh V., “Multi-scenario multi-objective optimization with applications in engineering design”, *Multiobjective Programming and Goal Programming: Theoretical Results and Practical Applications*, eds., K. Barichard et al., Lecture Notes in Economics and Mathematical Systems 618, Springer, Berlin, pp. 283-298, 2009.
7. Blouin V.Y., Hunt B.J. and Wiecek M.M., “MCDM with relative importance of criteria: application to configuration design of vehicles,” *Multiple Criteria Decision Making '08*, T. Trzaskalik and T. Wachowicz (Ed.), The Karol Adamiecki University of Economics in Katowice, pp. 11-39, 2009.
8. Hu Y., Blouin V. Y., Fadel G. M., “Design for Manufacturing of 3D Heterogeneous Objects with Processing Time Consideration,” *ASME Journal of Mechanical Design*, Vol. 130, No. 3, March 2008.
9. Hunt B., Blouin V. Y., Wiecek M. M., “Relative Importance of Design Criteria: A Preference Modeling Approach,” *ASME Journal of Mechanical Design*, Vol. 129, No. 9, pp. 907-914, 2007.
10. Hu Y., Fadel G.M., Blouin V.Y., White D.R., “Optimal Design for Additive Manufacturing of Heterogeneous Objects Using Ultrasonic Consolidation,” *Virtual and Physical Prototyping*, Vol. 1, No. 1, March, pp. 53-62, 2006.
11. Blouin V. Y., Bernitsas M. M., “Cognate Space Identification for Forced Response Structural Redesign,” *Journal of Offshore Mechanics and Arctic Engineering*, ASME Transactions, Vol. 127, No. 3, August, pp. 227-233, 2005.
12. Blouin V. Y., Samuels H. B., Fadel G. M., Haque I. U., Wagner J. R., “Continuously Variable Transmission Design for Optimum Vehicle Performance by Analytical Target Cascading,” *International Journal of Heavy Vehicle Systems, Special Issue on Advances in Ground Vehicle Simulation*, Vol. 11, No. 2/3, pp. 327-348, 2004.

13. Blouin V. Y., Bernitsas M. M., Morrison D., "Integrated Redesign of Large Scale Structures by Large Admissible Perturbations," *Journal of Offshore Mechanics and Arctic Engineering*, ASME Transactions, Vol. 125, No. 4, pp. 234-241, 2003.
14. Li Y., Fadel G. M., Wiecek M., Blouin V. Y., "Minimum Effort Approximation of the Pareto Space of Convex Bi-criteria Problems," *Optimization and Engineering*, Vol. 4, No. 3, pp. 231-261, 2003.
15. Huang J., Fadel G. M., Blouin V. Y., Grujicic M., "Bi-Objective Optimization Design of Functionally Gradient Materials," *Journal of Materials and Design*, Vol. 23, pp. 657-666, 2002.
16. Blouin V. Y., and Bernitsas M. M., "Redesign of Submerged Structures by Large Admissible Perturbations," *Journal of Offshore Mechanics and Arctic Engineering*, ASME Transactions, Vol. 123, No. 3, pp. 103-111, 2001.
17. Bernitsas M. M., Blouin V. Y., "Structural Redesign for Forced Response Amplitude with Proportional Damping by Large Admissible Perturbations," *AIAA Journal*, Vol. 37, No. 11, pp. 1506-1513, 1999.

### **Peer-Reviewed Conference Proceedings**

1. Watters C., Mardikian P., and Blouin V.Y., "A Multidisciplinary Collaborative Effort to Rotate the H.L. Hunley Submarine," Big Stuff Conference 2013, Sept. 25-27, Ottawa, Canada, 2013.
2. Poudel N., Blouin V.Y., "US Map Visualization of Optimal Properties of Phase Change Materials for Building Efficiency," ARCC Architectural Research Conference, March 27-30, Charlotte, North Carolina, 2013.
3. Wang W., Xu M., Fadel G.M., Blouin V.Y., "Network Target Coordination Method for Complex Transdisciplinary Products Design," *The Future of Transdisciplinary Design (TFTD13)*, June 24-25, Luxembourg City, Luxembourg, 2013.
4. Wang W., Xu M., Fadel G.M., Blouin V.Y., "A Distributed Coordination via Consensus Optimization for Analytical Target Cascading," *Proceedings of the 14<sup>th</sup> AIAA/ISSMO Multidisciplinary Analysis Optimization Conference*, Sept. 17-19, Houston, TX, 2012.
5. Wang W., Fadel G.M., Blouin V.Y., "Distributed Network Coordination for Optimization Design of Decomposed Systems," *Proceedings of the ASME 2012 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference*, IDETC/CIE 2012, Aug. 12-15, Chicago, IL, USA, 2012.
6. Jacobsen M., Blouin V.Y., and Shirley W., "Does Erosion Corrosion Account for Intriguing Damage to the Hull of the Civil War Submarine H.L. Hunley?" *Proceedings of the 2012 International Marine Forensics Symposium*, Apr. 3-5, National Harbor, MD, 2012.
7. Blouin V.B., Mardikian P., Watters C., "Finite Element Analysis of the H.L. Hunley Submarine: A Turning Point in the Project's History," *Proceedings of Metal 2010, Interim Meeting of the ICOM-CC Metal Working Group*, Oct. 11-15, Charleston, SC, 2010.
8. Wang W., Blouin V.Y., Gardenghi M., Wiecek M.M., Fadel G.M., Sloop B., "A Cutting Plane Method for Analytical Target Cascading With Augmented Lagrangian Coordination," ASME 2010 International Design Engineering Technical Conferences, Aug. 15-18, Montreal, Quebec, Canada, 2010.
9. Kolla A., Ma J., Summers J., Biggers S., Joseph J., Blouin V., "Development and Qualitative Testing of Traction Concepts as an Undergraduate Experience", SAE World Congress and Exhibition, B600-Engineering Education, No. 2010-01-0312, Detroit, MI, April, 2010.
10. Ma J., Kolla A., Summers J.D., Joseph P.F., Blouin V.Y., Biggers S., "Numerical Simulation of New Generation Non-Pneumatic Tire (Tweel™) and Sand," Proceedings of the 29th Computers and Information in Engineering Conference, Aug. 30-Sept. 2, San Diego, CA, 2009.
11. Kaufmann G., Triana D., Blouin V., Cole C., Summers J., Joseph P., "Wear Resistance of Lunar Wheel Treads Made of Polymeric Non-Woven Fabrics," Society of Automotive Engineers (SAE) World Congress and Exhibition, Paper 2009-01-0065, April 2009.

12. Thoe, S., O'Dell, A., Northup, K., Wallis, K., Merino, J. Torok, M., Orr, M., Summers J., Blouin V., Joseph P., "Design of a Scaled Off-Vehicle Wheel Testing Device for Textile Tread Wear," Society of Automotive Engineers (SAE) World Congress and Exhibition, April 2009, Paper 2009-01-0562.
13. Blouin V., "Thermal Analysis of Buildings with Phase Change Materials," Association of Collegiate School of Architecture (ACSA) West Fall Conference 2008: Material Matters: Making Architecture, October 2008.
14. Gaylord S., Ananthasayanam B., Petit L., Blouin V., Joseph P., Richardson K., "Establishment of an ABAQUS Model to Predict Final Size and Shape of a Molded Glass Lens," *Proceedings of the Optical Fabrication and Testing (OCT) Conference*, Rochester, NY, October 2008.
15. Wiecek M., Blouin V., Fadel G., Engau A., Hunt B., Singh V., "Multi-scenario Multi-objective Optimization with Applications in Engineering Design," 7<sup>th</sup> International Conference on MultiObjective Programming and Goal Programming, Tours, France, June 2006.
16. Blouin V. Y., Fadel G. M., Summers J. D., Fenyas P., "Three-Dimensional Packing by Heuristic-based Sequential Genetic Algorithm," 11<sup>th</sup> AIAA/ISSMO Multidisciplinary Analysis and Optimization Conference, Portsmouth, VA, September 2006
17. Dong H., Fadel G. M., Blouin V. Y., "Vehicle Component Layout with Shape Morphing – An Initial Study," 32<sup>nd</sup> Design Automation Conference, ASME/DETC, Philadelphia, PA, September 10-13, 2006.
18. Hu Y., Blouin V. Y., Fadel G. M., "Design for Manufacturing of 3D Heterogeneous Objects with Processing Time Consideration," 2005 Design for Manufacturing and Life Cycle Conference, ASME/DETC, Long Beach, CA, Sept. 24-28, 2005. Design for Manufacturing and Life Cycle Conference Best Paper Award.
19. Blouin V. Y., Oschwald M., Hu Y., Fadel G. M., "Design of Functionally Graded Structures for Enhanced Thermal Behavior," 31<sup>st</sup> Design Automation Conference, ASME/DETC, Long Beach, CA, Sept. 24-28, 2005.
20. Dong H., Fadel G. M., Blouin V. Y., "Packing Optimization by Enhanced Rubber Band Analogy," 31<sup>st</sup> Design Automation Conference, ASME/DETC, Long Beach, CA, Sept. 24-28, 2005.
21. Engau A., Wiecek M. M., Blouin V. Y., "Tradeoff-Based Decomposition for Large-Scale Multiobjective Programs," International Conference in Operations Research and Management Science, Honolulu, Hawaii, July, 2005.
22. Fadel G. M., Haque I., Blouin V. Y., Wiecek M., "Multi-Criteria Multi-Scenario Approaches in the Design of Vehicles," 6th World Congresses of Structural and Multidisciplinary Optimization, Rio de Janeiro, Brazil, 30 May - 03 June, 2005.
23. Blouin V. Y., Lassiter J., Wiecek M., Fadel G. M., "Augmented Lagrangian Coordination for Decomposed Design Problems," 6th World Congresses of Structural and Multidisciplinary Optimization, Rio de Janeiro, Brazil, 30 May - 03 June, 2005.
24. Srivastava, N., Blouin Y. V., Haque, I. U., "Using Genetic Algorithms to Identify Initial Operating Conditions for a Transient CVT Model," IMECE: Dynamic Systems and Control, Advanced Automotive Technologies, Anaheim, CA, November 13-19, 2004.
25. Hu Y., Blouin V. Y., Fadel G. M., "Incorporating Manufacturability Constraints into the Design Process of Heterogeneous Objects," Intelligent Systems in Design and Manufacturing VI, SPIE's International Symposium on Optics East, Philadelphia, PA, October 25-28, 2004.
26. Miao Y., Blouin V. Y., Fadel G. M., "Packaging of Medium Tactical Vehicle Equipped with Hybrid Propulsion System and Fuel Cell APU," 30th Design Automation Conference, ASME/DETC, Salt Lake City, UT, Sept. 28-Oct. 3, 2004.
27. Blouin V. Y., Miao Y., Fadel G. M., "An Assessment of Configuration Design Methodologies" 10<sup>th</sup> AIAA/ISSMO Multidisciplinary Analysis and Optimization Conference, Albany, NY, Aug. 30-Sept. 1, 2004.
28. Blouin V. Y., Summers J., Fadel G. M., Gu J., "Intrinsic Analysis of Decomposition and Coordination Strategies for Complex Design Problems" 10<sup>th</sup> AIAA/ISSMO Multidisciplinary Analysis and Optimization Conference, Albany, NY, Aug. 30-Sept. 1, 2004.

29. Miao Y., Blouin, V. Y., Fadel, G. M., "Multi-Objective Configuration Optimization with Vehicle Dynamics Applied to Midsize Truck Design," ASME/DETC Design Automation Conference, September, Chicago, IL, 2003.
30. Neal J. Y., Blouin V. Y., Fadel G. M., "GA-Based Multi-Material Structural Optimization Using Stepwise Mesh Refinement," 9th AIAA/ISSMO Symposium on Multidisciplinary Analysis and Optimization, Atlanta, GA, September, 2002.
31. Blouin V. Y., Bernitsas M. M., "Cognate Space Identification for Forced Response Structural Redesign," *Proceedings of the 21st International Conference on Offshore Mechanics and Arctic Engineering* (OMAE '02), Paper #28135, Oslo, Norway, June 23-28, 2002.
32. Fadel G. M., Konda S., Blouin V. Y., Wiecek M. M., "Epsilon-Optimality in Bi-Criteria Optimization," 43rd AIAA/ASME/ASCE/AHS Structures, Structural Dynamics, and Materials Conference, Denver, Colorado, April 22-25, 2002.
33. Blouin V. Y., Bernitsas M. M., Morrison D., "Integrated Redesign of Large Scale Structures by Large Admissible Perturbations," *Proceedings of 21<sup>st</sup> International Conference on Offshore Mechanics and Arctic Engineering*, Paper #1172, Rio de Janeiro, Brazil, June 2002. Offshore Technology Symposium Best Paper Award.
34. Blouin V. Y., and Bernitsas M. M., "Redesign of Submerged Structures by Large Admissible Perturbations," *Proceedings of the 19th International Conference on Offshore Mechanics and Arctic Engineering* (OMAE '00), Paper #4212, New Orleans, LA, Feb. 2000.
35. Bernitsas M. M., Blouin V. Y., "Redesign of Structures by the Method of Large Admissible Perturbations," *Thirteenth National Congress of Applied Mechanics*, Gainesville, FL, June 21-26, 1998.

### **Conference Presentations**

1. Poh C., Blouin V.Y., Brown P., "Phase Change Material Fiber Synthesis," Fiber Society Fall 2013 Conference, Clemson, SC, October 23-25, 2013.
2. Poh C., Blouin V.Y., "Synthesis and Characterization of PEG-CDA and PEG-PU Solid-Solid Phase Change Materials," MPA 2012 – 6th International Meeting on Developments in Materials, Processes and Applications of Emerging Technologies, Alvor, Portugal, July, 2012.
3. Koontz E. D., Blouin V. Y., "Prony series temporal spectra for structural relaxation in optical glass," American Ceramic Society's 2012 Glass & Optical Materials Division Annual Meeting, May 20-24, St. Louis, Missouri, 2012.
4. Blouin V.Y., Summers J.D., "Testing and performance analysis of tent ballasts," Industrial Fabrics Association International (IFAI) Tent Conference 2012, Las Vegas, NV, February 26-28, 2012.
5. Blouin V.Y., Vallet G.-M., Kadali H.C., Musgraves J.D., Kathleen Richardson A., Joseph P.F., "Characterization of Shear Stress Relaxation of Glass Using a Parallel Plate Viscometer," Glass and Optical Materials Division Annual Meeting, Savannah, SC, May 15-19, 2011.
6. Watters C., Blouin V., Brocard T., de Viviès P., Mardikian P., and Rivera J., "Remove it or lose it!... Removal of the forward and aft ballast tank pumps and the strategic planning for the long term preservation of the H.L. Hunley submarine," 37<sup>th</sup> American Institute for Conservation of Historic and Artistic Work (AIC) Annual Meeting, Los Angeles, CA, May 19-22, 2009.
7. Ellison M.S., Green K.E., Blouin V.Y., Cox C.L., "R-TEX: A fiber-based, nonwoven, mass-customizable construction system," 2<sup>nd</sup> World Conference on 3D Fabrics and their Applications, Greenville, SC, April 6-7, 2009.
8. Kaufmann G., Blouin V.Y., Triana D., Cole C., Summers J., Joseph P., "Design of Lunar Wheel Treads Made of Polymeric Fabrics," American Association of Textile Chemists and Colorists (AATCC) International Conference 2009, Myrtle Beach, SC, March 10-12, 2009.
9. Gardenghi M., Wiecek M. M., Blouin V. Y., "Subgradient Optimization for Decomposable Optimization Problems," Special Session on Optimization in Engineering Design, 11<sup>th</sup> INFORMS Computing Society Conference, Charleston, SC, January 11-13, 2009.

10. Blouin V.Y., Wiecek M.M., "Perturbation-Based Response Surfaces in Decomposed Design Problems," Special Session on Optimization in Engineering Design, 11<sup>th</sup> INFORMS Computing Society Conference, Charleston, SC, January 11-13, 2009.
11. Blouin V.Y., "Coupling Computational Fluid Dynamics and Finite Element Analysis to Optimize Heat Transfer in Buildings," International Conference for High Performance Computing, Networking, Storage and Analysis, Austin, TX, November 15-21, 2008.
12. Blouin V.Y., Choragudi, A.S., "Predicting Structural Failure of the H. L. Hunley Submarine," International Conference for High Performance Computing, Networking, Storage and Analysis, Austin, TX, November 15-21, 2008.
13. Blouin V. "Predicting the Structural Failure of the H.L. Hunley Submarine," South Carolina Society of Professional Engineers (SCSPE) / American Council of Engineering Companies of South Carolina (ACEC-SC), Convention & Trade Show, Daufuskie Island, SC, June 2008.
14. Fadel G. M., Blouin V. Y., Haque I. U., "Continuously Variable Transmission Design for Optimum Vehicle Performance by Analytical Target Cascading," *Business Briefing: Global Automotive Manufacturing & Technology*, April, 2003.
15. Blouin V. Y., "Treatment of Damping in Structural Redesign by Large Admissible Perturbations," *ASME, Noise Control and Acoustics Division (Publication) NCA*, Vol. 26, 1999, pp. 35-42.

### **Poster Presentations**

1. Poh C., Blouin V.Y., "Developing Segmented Polyurethanes as Solid-Solid Phase Change Materials," Energy Technologies and Carbon Dioxide Management Symposium, 2014 TMS Annual Meeting & Exhibition, San Diego, California, February 2014.
2. Blouin V.Y., Dorrance R., "Structural Integrity Assessment of the Fort Sumter Parrott Rifle Carriages," Piedmont-South Atlantic Coast CESU Annual Meeting, Durham, NC, Oct 2-3, 2013.
3. Burns E., A. Pattayak, K. Santos, C. Whitelock, V. Hayduk, M. Scruggs, F. DeAngelis, D. Beasley, V. Blouin, U. Heine, N. Kaye, D. Nocella, R. Singh, "Optimizing the Energy Consumption of South Carolina's Houses," Focus on Creative Inquiry, Clemson University, March 2013.
4. Blouin V.Y., Poh C., Poudel N. "Development of Design Guidelines for Integrating Phase Change Materials in Buildings", Proceedings of the 2012 National Science Foundation (NSF) Civil, Mechanical and Manufacturing Innovation (CMMI) Engineering Research and Innovation Conference, Boston, Massachusetts, July, 2012.
5. Blouin V.Y., Wiecek M. M., Fadel G.M., Gardenghi M., Wang W., Myer D., Sloop B., Lassiter J., "Decomposition and coordination of engineering design problems: Lagrangian and bi-criteria approaches", Proceedings of the 2009 National Science Foundation (NSF) Civil, Mechanical and Manufacturing Innovation (CMMI) Engineering Research and Innovation Conference, Honolulu, Hawaii, June, 2009.
6. Economy D.R., Blouin V.Y. "Corrosion Study of Mild Steel Treated with Subcritical NaOH in an Accelerated Corrosion Test," NACE International Corrosion Conference & Expo, March 22-26, Atlanta, Georgia, USA, 2009.
7. Shirley, W.R., Blouin V.Y., "Mass Loss and Corrosion Rates of Mild Steel in Erosive and Corrosive Environments," Focus on Creative Inquiry Symposium, April 13, Clemson University, 2009.
8. Breen J., Rogers C., Blouin V.Y., "Phase Change Materials in Plasterboards to Reduce Housing Heating and Cooling Costs," Focus on Creative Inquiry Symposium, April 13, Clemson University, 2009.
9. Heine, U., Blouin V.Y., "The Clemson Zero Energy House," Focus on Creative Inquiry Symposium, April 13, Clemson University, 2009.

### **Invited Seminar Presentations**

1. Blouin V.Y., "Clemson University to Compete in the 2015 Solar Decathlon," Guest Lecture in Clemson University PDBE colloquium series, March 6, 2014.

2. Blouin V.Y., "Clemson University to Compete in the 2015 Solar Decathlon," Guest Lecture in Clemson University course "Sustainable Leadership," March 11, 2014.
3. Blouin V.Y., "Clemson's Bid to Participate in the 2015 Solar Decathlon," PDBE Colloquium Series, Clemson University, November 30, 2012.
4. Blouin V.Y., "The Future of Building Materials: Passive Design Utilizing the Energy Storage Capability of Phase Change Materials," Building Enclosure Council Monthly Meeting, Charleston SC, September 28, 2012.
5. Blouin V.Y., "Integration of Phase Change Materials in Buildings," PDBE Colloquium Series, Clemson University, March 15, 2011.
6. Blouin V.Y., "Finite Element Analysis of the Civil War Era Hunley Submarine," Simulia Webinar, February 7, 2011.
7. Blouin V.Y., "Predicting the Structural Failure of the H.L. Hunley Submarine," Old Piedmont Chapter of the Society of Professional Engineers, Greenville, SC, December 10, 2007.
8. Blouin V.Y. (moderator and presenter), Mardikian P., Poston J., "From the Conservation of a Civil-War Submarine to the Restoration of Historic Buildings," Architecture Week, Clemson University, April 2007.
9. Blouin V.Y. "Predicting the Structural Failure of the H.L. Hunley Submarine," Old South Chapter of ASM International, the Materials Information Society, Greenville, SC, October 18, 2007.

### **Technical Reports**

1. Blouin V.Y., "Structural Integrity Assessment of the Fort Sumter Parrott Rifle Carriages," Fort Sumter National Monument, National Park Service, September 2012.
2. Blouin V.Y., Summers J.D., "Tent Ballast Calculation – Theory and Experimental Results," Industrial Fabrics Association International, August 2012.
3. Blouin V.Y., "Finite element analysis of the WTDTF integrated foundation/building/drive-train system," Wind Turbine Drive-Train Testing Facility, Charleston, South Carolina, November 2010.
4. Blouin V.Y., "Rotation of the H.L. Hunley: Technical Proposal," Clemson Conservation Center, May 2010.
5. Mardikian P., Watters C., Drews M., Blouin V.Y., "Proposal to Rotate the H.L. Hunley," Clemson Conservation Center, January 2010.
6. Blouin V.Y., "Simulation of Metallic Shear Beam Structures Useful for Space Applications, Phase II," Michelin Americas Research & Development Corp., September 2006.
7. Blouin V.Y., "Simulation of Metallic Shear Beam Structures Useful for Space Applications, Phase I," Michelin Americas Research & Development Corp., July 2006.
8. Fadel G. M., Tiwari S., Blouin V. Y., "PACKSOFT, Software for Automated Luggage Packing, Final Report," General Motors R&D Center, August 2006.
9. Blouin V.Y., Fadel G. M., "PACKSOFT, Software for Automated Luggage Packing, Interim Report," General Motors R&D Center, August 2005.

### **HONORS AND AWARDS**

- Top-10 Best Paper Award: Wang W., Fadel G.M., Blouin V.Y., "Distributed Network Coordination for Optimization Design of Decomposed Systems," *Proceedings of the ASME 2012 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference*, IDETC/CIE 2012, Aug. 12-15, Chicago, IL, USA, 2012.
- Best Paper Award: Hu, Y., Blouin V. Y., Fadel G. M., "Design for Manufacturing of 3D Heterogeneous Objects with Processing Time Consideration," Design for Manufacturing and the Life Cycle Conference, 2005.
- Best Paper Award: Blouin V. Y., Bernitsas M. M., and Morrison D. G., "Integrated Redesign of Large Scale Structures by Large Admissible Perturbations," 21<sup>st</sup> International Conference on Offshore Mechanics and Arctic Engineering, Offshore Technology Symposium, 2002.
- Member, Sigma Xi, The Scientific Research Society, 2001.

Research Assistantship, The University of Michigan, Department of Naval Architecture and Marine Engineering, 1997-2000.

Benton Fellowship, The University of Michigan, 1995-1997.

## **SPONSORED RESEARCH**

### **Externally Funded Research**

“Clemson University's Solar Decathlon 2015: A Techno-Local Solar House for South Carolina,” Department of Energy, PI, \$100,000 (\$16,000) (including \$50,000 cost-share from Clemson University) (May 2014 – April 2016).

“Low Energy Mobile Home Competition,” South Carolina Clean Energy Business Alliance and Duke Power, \$5,000 (\$2,500), (January 2013 – May 2013).

“Defining the Scope of Work for the Structural Analysis and Environmental Hazards Assessment of the USS Yorktown,” Patriots Point Development Authority, Co-PI, \$45,000 (\$22,000) (August 2011 – August 2012).

“Structural Integrity Assessment of the Fort Sumter Parrott Rifle Carriages,” Fort Sumter National Monument, Co-PI, \$50,000 (\$4,000) (August 2011 – December 2012).

“Development of On-Line Computational Tool for Ballast Weight Calculation,” Industrial Fabrics Association International, Co-Investigator, \$5,000 (\$2,500) (2012).

“Testing and Performance Analysis of Tent Ballasts – Phase 2,” Industrial Fabrics Association International, Co-Investigator, \$3,000 (\$1,500) (2012).

“Testing and Performance Analysis of Tent Ballasts,” Industrial Fabrics Association International, Co-Investigator, \$60,000 (\$30,000) (2011).

“Manufacturing Science of Improved Molded Optics,” Department of the Army, Co-Investigator, \$818,000 (\$139,000), including \$223,000 (\$38,000) of internal funds (August 2009 – August 2012).

“Development of Performance-Based Design Guidelines for Integrating Phase Change Materials in Buildings,” National Science Foundation, Principal Investigator, \$250,000 (\$250,000) (August 2009 – August 2012).

“Augmented Lagrangian Coordination for Decomposed Design Problems,” National Science Foundation, Principal Investigator, \$363,000 (\$181,500) (August 2006 – July 2012).

“Development of a Lunar Capable Rover Tweel for a Modular Manned Rover System – Analytical and Experimental Research,” SC NASA EPSCoR, Michelin and Milliken, Co-Investigator, \$1,500,000 (\$375,000) (including \$750K match from State and Clemson University), (October 2007 – September 2010).

“The Patient Room of the Future Prototype Research Initiative – Phase I,” Department of Defense through NXT (Spartanburg Regional Healthcare System), Co-Investigator, \$464,000 (\$27,840), (August 2007 – July 2008).

“The Patient Room of the Future Prototype Research Initiative – Phase II,” Department of Defense through NXT (Spartanburg Regional Healthcare System), Co-Investigator, \$488,000 (\$19,500), (August 2008 – July 2009).

“Manufacturing of Precision Molded Aspheric Optics,” Edmund Optics, Investigator, \$425,000 (\$42,000), (August 2006 – August 2008).

“Conceptual Development for Lunar Tweel Shear Band,” Michelin Corporation, Principal Investigator, \$19,000 (\$13,300), (August 2006 – December 2006).

“Computer Support Tool for Real-Time Luggage Packing,” General Motors, Co-Investigator, \$35,000 (\$17,500), (August 2006 – December 2006).

### **Internally Funded Research**

“Establishing National Center for Smart DC Microgrid at Clemson University Restoration Institute,” \$25,000 (\$3,000), (January 2014-Aug 2014)



- “Seed funding for Development of Clemson’s 2015 Solar Decathlon Entry,” \$12,000 (\$12,000), (Oct 13 – Dec 13).
- “Calibration of Wind Turbine Drivetrain Testing Facility,” \$87,000 (\$87,000), (August 2013 – May 2015).
- “Analysis of Energy and Cost Savings Through the Use of Displacement Ventilation in Domestic Buildings,” Science Masters Program from the Department of Civil Engineering, Clemson University, \$55,000 (\$55,000), (August 2011 – December 2012).
- “A Methodology for Assessing Dynamic Building Energy Consumption,” Clemson Advancement Foundation, Co-Investigator, \$3,200 (\$1,070), (August 2010 – August 2011).
- “Finite Element Analysis of the Wind Turbine Drivetrain Testing Facility: Interaction between Soil, Foundation, Building and System”, WTDTF, Clemson University Restoration Institute, Charleston, SC, Principal Investigator, \$5,000 (\$5,000), (August 2010 – August 2011).
- “Structural Analysis of the H.L. Hunley,” Clemson Conservation Center, Principal Investigator, \$61,000 (\$61,000), (August 2007 – August 2011).
- “R-TEX: A Sustainable, Intelligent Construction System of Recycled Fibers for Building in Hazard-Prone or Stricken Regions,” Clemson University Research Investment Fund Program, Co-Investigator, \$10,500 (\$3,150), (January 2008 – December 2008).

### **Proposals Not Funded**

- “Responsive Breathable Building Systems Using Pervious Construction Materials for Energy Efficiency,” National Science Foundation, Principal Investigator, \$556,000 (\$185,000) (2012-2015).
- “Responsive Breathable Building Systems Using Pervious Construction Materials,” National Institute of Standards and Technology, Principal Investigator, \$500,000 (\$165,000) (2012-2016).
- “Responsive Breathable Building Systems Using Pervious Construction Materials for Energy Efficiency,” National Science Foundation, Principal Investigator, \$556,000 (\$180,000) (2012-2015).
- “EFRI SEED: Responsive Breathable Building Systems using Pervious Construction Materials for Energy Efficiency,” National Science Foundation, Principal Investigator, \$2,000,000 (\$400,000) (2010 – 2014).
- “Southeastern Cluster for building Energy Science and Technology in Hot and Humid Climates,” Department of Energy Regional Efficiency Hub, Georgia Institute of Technology (Leader), Co-Investigator, \$4,440,000 (\$444,000) (2010 – 2015).
- “Southeast Low Energy Design,” Alliance for Sustainable Energy, LLC, Co-Investigator, \$5,570,000 (\$445,600) (2010 to 2011).
- Gary Kauffman Graduate Research Fellowship, SC Space Grant Consortium, Principal Investigator, \$10,000 (\$10,000) (2010 – 2011).
- “Manufacturing of R-TEX, a Fiber-Based Non-Woven Panel System for Building Construction,” National Science Foundation, Co-Investigator, \$449,000 (\$134,700), (2008 – 2011).
- “REU: Students Engaged Around Research for Civic and Historic Benefit,” National Science Foundation, Co-Investigator, \$486,000 (\$72,600), (August 2008 – July 2013).
- “Solar South Carolina – Solar Decathlon 2009,” Department of Energy, Co-Investigator, \$100,000 (\$25,000), (January 2008 – September 2009).
- “Predicting Corrosion Failures of Metallic Structures in Buildings and Infrastructure,” AIA Board Knowledge Committee, Upjohn Research Initiative, Co-Investigator, \$25,000 (\$2,500), (January 2008 – July 2009).
- “Operator Representation of Random Fields for Engineering Design under Uncertainty and Risk,” National Science Foundation, Co-Investigator, \$372,000 (\$111,600), (July 2007 – August 2010).
- “Manufacturing of R-TEX, a Fiber-Based Non-Woven Panel System for Building Construction,” National Science Foundation, Co-Investigator, \$449,000 (\$134,700), (August 2008 – July 2011).
- “Development of Predictive Models for Design and Manufacturing under Uncertainty and Risk,” National Science Foundation, Co-Investigator, \$366,000 (\$109,800), (August 2008 – July 2011).

## **STUDENT ADVISING**

### **Ph.D.**

- Berry M., "Magnetic Shape Memory Foam," Materials Science and Engineering, (2013-present).
- Amidpour M., "Smart Glazing for Energy Efficiency," Planning, Design and Built Environment, (2013-present).
- Wonoto N., "Modeling of Deployable Structures for Architectural Design," Planning, Design and Built Environment, (2013-present).
- Poh C., "Life Cycle Assessment of Energy-Related Building Construction Materials," Materials Science and Engineering, (2010-present).
- Poudel N., "Development of Design Guidelines for Integrating Phase Change Materials in Buildings," Planning, Design and Built Environment, (2010-2014).
- Wang W., "Augmented Lagrangian Coordination for Decomposed Engineering Design Problems," Mechanical Engineering, (2008-2013).
- Kaufman G., "Non-pneumatic wheel for space applications," Materials Science and Engineering, (2008-2012), transferred.
- Koontz E., "Stress Relaxation of Low Glass Transition Temperature for Precision Glass Molding," Materials Science and Engineering, (2010-2012), transferred.
- Wang Y. "Augmented Lagrangian Coordination," Mechanical Engineering, (2006-2007), transferred.

### **M.S.**

- Hawkins J., "Structural Modeling of the Wind Turbine Test Rig," Mechanical Engineering, (2013-present).
- Cherkadu V., "Design and Optimization of the Calibration Structure for the 7.5 MW," Mechanical Engineering, (2012), transferred.
- Daffin P., "Experimental and Numerical Characterization of Displacement Ventilation in Buildings," Civil Engineering, (2011-2012).
- Rong C., "Effect of Selected Phase Change Materials on the Properties of Building Construction Materials," Materials Science and Engineering, (2010-2012).
- Vallet G., "Stress Relaxation of Glass Using a Parallel Plate Viscometer," Materials Science and Engineering, (2010-2011).
- Subramanian E., "Integrating Phase Change Materials in Buildings," Materials Science and Engineering, (2009-2011).
- Choragudi A., "Structural analysis of the H.L. Hunley," Mechanical Engineering, (2007-2011).
- Kadali H., "Experimental measurement of stress relaxation properties of optical glass," Mechanical Engineering, (2007-2009).
- Kannan S., "Heat transfer numerical modeling of the optical lens molding process," Mechanical Engineering, (2007-2009).

### **Non-Thesis M.S.**

- Sethi A., "Fluid Flow Analysis Around the Hunley Submarine for Erosion Corrosion Evaluation," Mechanical Engineering, (2009-2010).

### **Honors Undergraduate**

- Triana D., "Abrasion testing of textile treads for non-pneumatic wheels," Materials Science and Engineering, December 2009.
- Williams R., "Design and construction of a weathering apparatus for durability testing of new materials, surface treatments, and coatings for wind turbines," Mechanical Engineering, May 2010.

### **Undergraduate Research**

Voorhees A., "Erosion-Corrosion of 1860 Wrought and Cast Iron", Fall 2012.  
 Komplin J., "Effect of Rivet Pre-tension and friction in riveted connections", Fall 2012.  
 Smith G., "Erosion-Corrosion of 1860 Wrought and Cast Iron", Summer 2012.  
 Mason M., "Corrosion of the USS Yorktown – Phase 2", Spring 2012.  
 Tritapoe N., "Conductivity of Building Materials by the Flash Method", Fall 2011.  
 Herrin T., "Corrosion of the USS Yorktown", Fall 2011.  
 Cobe A., "Corrosion Penetration under Degraded Coatings on Iron Samples," Spring 2011.  
 Mohiuddin O., "Experimental Characterization of a WWII Wreckage Iron Piece," Fall 2010.  
 Frazer A., "Stress-Induced Accelerated Corrosion," Fall 2010.  
 Sampson R., "Corrosion Analysis of 1869 Wrought Iron," Spring 2009.  
 Rogers C., "Phase Change Materials in Plasterboard to Reduce Cooling Cost," Spring 2009.  
 Breene J., "Phase Change Materials in Plasterboard to Reduce Heating Cost," Spring 2009.  
 Reintjes J., "Use of Polyester as Tread on NASA Moon Rover," Spring 2009.  
 Eggleston S., "ATHLETE Lunar Module: PET Fiber Based Treads," Spring 2009.  
 Shirley W., "Corrosion Rate of Mild Steel under Erosion-Corrosion," Spring 2009.  
 Economy R., "Corrosion of Mild Steel Treated with Subcritical NaOH," 2008 & 2009.  
 Lelasher N., "Corrosion Rate of Mild Steel under Erosion-Corrosion," Fall 2008.  
 Carter B., "Laser Beam Welding of High Strength Nickel Based Superalloys," Spring and Fall 2008.  
 Hammond J., "Stress-Induced Corrosion," Spring 2008.  
 Smith C., "Stress-Induced Corrosion," Spring 2008.  
 Sullivan R., "Stress-Induced Corrosion," Spring 2008.

### **Advisory Graduate Committees**

Economy, R., "Enhancing Strength and Stability of Metallic Nanolaminates by Identifying Interactions Between Residual Stress, Deformation, and Dislocation Density," PhD in Materials Science and Engineering (expected graduation 2015).  
 Schultz, B., "Evolution of Corrosion Reactivity during Sliding Wear of Ceramic/Metallic Nanolaminates," PhD in Materials Science and Engineering (expected graduation 2015).  
 Saurabh Prabhu, "Data Assimilation Techniques for Structural Health Monitoring Applications as Applied to Masonry Monumental Structures," PhD in Civil Engineering (expected graduation 2014).  
 González-Pereyra N., "Anisotropic Etching of Monocrystalline Silica under Subcritical Conditions," PhD in Materials Science and Engineering (expected graduation 2015).  
 Koontz, E., "Stress Relaxation of Low Glass Transition Temperature for Precision Glass Molding," PhD in Materials Science and Engineering, University of Florida (expected graduation 2015).  
 Dhananjay, J., "Thermo-Mechanical Characterization, Birefringence and Fracture of Precision Glass Molded Lenses," PhD in Mechanical Engineering (expected graduation 2015).  
 Kuttolamadom M., "Wear and Failure Prediction of Cutting Tools in the WC-CO – TI-6AL-4V Machining Tribosystem by Volumetric Tool Wear Characterization and Modeling," PhD in Materials Science & Engineering, 2012.  
 Monaenkova D., "Design of Bioinspired Artificial Proboscises," PhD in Materials Science and Engineering, 2012.  
 Thompson B., "Compression Properties of Glass/Resin Composite and use in Large Deflection, Elastomeric Structures" PhD in Mechanical Engineering, 2012.  
 Giroire B. "Optimization of processing parameters for As<sub>2</sub>Se<sub>3</sub> glass for low loss, high strength fibers", MS in Materials Science and Engineering, 2012.  
 Mitchell N., "Degradation of DLC coatings due to friction, wear, and environmental effects", MS in Materials Science and Engineering.  
 Gleason B., Glass Science (title to be determined), MS in Materials Science and Engineering.  
 Jagadish R., "A Computational Investigation of Contact Pressure for a Non-Pneumatic Wheel with a Meta-Material Shear Band," MS in Mechanical Engineering, 2009.

Howay, K., "Characterization and Modification of Helmet Padding System to Improve Shockwave Dissipation," MS in Materials Science and Engineering, 2009.

Velvaluri S., "Collision Detection Using Plucker Coordinates," Non-Thesis MS in Mechanical Engineering, 2008.

Gardenghi M., "Multiobjective Optimization for Complex Systems," PhD in Mathematical Sciences, 2008.

Ananthasayanam B., "Computational Modeling of Precision Molding of Aspheric Glass Optics," PhD in Mechanical Engineering, 2008.

Stowe D., "A Characterization of the Role of Prototyping in Complex Mechanical Systems Design Utilizing a Broad Case Study and Independent Validation," MS in Mechanical Engineering, 2008.

Sloop B., "Subgradient Optimization for ATC-Decomposable Problems," MS in Mathematical Sciences, 2008.

Tiwari, S., "Knowledge Driven Design Optimization," PhD in Mechanical Engineering, 2007.

Smith G., "Morphological Charts: a Systematic Exploration of Qualitative Design Space," MS in Mechanical Engineering, 2007.

Dong H., "Physics-Based Shape Morphing and Packing for Layout Design," PhD in Mechanical Engineering, 2007.

### **Other Advising**

Kadali H., (Post-Master), "Stress Relaxation of Borosilicate Glass," Spring 2010.

Brown G., (M.Arch., Architecture), "Testing Strategies of Cool Roofing in Upstate South Carolina", Fall 2010.

Economy R., (Post-Master), "Study of Antibacterial Materials for Healthcare," Sponsored by NXT, Summer 2010.

Singh V., (M.S., Industrial Engineering), "Opportunities from RFID in Healthcare Environment", Sponsored by NXT, Summer 2010.

Sloop B., (M.S., Mathematical Sciences), "Augmented Lagrangian Coordination," (Summer 2008).

Triana D. (Senior, Materials Science and Engineering), "Abrasion testing of textile treads for non-pneumatic wheels," (Summer 2008).

### **High School Student Research Advising**

Lorow T. (High-school student, Materials Science and Engineering), "Characterization of abrasive properties of Lunar sand," (June 2008).

Rac G. (High-school student, EUREKA, Mechanical Engineering), "Abrasion testing of textile treads for non-pneumatic wheels," (July 2008).

### **Students Awards**

Shuo Yang, 2012 award recipient (\$500) from Building Enclosure Council | Charleston for Arch 873 final project.

Carlos Gonzalez, Longqing Liu, Yon Moguel, 2013 award recipients (\$750) from Building Enclosure Council | Charleston for Arch 873 final project.

## **TEACHING**

### **Courses Taught**

PDBE 8050, Readings in Architecture, F10, S11, F13, S14.

ARCH 8760, Smart Materials and Kinetic Structures, F12-13.

ARCH 874, Building Processes and Technical Resolution, S07-08, F08-11.

ARCH 8730, Environmental Systems, S11-14.

ARCH 871, Structures II, S09-10.  
ARCH 490/890, Directed Study: Technical Aspects of the Solar Decathlon House, S08.  
ARCH 4990/6990, Selected Topic: Solar Decathlon, F12, F13, S14.  
ARCH 499/699, Selected Topic: Solar Architecture and Building Envelope, F07.  
MS&E 4220, Mechanical Behavior of Materials, S08-S14.  
MS&E 241, Metrics Laboratory, F09, S10-13.  
EM 304, Mechanics of Materials, Su01-02, Su05.  
ME 415, Undergraduate Research in Engineering, S07.  
ME 402, Internship in Engineering Design, F05-06, S06.  
ME 306, Fundamentals of Machine Design, S04, S06.  
ME 305, Modeling and Analysis of Dynamic Systems, Su04.  
ME 205, Computer Methods in Engineering, S06.  
ME 202, Foundations of Mechanical Systems, F05.

### **New Course Development**

ARCH 8760, Smart Materials and Kinetic Structures  
ARCH 874, Building Processes and Technical Resolution  
ARCH 873, Environmental Systems  
ARCH 871, Structures II  
ARCH 499/699, Selected Topic: Solar Architecture and Building Envelope  
ARCH 4990/6990, Selected Topic: Solar Decathlon  
ARCH 490/890, Directed Study: Technical Aspects of the Solar Decathlon House  
MS&E 422/622, Mechanical Behavior of Materials.  
MS&E 241, Metrics Laboratory.

### **Creative Inquiry Projects**

Project #127: Understanding Corrosion for Conservation of Buildings, Infrastructure and Reliability of Devices, S07-F12.  
Project #622: Clemson's Solar Decathlon - Design and Build a Solar House for South Carolina, S12-F13

## **UNIVERSITY AND PUBLIC SERVICE**

### **Committees**

Department level:

Member, Teaching Stream: Technology, Architecture (2013-2014).  
Member (Chair), Faculty Search Committee, Architecture (2012-2013).  
Member, Faculty Search Committee, MS&E (2012-2013).  
Member, Graduate Committee, MS&E (2008-2009, 2011-2012, 2012-2013).  
Member, Faculty Search Committee, Architecture (2011-2012).  
Member, Facilities and Space Committee, MS&E (2008-2011).  
Member (Chair), NAAB Online Instruction Committee, Architecture (2010-2011).  
Member, NAAB, NAAB Documentation Committee, Architecture (2010-2011).

College level:

Member, AAH Research Committee (2012-present).  
Representative, Computer Resources Committee, College of Engineering and Science (2010-present).  
Member, Associate Dean Search Committee, College of Architecture, Arts and Hum. (2011-2012).

University level:

University Research Grant Committee (2012-present).  
Alternate Member for CAAH, Faculty Senate (elected) (2010-2011).

### **Conference Organization**

Session Chair, “Smart Textiles in Clothing and the Built Environment,” International Symposium on Fibers Interfacing the World, October 23-25, 2013, Clemson, SC.  
Special Session Organizer and Chair, “Optimization in Engineering Design,” 11<sup>th</sup> INFORMS Computing Society Conference, January 11-13, 2009, Charleston, SC.  
Review Coordinator, ASME/DETC/Design for Manufacturing and Life Cycle Conference, 2005, 2006.  
Session Chair, 31<sup>st</sup> Design Automation Conference: DAC-8-2 Industrial Applications - Long Beach, CA, September 24-28, 2005.  
Session Chair, 2005 Design for Manufacturing and the Life Cycle Conference: DFMLC-1-8 Descriptions of innovative layered fabrication processes and methods - Long Beach, CA, September 24-28, 2005.

### **Editorial Activity**

Editorial Board Member, Journal of Architectural Engineering & Technology (2011-present)  
Special Issue Editor, “Emerging Material Science,” Journal of Architectural Engineering & Technology (2012).

### **Research Grant Review Panel**

National Science Foundation, 2012  
National Science Foundation, 2014

### **Publication Reviews**

Journal of Architectural Engineering & Technology  
International Council of Museums  
American Institute of Aeronautics and Astronautics Journal  
International Design Engineering Technical Conferences  
International Journal of Heavy Vehicle Systems  
Journal of Mechanical Design  
Journal of Offshore Mechanics and Arctic Engineering  
Journal of Ship Research  
Structural and Multidisciplinary Optimization Journal

### **Other University Service**

Panelist, “How to Tailor Your Proposal to Speak to the Sciences,” CAAH Office of Research and Graduate Studies Brown Bag Series, October 2011.

### **Public Service**

Reviewer and advisor, Human Impact Institute. Home retrofit of the first NYC’s low-income green building demonstration and education site in Southside Williamsburg, Brooklyn, 2012.  
Advisor, Clemson-Engineers Without Borders (EWB). Project: preliminary design of a solar power system for an NGO office building in El Salvador, October 2007.  
Judge, FIRST Lego League State Tournament, Clemson, SC, 2007-2010.  
Judge, 35<sup>th</sup> Clemson University Declamation Contest, 2007.  
Student representative, Graduate Student Forum, Horace H. Rackham School of Graduate Studies, The University of Michigan, 1998-1999.

## **PROFESSIONAL DEVELOPMENT**

Enriching Scholarship, Seminars and workshops on integrating teaching, information, and technology to enhance teaching and learning experiences, University of Michigan, 2000.

Workshop, R. Reis, Stanford University Learning Laboratory, "Preparing for Academic Careers in Science and Engineering," University of Michigan, 1999.

Chris Loving Leadership Seminar, University of Michigan, 1999.