CURRICULUM VITAE

Kwek-Tze "K.T." Tan, Ph.D.

Department of Mechanical Engineering, The University of Akron
Auburn Science & Engineering Center 113, Akron, OH 44325-3903
Tel: (330) 972-7184 | Fax: (330) 972-6027
ktan@uakron.edu | http://metacomposites.uakron.edu/

EDUCATION

Purdue University, West Lafayette, IN (7/2013)
Post-Doctoral Research Training, Aeronautics
Advisor: Prof. C.T. Sun

Tokyo Metropolitan University, Tokyo, Japan (9/2011)
Doctorate of Philosophy, Aerospace Engineering
Advisors: Prof. N. Watanabe (TMU), Dr. Y. Iwahori (JAXA)

National University of Singapore, Singapore (10/2006)
Master of Engineering, Mechanical Engineering
Advisors: Prof. T.E. Tay, Prof. V.B.C. Tan

National University of Singapore, Singapore (6/2004)
Bachelor of Engineering (Honors), Mechanical Engineering

EMPLOYMENT

The University of Akron, Akron, OH
Assistant Professor, Department of Mechanical Engineering (8/2014-Present)

Institute of Materials Research and Engineering, Singapore
Research Scientist, Materials Analysis and Characterization Group (8/2013-7/2014)

Purdue University, West Lafayette, IN
Post-Doctoral Research Associate, School of Aeronautics and Astronautics (10/2011-7/2013)

Japan Aerospace Exploration Agency, Tokyo, Japan
Graduate Research Assistant, Advanced Composite Research Center (10/2008-9/2011)

National University of Singapore, Singapore
Graduate Research Assistant, Department of Mechanical Engineering (8/2004-12/2005)

RESEARCH & TEACHING INTERESTS

Advanced composite materials, acoustic/elastic metamaterials, biomimetic structures, impact & dynamic responses, fracture mechanics & material damage, nondestructive evaluation techniques.

HONORS & AWARDS

- **UA Faculty Research Committee Summer Fellowship,** New Research Program (5/2019)
- **Firestone Research Initiative Fellowship Award,** Innovative Untenured Faculty (6/2018)
- **LaunchTown Entrepreneurship Awards,** Advisor to Hedgemon, LLC (4/2016)
- **Japan Society for the Promotion of Science (JSPS) Invitational Fellowship** (1/2016)
- **International Commission for Acoustics**, ICA-ASA Young Scientist Grant (6/2013)
- **Metamaterials Congress**, Travel Grant Award for Young Researchers (9/2012)
- **Agency for Science, Technology and Research**, A*STAR International Fellowship (10/2011)
- **European Structural Integrity Society**, Best Poster Award in the 6th *International Conference on Fracture of Polymers, Composites and Adhesives*, Les Diablerets, Switzerland (9/2011)
- **Tokyo Metropolitan University**, TMU Graduate Student Conference Travel Grant (7/2009)
- **Tokyo Metropolitan Government**, Full Ph.D. Scholarship for Doctoral Program (10/2008)
- **National University of Singapore**, NUS Research Scholarship for Masters Program (8/2004)
- **Keppel Group**, Full Scholarship for Undergraduate Program (8/2000)
- **Hwa Chong Junior College**, Individual Colors Award for outstanding student in both academic and extra-curricular activities (12/1997)

PEER REVIEWED JOURNAL PUBLICATIONS

** denote students in K.T. Tan's Research Group*

1. I. Kaiser* and K.T. Tan (2019). Damage and Strength Analysis of Carbon Fiber Reinforced Polymer and Titanium Tubular Adhesive Joints, *under review*.
2. S. Oshima, A. Yoshimura, Y. Hirano, T. Ogasawara and K.T. Tan (2019). In-Situ Observation of Microscopic Damage in Adhesively Bonded CFRP Joints Under Mode I and Mode II Loading, ***Composite Structures***, *accepted for publication*.
3. B. Li*, Y.Q. Liu and K.T. Tan (2019). A Novel Meta-Lattice Sandwich Structure for Dynamic Load Mitigation, ***Journal of Sandwich Structures and Materials***, 21: 1880-1905.
4. C. Drol*, E.B. Kennedy*, B.K. Hsiung*, N.B. Swift* and K.T. Tan (2019). Bioinspirational Understanding of Flexural Performance in Hedgehog Spines, ***Acta Biomaterialia***, 94: 553-564.
5. C. Rice* and K.T. Tan (2019). Horse Hoof Inspired Biomimetic Structure for Improved Damage Tolerance and Crack Diversion, ***Composite Structures***, 220: 362-370.
6. S. Alamri*, B. Li*, G. Mchugh, N. Garafolo, K.T. Tan (2019). Dissipative Diatomic Acoustic Metamaterials for Broadband Asymmetric Elastic-Wave Transmission, ***Journal of Sound and Vibration***, 451: 120-137.
7. M. Jaberzadeh*, B. Li* and K.T. Tan (2019). Wave Propagation in an Elastic Metamaterial with Anisotropic Effective Mass Density, ***Wave Motion***, 89: 131-141.
8. B. Li*, Z. Li, J. Christensen, and K.T. Tan (2019). Dual Dirac Cones in Elastic Lieb-like Lattice Metamaterials, ***Applied Physics Letters***, 114: 081906.
9. M. Elamin*, B. Li* and K.T. Tan (2018). Impact Performance of Stitched and Unstitched Composites in Extreme Low Temperature Arctic Conditions, ***Journal of Dynamic Behavior of Materials, Special Issue on Dynamic Failure of Composites***, 4: 317-327.
10. M.H. Khan*, M. Elamin*, B. Li* and K.T. Tan (2018). X-ray Micro-Computed Tomography Analysis of Impact Damage Morphology in Composite Sandwich Structures due to Cold

Temperature Arctic Condition, ***Journal of Composite Materials, Special Issue on Impact and Dynamic Response ASC2017***, 52: 3509-3522.

11. D.R. Cross*, K.T. Tan, E.J. Pineda, B.A. Bednarcyk and S.M. Arnold (2018). Multiscale Modeling of Carbon Fiber Reinforced Polymer Composites in Low Temperature Arctic Conditions, ***Multiscale and Multidisciplinary Modeling, Experiments and Design (MMED), Special Issue on Composite Materials and Structures for Marine Applications***, 1: 239-254.
12. B. Li*, K.T. Tan and Johan Christensen (2018). Heat Conduction Tuning by Hyperbranched Nanophononic Metamaterials, ***Journal of Applied Physics***, 123: 205105.
13. M.H. Khan*, B. Li* and K.T. Tan (2018). Impact Load Wave Transmission in Elastic Metamaterials, ***International Journal of Impact Engineering***, 118: 50-59.
14. M. Elamin*, B. Li* and K.T. Tan (2018). Impact Damage of Composite Sandwich Structures in Arctic Condition, ***Composite Structures***, 192: 422-433.
15. S. Alamri*, B. Li*, and K.T. Tan (2018). Dynamic Load Mitigation using Dissipative Elastic Metamaterials with Multiple Maxwell-Type Oscillators, ***Journal of Applied Physics***, 123: 095111.
16. B. Li*, S. Alamri* and K.T. Tan (2017). A Diatomic Elastic Metamaterial for Tunable Asymmetric Wave Transmission in Multiple Frequency Bands, ***Scientific Reports***, 7: 6226.
17. E.B. Kennedy*, B.K. Hsiung*, N.B. Swift* and K.T. Tan (2017). Static Flexural Properties of Hedgehog Spines Conditioned in Coupled Temperature and Relative Humidity Environments, ***Journal of the Mechanical Behavior of Biomedical Materials***, 75: 413-422.
18. B. Li*, K.T. Tan and Johan Christensen (2017). Tailoring the Thermal Conductivity in Nanophononics Metamaterials, ***Physical Review B***, 95: 144305.
19. B. Li* and K.T. Tan, (2016). Asymmetric Wave Transmission in a Diatomic Acoustic/Elastic Metamaterial, ***Journal of Applied Physics***, 120: 075103.
20. H.H. Huang, C.K. Lin and K.T. Tan (2016). Attenuation of Transverse Waves by Using a Metamaterial Beam with Lateral Local Resonators, ***Smart Materials and Structures***, 25: 085027.
21. A. Qureshi*, B. Li* and K.T. Tan (2016). Numerical Investigation of Band Gaps in 3D Printed Cantilever-In-Mass Metamaterials, ***Scientific Reports***, 6: 28314.
22. N.B. Swift*, B.K. Hsiung*, E.B. Kennedy* and K.T. Tan (2016). Dynamic Impact Testing of Hedgehog Spines using a Dual-Arm Crash Pendulum, ***Journal of the Mechanical Behavior of Biomedical Materials***, 61: 271-282.
23. K.T. Tan, A. Yoshimura, N. Watanabe, Y. Iwahori and T. Ishikawa (2015). Further Investigation of Delamination Reduction Trend for Stitched Composites, ***Composites Science and Technology***, 118: 141-153.
24. K.T. Tan, N. Watanabe and Y. Iwahori (2015). Finite Element Model for Compression After Impact Behaviour of Stitched Composites, ***Composites Part B: Engineering***, 79: 53-60.
25. K.T. Tan, H.H. Huang and C.T. Sun (2014). Blast-Wave Impact Mitigation Using Negative Effective Mass Density Concept of Elastic Metamaterials, ***International Journal of Impact Engineering***, 64: 20-29.
26. K.T. Tan, A. Yoshimura, N. Watanabe, Y. Iwahori and T. Ishikawa (2013). Effect of Stitch Density and Stitch Thread Thickness on Damage Progression and Failure Characteristics of Stitched Composites under Out-Of-Plane Loading, ***Composites Science and Technology***, 74: 194-204.
27. K.T. Tan, H.H. Huang and C.T. Sun (2012). Optimizing the Band Gap of Effective Mass Negativity in Acoustic Metamaterials, ***Applied Physics Letters***, 101: 241902.
28. K.T. Tan, N. Watanabe, Y. Iwahori and T. Ishikawa (2012). Understanding Effectiveness of Stitching in Suppression of Impact Damage: An Empirical Delamination Reduction Trend for Stitched Composites, ***Composites Part A: Applied Science and Manufacturing***, 43: 823-832.

29. K.T. Tan, N. Watanabe, Y. Iwahori and T. Ishikawa (2012). Effect of Stitch Density and Stitch Thread Thickness on Compression After Impact Strength and Response of Stitched Composites, ***Composites Science and Technology***, 72: 587-598.
30. K.T. Tan, N. Watanabe and Y. Iwahori (2012). Impact Damage Resistance, Response and Mechanisms of Laminated Composites Reinforced by Through-Thickness Stitching, ***International Journal of Damage Mechanics***, 21(1):51-80.
31. K.T. Tan, N. Watanabe and Y. Iwahori (2011). X-ray Radiography and micro Computed Tomography Examination of Damage Characteristics in Stitched Composites subjected to Impact Loading, ***Composites Part B: Engineering***, 42: 874-884.
32. K.T. Tan, N. Watanabe and Y. Iwahori (2011). Stitch Fibre Comparison for Improvement of Interlaminar Fracture Toughness in Stitched Composites, ***Journal of Reinforced Plastics and Composites***, 30(2): 99-109.
33. K.T. Tan, N. Watanabe, Y. Iwahori, H. Hoshi and M. Sano (2010). Interlaminar Fracture Toughness of Vectran-Stitched Composites - Experimental and Computational Analysis, ***Journal of Composite Materials***, 44(26): 3203-3229.
34. K.T. Tan, N. Watanabe and Y. Iwahori (2010). Effect of Stitch Density and Stitch Thread Thickness on Low-Velocity Impact Damage of Stitched Composites, ***Composites Part A: Applied Science and Manufacturing***, 41: 1857-1868.
35. K.T. Tan, N. Watanabe and Y. Iwahori (2010). Experimental Investigation of Bridging Law for Single Stitch Fibre using Interlaminar Tension Test, ***Composite Structures***, 92: 1399-1409.

PEER REVIEWED CONFERENCE PUBLICATIONS & PRESENTATIONS

1. M.H. Khan* and K.T. Tan (2019). Understanding Effect of Arctic Temperature on Post-Impact Flexural Strength of Composites, Conference Proceeding for **22nd International Conference on Composite Materials**, ICCM-22, 11-16 Aug, Melbourne, Australia.
2. S. Alamri*, B. Li* and K.T. Tan (2019). Asymmetric Wave Transmission in Dissipative Acoustic Metamaterials, Conference Presentation for **10th International Conference on Metamaterials, Photonic Crystals and Plasmonics (META2019)**, 23-26 Jul, Lisbon, Portugal.
3. B. Li*, Z. Li, J. Christensen and K.T. Tan (2019). Elastic Wave Control in Double-Zero-Index Elastic Metamaterials, Conference Presentation for **10th International Conference on Metamaterials, Photonic Crystals and Plasmonics (META2019)**, 23-26 Jul, Lisbon, Portugal.
4. K.T. Tan (2019). Modeling Advanced Metacomposites: Structural and Functional Applications, Conference Presentation for **10th International Conference on Materials for Advanced Technologies (ICMAT 2019)**, 23-28 Jun, Singapore. [**Invited Talk**]
5. K.T. Tan and M.H. Khan* (2018). Effect of Low Temperature Arctic Conditions on Impact and Post-Impact Mechanisms of Composite Sandwich Structures, Conference Presentation for **ASME 2018 International Mechanical Engineering Congress & Exposition (IMECE)**, 9-15 Nov, Pittsburgh, Pennsylvania, USA.
6. K.T. Tan and M.H. Khan* (2018). Impact Performance and Flexural Behavior of Composite Sandwich Structures in Low Temperature Arctic Conditions, Conference Proceeding for **American Society for Composites 33rd Technical Conference**, 24-26 Sept, Seattle, Washington, USA.
7. K.T. Tan and M.H. Khan* (2018). Impact and Post-Impact Flexural Behavior of Composite Sandwich Structures in Extreme Low Temperature Arctic Conditions, Conference Proceeding for

12th International Conference on Sandwich Structures, ICSS-12, 19-22 Aug, Lausanne, Switzerland.

8. M. Elamin*, B. Li* and K.T. Tan (2018). Effect of Low Temperature on the Post-Impact Compression Response of Composite Sandwich Structures, Conference Proceeding for **18th European Conference on Composite Materials**, ECCM-18, 25-28 Jun, Athens, Greece.
9. K.T. Tan and M.H. Khan* (2018). Impact and Flexural Performance of Composite Sandwich Structures in Low Temperature Arctic Conditions, Conference Presentation for **International Symposium on Dynamic Response and Failure of Composite Materials (DRaF 2018)**, 12-15 Jun, Ischia, Naples, Italy.
10. M. Jaberzadeh*, B. Li* and K.T. Tan (2018). On the Behavior of Acoustic/Elastic Metamaterials with Anisotropic Mass Density, Conference Presentation for the **175th Acoustical Society of America (ASA) Spring Meeting**, 7-11 May, Minneapolis, Minnesota, USA.
11. B. Li*, S. Alamri* and K.T. Tan (2018). Broadband Asymmetric Wave Transmission in Dissipative Acoustic/Elastic Metamaterials with Diatomic Oscillators, Conference Presentation for the **175th Acoustical Society of America (ASA) Spring Meeting**, 7-11 May, Minneapolis, Minnesota, USA.
12. S. Alamri*, B. Li* and K.T. Tan (2018). Impact Wave Attenuation using Maxwell-Type Oscillators in Dissipative Elastic Metamaterials, Conference Presentation for the **175th Acoustical Society of America (ASA) Spring Meeting**, 7-11 May, Minneapolis, Minnesota, USA.
13. C. Rice* and K.T. Tan (2018). Fracture Testing a Horse Hoof Inspired Biomimetic Structure, Conference Presentation for **E-Fest East Old Guard Oral Competition**, 14 Apr, Penn State University, Pennsylvania, USA.
14. M.H. Khan* and K.T. Tan (2018). Evaluation of Low Temperature Effects on Impact and Bending Properties of Composite Sandwich Structures, Conference Proceeding for **ASCE Earth and Space Conference**, 9-12 Apr, Cleveland, Ohio, USA.
15. K.T. Tan, M. Elamin* and B. Li* (2017). Impact Damage Mechanisms of Composite Sandwich Structures in Arctic Condition, Conference Presentation for **ASME 2017 International Mechanical Engineering Congress & Exposition (IMECE)**, 3-9 Nov, Tampa, Florida, USA
16. K.T. Tan, M. Elamin* and B. Li* (2017). Impact Performance and Damage Behavior of Composite Sandwich Structures in Arctic Condition, Conference Proceeding for **American Society for Composites 32nd Technical Conference**, 22-25 Oct, Purdue University, West Lafayette, Indiana, USA.
17. M. Elamin*, B. Li* and K.T. Tan (2017). Effect of Low Temperature on Impact Behavior of Composite Sandwich Structures, Conference Proceeding for **21st International Conference on Composite Materials**, ICCM-21, 20-25 Aug, Xi-An, China.
18. K.T. Tan, M. Elamin* and B. Li* (2017). Impact Damage of Composite Sandwich Structures in Arctic Condition, Conference Proceeding for **2nd SEA-Japan Conference on Composite Materials (2nd SEA-JCCM)**, 6-9 Aug, Tokyo, Japan.
19. B. Li*, K.T. Tan and J. Christensen (2017). Investigation of Locally Resonant Nanophononic Metamaterials with Ultralow Thermal Conductivity, Conference Proceeding for **8th International Conference on Metamaterials, Photonic Crystals and Plasmonics (META2017)**, 25-28 Jul, Incheon, South Korea.
20. K.T. Tan, M. Elamin* and B. Li* (2017). Impact Behavior of Composite Sandwich Structures in Arctic Condition, Conference Presentation for **ASME 36th International Conference on Ocean, Offshore & Arctic Engineering (OMAE)**, 25-30 Jun, Trondheim, Norway.

21. K.T. Tan (2017). Modeling Advanced Metacomposites: Unique Control of Stress Wave Propagation, Conference Presentation for **9th International Conference on Materials for Advanced Technologies (ICMAT 2017)**, 18-23 Jun, Singapore.
22. B. Li*, S. Alamri* and K.T. Tan (2017). Control of Asymmetric Wave Transmission in Multiple Frequency Bands Using Elastic Metamaterials, Conference Proceeding for **PHONONICS 2017: 4th International Conference on Phononic Crystals/Metamaterials, Phonon Transport/Coupling and Topological Phononics**, 4-9 Jun, Changsha, China.
23. K.T. Tan, B. Li* and M.M. Khan* (2017). Acoustic/Elastic Metamaterials: A Novel Solution to Impact Problems, Conference Proceeding for **PHONONICS 2017: 4th International Conference on Phononic Crystals/Metamaterials, Phonon Transport/Coupling and Topological Phononics**, 4-9 Jun, Changsha, China.
24. K.T. Tan and B. Li* (2016). Unidirectional Wave Transmission in a Diatomic Acoustic Metamaterial, Conference Proceeding for the **5th Joint Meeting of the Acoustical Society of America (ASA) and the Acoustical Society of Japan (ASJ)**, 28 Nov-2 Dec, Honolulu, Hawaii, USA.
25. M. Jaberzadeh*, B. Li* and K.T. Tan, (2016). Numerical Analysis of Wave Motion Through Acoustic/Elastic Metamaterial with Anisotropic Effective Mass Density, Conference Proceeding for **ASME 2016 International Mechanical Engineering Congress & Exposition (IMECE)**, 11-17 Nov, Phoenix, Arizona, USA.
26. K.T. Tan, M.M. Khan* and B. Li* (2016). Impact Mitigation and Protection using Metacomposites with Negative Effective Mass, Conference Proceeding for **ASME 2016 International Mechanical Engineering Congress & Exposition (IMECE)**, 11-17 Nov, Phoenix, Arizona, USA.
27. B. Li* and K.T. Tan (2016). Energy Absorption and Impact Response of Meta-lattice Truss Core Sandwich Panels, Conference Proceeding for **American Society for Composites 31st Technical Conference**, 19-21 Sept, Williamsburg, Virginia, USA.
28. B. Li* and K.T. Tan (2016). Response of Meta-lattice Truss Core Sandwich Structures Subjected to Impulsive Loadings, Conference Proceeding for **11th International Conference on Sandwich Structures**, ICSS-11, 20-23 March, Fort Lauderdale, Florida, USA.
29. K.T. Tan (2015). Impact Damage of Stitched Composites using Statistical Analysis, Conference Proceeding for **ASME 2015 International Mechanical Engineering Congress & Exposition (IMECE)**, 13-19 Nov, Houston, Texas, USA.
30. K.T. Tan (2015). Dynamic Behavior of Metacomposites, Conference Proceeding for **American Society for Composites 30th Technical Conference**, 28-30 Sept, Michigan State University, East Lansing, Michigan, USA.
31. K.T. Tan (2015). A Novel Approach for Impact Mitigation using Mass Negativity Concept of Metacomposites, Conference Proceeding for **20th International Conference on Composite Materials**, ICCM-20, 19-24 Jul, Copenhagen, Denmark.
32. K.T. Tan (2015). Energy Harvesting using Resonating Effect of Internal Resonators in Acoustic Metamaterials, Conference Proceeding for **ASME 2015 Applied Mechanics and Materials Conference (McMat)**, 29 Jun-1 Jul, Seattle, Washington, USA.
33. H.H. Huang, C.S. Yu and K.T. Tan (2015). Dispersion Characteristics of a Metamaterial Beam with Lateral Resonators, Conference Proceeding for **PHONONICS 2015: 3rd International Conference on Phononic Crystals/Metamaterials, Phonon Transport and Phonon Coupling**, 31 May-5 Jun, Paris, France.

34. Pramoda K.P., K.T. Tan, S.L. Chen, H. Gu and Y.W. Leong (2014). Polymer-Wood Composites from Recycled Materials, Conference Proceeding for **8th Singapore International Chemistry Conference**, (SICC-8), 14-17 Dec, Singapore.
35. K.T. Tan and C.T. Sun (2014). Mutual Interaction Effect of Internal Resonators in Acoustic Metamaterials, Conference Proceeding for **ASME 2014 International Mechanical Engineering Congress & Exposition**, 14-20 Nov, Montreal, Canada.
36. K.T. Tan and C.T. Sun (2014). Metacomposites Protection System against Primary Blast Injury, Conference Proceeding for **American Society for Composites 29th Technical Conference**, 8-10 Sept, University of California San Diego, La Jolla, California, USA.
37. T.K. Chuah, L. Zhao, S. Ye, K.T. Tan, K.P. Pramoda and H.R. Tan (2014). Active Infrared Sensing of Impact Damage in Carbon Fibre Reinforced Polymer, Conference Proceeding for **The 12th International Conference on Quantitative InfraRed Thermography**, QIRT 2014, 7-11 July, Bordeaux, France.
38. K.T. Tan, Pramoda K.P., S.L. Chen, H. Gu and Y.W. Leong (2014). Composites using Recycled Materials, Conference Proceeding for **4th Molecular Materials Meeting (M3) Conference**, 14-16 Jan, Singapore.
39. K.T. Tan and C.T. Sun (2013). Interactive Behavior of Internal Resonators in Acoustic Metamaterials under Impact Pulse Loading, Conference Proceeding for **21st International Congress on Acoustics**, 2-7 Jun, Montreal, Canada. [**Invited Paper, Awarded ICA Young Scientist Grant**]
40. H.H. Huang, K.T. Tan and C.T. Sun (2013). Transmission of Bianisotropic Elastic Metamaterials, Conference Proceeding for **PHONONICS 2013: 2nd International Conference on Phononic Crystals/Metamaterials, Phonon Transport and Optomechanics**, 2-7 Jun, Sharm El-Sheikh, Egypt. [**Invited Talk**]
41. K.T. Tan, H.H. Huang and C.T. Sun (2012). Blast-Wave Impact Resistance of Acoustic Metamaterials, Conference Proceeding for **ASME 2012 International Mechanical Engineering Congress & Exposition**, 9-15 Nov, Houston, Texas, USA.
42. H.H. Huang, K.T. Tan and C.T. Sun (2012). Unusual Two-Dimensional Wave Motion in an Orthotropic Elastic Metamaterials, Conference Proceeding for **ASME 2012 International Mechanical Engineering Congress & Exposition**, 9-15 Nov, Houston, Texas, USA.
43. K.T. Tan, A. Yoshimura, N. Watanabe and Y. Iwahori (2012). Impact Damage Progression of Stitched Composites: From Indentation to Penetration, Conference Proceeding for **15th US-Japan Conference on Composite Materials/American Society for Composites 27th Technical Conference**, 1-3 Oct, Arlington, Texas, USA.
44. K.T. Tan, H.H. Huang and C.T. Sun (2012). Negative Effective Mass Density of Acoustic Metamaterial using Dual-Resonator Spring-Mass Model, Conference Proceeding for **Metamaterials 2012**, 17-20 Sept, St. Petersburg, Russia. [**Awarded Travel Grant for Young Researcher**]
45. K.T. Tan, N. Watanabe, A. Yoshimura and Y. Iwahori (2012). Validation of Delamination Reduction Trend for Stitched Composites using Quasi-Static Indentation Test, Conference Proceeding for **15th European Conference on Composite Materials**, ECCM-15, 24-28 Jun, Venice, Italy.
46. K.T. Tan, N. Watanabe, and Y. Iwahori (2011). Fracture Behaviour and Damage Characteristics of Stitched Composites under Impact and Post Impact Loading, Conference Proceeding for **6th International Conference on Fracture of Polymers, Composites and Adhesives**, 11-15 Sept, Les Diablerets, Switzerland. [**Best Poster Award**]

47. K.T. Tan, N. Watanabe, A. Yoshimura, Y. Iwahori and T. Ishikawa (2011). Progressive Damage in Stitched Composites under Impact Loading, Conference Proceeding for **18th International Conference on Composite Materials**, ICCM-18, 21-26 Aug, Jeju Island, Korea. [**Invited Paper**]
48. K.T. Tan, N. Watanabe, H. Hoshi, A. Yoshimura, Y. Iwahori and T. Ishikawa (2011). Damage Observation of Stitched Composites under Quasi-Static Indentation Loading, Conference Proceeding for **53rd Japan Structural Conference**, 27-29 Jul, Akita, Japan.
49. K.T. Tan, N. Watanabe, Y. Iwahori and T. Ishikawa (2011). Influence of Stitch Density and Stitch Thread Thickness on Compression After Impact Strength of Stitched Composites, Conference Proceeding for **16th International Conference on Composite Structures**, ICCS-16, 28-30 Jun, Porto, Portugal.
50. K.T. Tan, N. Watanabe, H. Hoshi, Y. Iwahori and T. Ishikawa (2011). Enhancement of Compression After Impact Strength Using Through-Thickness Stitching, Conference Proceeding for **2nd Japan Conference on Composite Materials**, JCCM-2, 16-18 Mar, Tokyo, Japan.
51. K.T. Tan, N. Watanabe, H. Hoshi, Y. Iwahori and T. Ishikawa (2010). Compression After Impact Performance of Vectran-Stitched Composites, Conference Proceeding for **7th Asian-Australasian Conference on Composite Materials**, ACCM-7, 15-18 Nov, Taipei, Taiwan.
52. K.T. Tan, N. Watanabe, H. Hoshi and Y. Iwahori (2010). Prediction of Delamination Damage in Stitched Composites Due to Impact Loading, Conference Proceeding for **35th Composite Materials Symposium**, 13-14 Oct, Hiroshima, Japan. [**Presented in Japanese**]
53. K.T. Tan, N. Watanabe, H. Hoshi and Y. Iwahori (2010). Impact-Induced Delamination Suppression in Laminated Composites using Through-Thickness Stitching, Conference Proceeding for **14th US-Japan Conference on Composite Materials/American Society for Composites 25th Technical Conference**, 20-23 Sept, Dayton, Ohio, USA.
54. K.T. Tan, N. Watanabe, H. Hoshi and Y. Iwahori (2010). Effectiveness of Stitching in Damage Tolerance of Laminated Composites, Conference Proceeding for **9th China-Japan Joint Conference on Composite Materials**, CJJCC-9, 6-9 Sept, Hohhot, Inner Mongolia, China.
55. K.T. Tan, N. Watanabe, H. Hoshi and Y. Iwahori (2010). Damage Response and Mechanisms of Stitched Composites Under Impact Loading, Conference Proceeding for **14th European Conference on Composite Materials**, ECCM-14, 7-10 Jun, Budapest, Hungary.
56. K.T. Tan, N. Watanabe, H. Hoshi and Y. Iwahori (2010). Influence of Stitch Density and Stitch Thread Thickness on Low Velocity Impact Response of Vectran-Stitched Composites, Conference Proceeding for **1st Japan Conference on Composite Materials**, JCCM-1, 9-11 Mar, Kyoto, Japan.
57. K.T. Tan, N. Watanabe, H. Hoshi and Y. Iwahori (2009). Application of Vectran-Stitched Composites in Aircraft Structures, Conference Proceeding for **2nd International Seminar on System Design**, ISSD2009, 4-6 Nov, Tokyo, Japan.
58. K.T. Tan, N. Watanabe, H. Hoshi and Y. Iwahori (2009). Low Velocity Impact Damage Response of Vectran-Stitched Composites, Conference Proceeding for **7th Japan-Korea Joint Symposium on Composite Materials**, 24-26 Sept, Kanazawa, Japan.
59. K.T. Tan, N. Watanabe, M. Sano, M. Takase, Y. Iwahori and H. Hoshi (2009). Material Selection of Z-fibre in Stitched Composites - Experimental and Analytical Comparison Approach, Conference Proceeding for **17th International Conference on Composite Materials**, ICCM-17, 27-31 Jul, Edinburgh, Scotland.
60. K.T. Tan and N. Watanabe (2009). Computational Modeling of Mode I Fracture Toughness in Vectran-Stitched Composites, Conference Proceeding for **JSCM Spring Conference**, 18-19 May, Tokyo, Japan.

INVITED ADDRESSES / TALKS

1. K.T. Tan (2019). Modeling Advanced Metacomposites: Structural and Functional Applications, Conference Presentation for **10th International Conference on Materials for Advanced Technologies (ICMAT 2019)**, 23-28 Jun, Singapore.
2. K.T. Tan (2018). Advanced Metacomposites: Designing Unique Properties for Extraordinary Dynamic Performances, **The University of Tokyo**, organized by Department of Aerospace Engineering, 20 Dec, Tokyo, Japan.
3. K.T. Tan (2018). Advanced Metacomposites: Designing Unique Properties for Extraordinary Dynamic Performances, **Meiji University**, organized by Department of Mechanical Engineering, 19 Dec, Tokyo, Japan.
4. K.T. Tan (2018). Advanced Metacomposites: Designing Unique Properties for Extraordinary Dynamic Performances, **Tokyo University of Agriculture and Technology**, organized by Institute of Global Innovation Research, 19 Dec, Tokyo, Japan.
5. K.T. Tan (2018). Advanced Metacomposites: Designing Unique Properties for Extraordinary Dynamic Performances, **Japan Aerospace Exploration Agency**, organized by Structures and Advanced Composite Research Unit, 17 Dec, Tokyo, Japan.
6. K.T. Tan (2018). Advanced Metacomposites: Designing Unique Properties for Extraordinary Dynamic Performances, **Nagoya University**, organized by Department of Aerospace Engineering, 13-14 Dec, Nagoya, Japan.
7. K.T. Tan (2017). The Quest Towards Damage Tolerant Composite Structures, **Harbin Institute of Technology**, organized by Center for Composite Materials and Structures, 16-19 Aug, Harbin, China.
8. K.T. Tan (2017). Locally Resonant Nanophononic Metamaterials: A Transformative Approach to Control Thermal Conductivity, **The University of Tokyo**, organized by Institute of Industrial Science, 9 Aug, Tokyo, Japan.
9. B. Li*, K.T. Tan and J. Christensen (2017). Investigation of Locally Resonant Nanophononic Metamaterials with Ultralow Thermal Conductivity, Conference Proceeding for **8th International Conference on Metamaterials, Photonic Crystals and Plasmonics (META2017)**, 25-28 Jul, Incheon, South Korea.
10. K.T. Tan (2017). Modeling Advanced Metacomposites: Unique Control of Stress Wave Propagation, Conference Presentation for **9th International Conference on Materials for Advanced Technologies (ICMAT 2017)**, 18-23 Jun, Singapore.
11. K.T. Tan (2016). Next Generation Aerospace Structures using Stitched Composites and Metacomposites, **Seoul National University**, organized by Department of Aerospace Engineering, 17 August, Seoul, South Korea.
12. K.T. Tan (2016). Acoustic/Elastic Metamaterials: A Transformative Approach for Stress Wave Mitigation and Manipulation, **National University of Singapore**, organized by Department of Mechanical Engineering, 20 May, Singapore.
13. K.T. Tan (2016). Next Generation Aerospace Structures using Stitched Composites and Metacomposites, **Nanyang Technological University**, organized by Department of Mechanical and Aerospace Engineering, 19 May, Singapore.
14. K.T. Tan (2016). Exploring the Natural and Unnatural World of Material Behavior through Bio-Inspiration and Human-Imagination, Spring 2016 **Integrated Bioscience Seminar Series**, organized by UA Department of Integrated Bioscience and Biomimicry Research and Innovation Center (BRIC), 18 Mar, Akron, OH, USA.

15. K.T. Tan (2015). Impact Performance and Dynamic Behavior of Composite Sandwich Structures at Arctic Conditions, **ONR Solid Mechanics Review**, organized by ONR SMP Program Manager Dr. Yapa Rajapakse, 2-4 Dec, Arlington, VA, USA.
16. K.T. Tan (2015). Biomimetic Structures for Impact Protection, **Biomimicry Focus Group Workshop**, organized by UA Biomimicry organizing committee [Biomimicry Research and Innovation Center (BRIC)], 12 Nov, Akron, OH, USA.
17. K.T. Tan (2015). Dynamics of Heterogeneous Materials, **AFOSR & ARO Dynamics of Heterogeneous Materials Workshop**, Basic Research Innovation and Collaboration Center (BRICC), organized by Air Force Office for Scientific Research (AFOSR Program Manager Dr. Jennifer Jordan) and Army Research Office (ARO Program Manager Dr. David Stepp), 23-24 Sept, Arlington, VA, USA.
18. K.T. Tan (2015). Speech from Representative Alumni, **Tokyo Metropolitan University 1st Annual Alumni Meeting of Asian Human Resources Fund Scholarship Program**, 29 August, Bangkok, Thailand.
19. K.T. Tan (2015). Roller Coaster Mania, **The University of Akron, Centre for Child Development**, Camp Wise STEAM Summer Program, 13-17 July, Akron, Ohio, USA.
20. K.T. Tan (2015). Impact Resistance of Stitched Composites and Metacomposites, **Oak Ridge National Laboratory**, Materials Science and Technology Division, Mechanical Properties and Mechanics Group, 7 April, Oak Ridge, Tennessee, USA.
21. K.T. Tan (2015). Next Generation Aerospace Structures using Stitched Composites and Metacomposites, **NASA Glenn Research Center**, Materials and Structures Division, Mechanics and Life Prediction Branch, 23 March, Cleveland, Ohio, USA.
22. K.T. Tan (2014). My A*IF Experience, **A*STAR Biopolis**, 21 January, Singapore.
23. K.T. Tan (2012). Impact Damage of Composites, **Purdue University**, School of Aeronautics and Astronautics, 24 April, West Lafayette, Indiana, USA.
24. K.T. Tan (2010). Research on Interlaminar Reinforcement of Stitched Composites, Presentation by International Students of Asia on Advanced Research (**Tokyo Asian Month**), 8 Nov, Tokyo, Japan (*in Japanese*).
25. K.T. Tan, N. Watanabe, H. Hoshi and Y. Iwahori (2010). Interlaminar Fracture Toughness of Vectran-Stitched Laminate, **Nippon Steel Corporation**, 21 May, Tokyo, Japan.

TEACHING EXPERIENCE

Course Instructor August 2014 – Current
The University of Akron
Department of Mechanical Engineering

- **Aerospace Structures** (4900:336) [FALL 2014, 2015, 2016, 2017, 2018]: Junior-level course covering theory and methods for analysis and design of aerospace structures. Topics include torsion, bending, shear flow, buckling, fracture and fatigue of beams and plates. Extent of responsibility: 100%
- **Aerospace Computations** (4900:450) [SPRING 2015, 2016, 2017, 2018, 2019]: Senior-level course covering fundamentals of finite element analysis. Topics include basic concepts of finite element analysis, stiffness matrices, truss analysis, flexure elements, solid elements, applications in heat transfer, fundamentals of finite volume techniques, Navier-Stokes equations, incompressible and compressible flow, applications in solid mechanics, hands-on learning of FE commercial software (ABAQUS). Extent of responsibility: 100%

- **Mechanical Engineering Lab** (4600:484) [SPRING 2015, 2016] [FALL 2015, 2016]: Senior-level course covering mechanical engineering lab to solve experimental design problem. Topics include Catapult Statistical Design of Experiment, etc. Extent of responsibility: 100% for one of six laboratory classes
- **Tools for Mechanical Engineering** (4600:165) [SPRING 2017, 2018] [FALL 2017, 2018]: Freshmen-level course covering important software, hardware and "heartware" for engineering students. Lecture topics include introduction to mechanical engineering program, engineering graphics, dimensioning, sectioning, tolerancing, design process, etc. Software lab sessions include computer-aided design (SolidWorks), and math calculation package and programming (MATLAB). Extent of responsibility: 100%
- **Engineered Materials for Future Applications** (4600:696-802) [SPRING 2019]: New Graduate-level course covering the principles, concepts, design and applications of acoustic/elastic/mechanical metamaterials. Other topics include recent advances in specially-engineered materials like 4D printed materials (time dependent property), hydrogel (reinforced water), multifunctional material (with sensing, switching, energy harvesting capability), origami structures (shape changing ability), soft materials (with tunable material properties), bioinspired structures, etc. The focus of this course is always forward looking with strong emphasis on recent advances of modern technology in the multidisciplinary field of science, engineering and technology. Extent of responsibility: 100%

Course Evaluation Report Summary

	Aerospace Structures					Eng Mater Future Applications
	Fall 14	Fall 15	Fall 16	Fall 17	Fall 18	Spring 19
Instructor's Overall Teaching Effectiveness	**4.769**	**5.000**	**5.000**	**4.647**	**4.667**	**5.000**
Instructor's Overall Mean	**4.808**	**4.940**	**4.857**	**4.665**	**4.596**	**4.994**
Same Level Courses Mean	4.041	4.095	-	4.071	4.154	-
College/Department Mean	4.161	4.164	3.728	4.084	4.158	4.150

	Aerospace Computations				
	Spring 15	Spring 16	Spring 17	Spring 18	Spring 19
Instructor's Overall Teaching Effectiveness	**5.000**	**4.667**	**4.583**	**4.857**	**4.385**
Instructor's Overall Mean	**4.857**	**4.619**	**4.615**	**4.857**	**4.420**
Same Level Courses Mean	4.322	4.185	4.275	-	-
College/Department Mean	4.242	4.120	4.147	4.007	-

	ME Lab				Tools for ME			
	Spring 15	Fall 15	Spring 16	Fall 16	Spring 17	Fall 17	Spring 18	Fall 18
Instructor's Overall Teaching Effectiveness	**3.848**	**4.850**	**4.490**	**4.621**	**4.286**	**4.280**	**4.313**	**4.345**
Instructor's Overall Mean	**3.907**	**4.726**	**4.376**	**4.458**	**4.404**	**4.248**	**4.548**	**4.283**
Same Level Courses Mean	-	4.135	4.185	3.958	-	-	-	-
College/Department Mean	3.728	4.184	4.120	4.098	4.117	4.084	4.007	4.158

WORDS FROM STUDENTS:

Aerospace Structures (Fall 2014)

- *"Every part of the course was done exceptionally well. Every lesson was thorough and enjoyable to attend. Dr. Tan always reached out to the students and tried to make it entertaining while being informative. The demonstrations were always simple yet well done. Excellent class and should stay in the curriculum."*
- *"My favorite class this semester! Really enjoyed the subject and Dr. Tan is a very good teacher and really cares about his students."*
- *"Dr. Tan was an absolutely wonderful professor. Any chance I have I will take a course from him. The material was challenging but he made it easy to understand. He gave us enough homework to aid in our understanding of the material but not enough to overwhelm us."*

ME Lab (Spring 2015)

- *"Great class that provides hands on experience in applying engineering concepts. It would be even more beneficial to have a hands on experimental class such as this earlier on in the curriculum."*

Aerospace Computations (Spring 2015)

- *"Teachers were generally knowledgeable. I believe importance on software was great."*
- *"I really enjoyed using Abaqus and the tutorials were great."*

ME Lab (Fall 2015)

- *"The questions you asked at the end of the presentations helped bring the whole experiment together."*
- *"The preparation and presentation of materials was excellent. This professor was a good lab instructor and this was the best lab I've had at Akron."*
- *"I felt like this professor made the best environment for learning. He was open, friendly and welcomed questions. Sometimes professors are so intimidating that it is hard to learn optimally. Thank you!"*

Aerospace Structures (Fall 2015)

- *"Very in detail lectures that covered important information for the course. We were tested on what we learned. K.T. is one of the best professors I've ever had without a doubt."*
- *"Dr. Tan taught the class very well. I have learned more in this class than I have in most other courses at the university. He really cared whether or not you pass the class and genuinely wanted you to succeed. K.T. Tan is an awesome professor!"*
- *"Everything, the class was very reasonable and I learned a lot. We need more teachers like KT. KT truly cared about us and our learning, easily a top 3 teacher I've had and would take him for every class if I could."*

ME Lab (Spring 2016)

- *"Very cool class i enjoyed it very much."*
- *"This professor was the most prepared and enthusiastic about his experiment."*

Aerospace Computations (Spring 2016)

- *"Dr. Tan was very helpful throughout the entire semester if I ever had questions pertaining to class or things outside of class."*
- *"Dr. Tan is fantastic! He is definitely one of the greatest teachers I have ever had. He was always available every week to answer questions, which was really helpful."*

ME Lab (Fall 2016)

- *"Very practical knowledge gained in the analysis of the design/relationship. Enjoyed the setup of the lab/competitive style."*
- *"This lab was very well done, every aspect of it. Well done. You are the definition of an ideal professor."*
- *"I liked how he fully explained why we were doing our experiment and also set up the presentation so that we all could learn. This is my favorite lab/lab professor so far."*

Aerospace Structures (Fall 2016)

- *"The instructor uses visual aids and hands on examples to explain concepts. He also spends much of class time going over examples which build confidence to do homework well."*
- *"He was great at explaining in depth material."*
- *"Dr. Tan truly cares about his students and their success. He has inspired me to do the best I can in my engineering courses."*
- *"Overall one of the best professors I have had."*

Tools for Mechanical Engineering (Spring 2017)

- *"TT's a fun course and I learned a lot."*
- *"I really enjoyed the lessons in this course. It was actually the class that I was most excited to come to every single day. The homework was challenging, but felt very rewarding once you completed it."*
- *"(Dr. Tan) does a good job explaining the content. If you need extra help he is always available to help out rather it is office hours, or in class."*
- *"(Dr. Tan) did a great job teaching the course overall, was enthusiastic, and showed concern for the academic growth of all the students."*
- *"K.T is awesome. That is all."*

Aerospace Computations (Spring 2017)

- *"Dr. Tan is an absolutely wonderful professor. His organization and attention to detail make learning from him an almost effortless process."*
- *"Dr. Tan is very good at explaining difficult material and making sure everyone in the class understands what is going on."*
- *"Dr. Tan does a great job of deriving and explaining mathematical formulations that are used in finite element analysis. It is a difficult subject to grasp for some people. However with his help it was not such a large burden to learn this subject."*
- *"KT is one of my favorite professors. He truly loves teaching and helping us out."*
- *"Lectures are extremely informative and it is easy to understand the content during the lecture and after the lecture. One of the best professors I've ever had. Thank you KT."*

Aerospace Structures (Fall 2017)

- *"Very helpful to ask questions, Dr. Tan's answers were great."*
- *"Our professor did a good job explaining material, challenging us, engaging us and making class enjoyable. We did a lot of examples and got to bring in our own examples to help us visualize what we were learning."*
- *"Dr. Tan is very thorough. He explains his notes very well and goes over practical examples in class. This course had some tough material and the way he broke everything down helped a lot."*

- *"Dr. Tan was passionate and interested in the material. He was very enthusiastic when it came to teaching and that made the class a lot more fun to come to and it made everything a little easier."*
- *"This professor was very effective in teaching and made difficult sections easy to follow. I will take this professor as often as I can in the following semesters."*

Tools for Mechanical Engineering (Fall 2017)

- *"The professor would go over his lecture slides every day there was class clearly and made sure everyone was on the same page before continuing on."*
- *"He was very caring in regards to our success not only in the class, but in the big picture as well. Made me feel very comfortable with learning."*
- *"He had a mixture of both hands and lecture style for his labs that allowed people to quickly get ahead but also didn't allow people to ever fall behind."*
- *"The professor was very organized and had a great system for homework."*
- *"Had fun and really enjoyed the class!"*

Tools for Mechanical Engineering (Spring 2018)

- *"Dr. Tan was always energetic and willing to help students."*
- *"the homeworks related very well. He challenged us to make sure we knew what we were doing, but he never failed to always help when we asked."*
- *"Dr. Tan carries out his lectures very professionally and has great teaching capabilities. He understands student's different rates of learning and patiently can help out accordingly."*
- *"He explained most of the material very well. He was very good at explaining MATLAB to me, whenever I had questions, he would encourage me to try to figure it out myself before showing me. Dr. Tan was a wonderful professor overall!"*
- *"I guess one could say it was… Tantastic."*

Aerospace Computations (Spring 2018)

- *"Very clear and cares about our learning. Homework relates to in class material well."*
- *"Very well organized and clearly taught with intent for students to actually learn the material."*
- *"Dr. Tan is one of the best teachers ive had at UA. He gives great notes and the homework helps with understanding the difficult content."*
- *"I felt that the professor did a great job explaining this material. I gave a lower score in this section, only because I still need to under some of the material better. This class is a very difficult topic and I never thought I would have understood it as well as I have from this class."*
- *"very good class, it made a somewhat unclear topic very understandable."*

Aerospace Structures (Fall 2018)

- *"Questions being answered were answered multiple ways to allow each student with different methods of thinking to understand the problem."*
- *"The enthusiasm and cheerfulness to teach was always present and welcome. Grades, homework, and exams were fair and helpful."*
- *"Excellent professor and classroom experience."*
- *"The props that were brought to class added a uniqueness to class that made it a joy to attend. They were also useful as concept aids, but mostly they were just fun to see."*

Tools for Mechanical Engineering (Fall 2018)

- *"The matlab coding was taught well as students could see what the code was and could try it to see what it does."*
- *"Teaches concepts very well and from different perspectives that make the topic very clear."*
- *"The lectures were very well put together and posted in a very organized manner on brightspace. The lectures were also easy to understand, leading to little or no confusion."*
- *"He explained the topics well and made the homework and test related to what he was teaching."*
- *"Great first semester experience."*

Aerospace Computations (Spring 2019)

- *"Dr. Tan is an excellent professor. He cares for the student's development and can clearly explain the material."*
- *"Dr. Tan was always excited to be in class and was clearly passionate about his work. He gave great examples that were easy to follow and would re explain them if we did not understand."*
- *"Overall a great class. I really felt grateful when Dr. K.T. evaluated our homework and reviewed it, especially when we as a class, appeared to all not understand certain points."*
- *"Dr. Tan's willingness to continually change and improve his classes is a great change from most engineering professors. His care for his students development always shows and he is a great professor!"*

Engineered Materials for Future Applications (Spring 2019)

- *"The course structure is excellent."*
- *"Give students a chance to teach and learn themselves."*
- *"Good course. The exam question was very creative and philosophical."*

Guest Lecturer January 2012 – May 2013
Purdue University
School of Aeronautics and Astronautics

- Conducted lecture class for Graduate students in **Mechanics of Composite Materials** (AAE555).
- Prepared lecture notes for students and discussed research area like impact damage of composites.

Graduate Student Advisor October 2008 – September 2011
Tokyo Metropolitan University
Department of Aerospace Engineering

- Helped and advised undergraduate and graduate students in their research work.
- Tutored students on English technical writing, conference presentations and poster designs.

Graduate Teaching Assistant August 2004 – November 2005
National University of Singapore
Department of Mechanical Engineering

- **Statics and Mechanics of Materials** (EG1109) [1st Sem 04/05] [2nd Sem 04/05] [1st Sem 05/06]: Freshman-level course covering statics and mechanics of materials. Topics include concept of free-body diagram, equilibrium of particles/rigid bodies, analysis of trusses/frames/machines/cables, friction, axial force members, torsion of cylindrical shafts, bending of beams, bending stresses and deflection of beams.
- Extent of responsibilities: conducted tutorial sessions for undergraduate students, developed tutorial sheets, evaluated students' quizzes and assignments, provided consultation and guidance to students regarding online e-tutorials.

Course Evaluation Report Summary

	Statics and Mechanics of Materials		
	2004/05 Semester 1	2004/05 Semester 2	2005/06 Semester 1
Instructor's Overall Teaching Effectiveness	**4.589**	**4.760**	**4.386**
Instructor's Overall Mean	**4.507**	**4.555**	**4.207**
Same Level Courses Mean	3.783	3.723	3.874
College/Department Mean	3.747	3.834	3.867

WORDS FROM STUDENTS:

Statics and Mechanics of Materials (2004/05 Semester 1)

- *"He is a very helpful tutor. He always prepared well for the tutorial to make the student understand better."*
- *"The teacher is able to summarise the key concepts very well and drive to the class what is needed to understand a topic. He draws up the important formula and tells of very useful techniques to answer questions."*
- *"Very clear in teaching."*
- *"Always willing to answer questions..extremely patient when it comes teaching and explaining."*
- *"Very hardworking and approachable, always try to clear our doubts. Even gives extra lesson."*
- *"He's a committed tutor and can communicate this thoughts and idea well to his students."*

Statics and Mechanics of Materials (2004/05 Semester 2)

- *"Excellent at explaining concepts and making us truly understand whats going on."*
- *"Very systematic way of teaching. Very dedicated – gives extra lessons. VERY GOOD."*
- *"He has great teaching qualities. Dedicated and willing to help students."*
- *"He is energetic and hardworking, even students not from his class attends make up lessons from him. Well done!"*
- *"Well, he's among the best tutors that I have ever met! He's so responsible and lovely! Nearly everytime when my friends complained about the dull tutor they got, I would feel so much proud of my statics tutor Kwek Tze!"*
- *"he is an excellent tutor, well liked by all the students in the class."*

Statics and Mechanics of Materials (2005/06 Semester 1)

- *"He is very knowledgeable in the subject and sometimes provide a little revision to help us revise for the concepts."*
- *"He is able to relate to us well in his experience as an undergraduate. He is able to let us know what are the essentials of the course and what is required as undergraduates and as "soon to be" engineers."*
- *"Very approachable and friendly teacher."*
- *"Teaches us effectively and makes sure everyone in the class understands the topics covered. He was always available for consultations when we need it."*
- *"He spends a lot of time and effort teaching the class. He also makes great effort to make sure that the class understands the subject and the all of the tutorial questions. He encourages the class and gives his best when teaching the class. These can be seen when he even holds extra lessons to make sure he is able to go thru the tutorials with great detail."*

- *"This tutor is impressive. Doesn't rush through things, yet doesn't do it at too slow a pace. Excellent explanations for tutorials. Helpful. One of the best tutors yet."*

STUDENTS SUPERVISION

Post-Doctoral Research Fellow Advised

1. Dr. Bing Li (Ph.D. in Engineering Mechanics, Peking University) Fall 2015-Summer 2018,
   Research Topic: Stress Wave Propagation in Acoustic Metamaterials
   Current: Associate Professor at Northwestern Polytechnical University (Xi An, China)

Ph.D. Student Graduated

1. Sagr Alamri (M.S. in Mechanical Engineering, University of Hartford; B.S. in Mechanical Engineering, King Khalid University) Spring 2014-Fall 2018,
   Research Topic: Shock Mitigation and Wave Control using Elastic Metamaterial Structures
   Current: Assistant Professor at King Khalid University (Saudi Arabia)

Ph.D. Students Current

1. Mehran Jaberzadeh (M.S. in Materials Engineering, Isfahan University of Technology; B.S. in Materials Engineering, Isfahan University of Technology) Spring 2016-current,
   Research Topic: Acoustic Metamaterials with Anisotropic Mass Density
2. Md. Mahfujul Khan (M.S. in Mechanical Engineering, The University of Akron; B.S. in Materials and Metallurgical Engineering, Bangladesh University of Engineering and Technology) Fall 2016-current,
   Research Topic: Impact Performance and Dynamic Behavior of Composite Sandwich Structures in Arctic Conditions
3. Arnob Banik (B.S. in Naval Architecture and Marine Engineering, Bangladesh University of Engineering and Technology) Fall 2017-current,
   Research Topic: Biomimetic Structures for Wet Surface Traction
4. Chao Zhang (M.S. in Polymer Engineering, The University of Akron; B.Eng. in Materials Science and Engineering, Beijing University of Chemical Technology) Summer 2018-current,
   Research Topic: Structural Characterization of Nonplanar Composite Materials

M.S. Students Graduated

1. Md. Mahfujul Khan (B.S. in Materials and Metallurgical Engineering, Bangladesh University of Engineering and Technology) Fall 2014-Fall 2016,
   Research Topic: Understanding Impact Load Wave Transmission Performance of Elastic Metamaterials
   Current: Ph.D. student at The University of Akron (KT Tan's research group).
2. Mohammed Elamin (B.S. in Mechanical Engineering, University of Khartoum) Spring 2016-Spring 2018,
   Research Topic: Impact Performance of Composite Sandwich Structures at Low Temperature
   Current: Ph.D. student at the University of Utah (Mechanical Engineering)

Undergraduate Research Students Advised

1. Awais Qureshi, ME Undergraduate Research Student, Fall 2015,

Research Topic: Investigating Band-Gap in 3-D Printed Mechanical Metamaterials.
Current Employer: Moen Inc., Position: Associate Product Development Engineer.

2. Dominic R. Cross, ME Undergraduate Research Student, Fall 2015-Spring 2016,
Research Topic: Low Temperature Effects on Stiffness of Graphite/Epoxy Composite Laminate.
Current Employer: BWX Technologies, Barberton, OH, Position: Stress Engineer.
3. Prajakta Govande, ME Undergraduate Research Student, Fall 2015-Spring 2016,
Research Topic: Fatigue Performance of Glass Fiber/Epoxy Composite at Low Temperature.
Current Employer: Swagelok, Position: Engineer.
4. Christopher Drol, ME Undergraduate Research Student, Fall 2015-Spring 2016,
Research Topic: Finite Element Modeling for Flexural Behavior of Hedgehog Spines
Current Employer: Hedgemon, LLC, Position: Engineer Intern.
5. Tyler Yoder, ME Undergraduate Research Student, Fall 2015-Spring 2016,
Research Topic: Investigating Impact Performance of Hedgehog Spines through Finite Element Analysis (FEA) Static Compression
Current Employer: Pneumatic Scale Angelus, Position: Mechanical Engineer.
6. Clark Rice, ME Undergraduate Research Student, Fall 2017-Spring 2018,
Research Topic: Fracture Testing a Horse Hoof Inspired Biomimetic Structure
Current Employer: LuK Transmission LLC, Position: Tool Design Engineer.
7. Max J. Miller, Physics Undergraduate Research Student, Summer 2017-Spring 2018,
Research Topic: Investigating Dilatational Mechanical Metamaterials
Current Employer: Rensselaer Polytechnic Institute, Position: Ph.D. Graduate Assistant.

High School Research Academy Students Advised

1. Eleanor Smith, High School Research Student, Summer 2018,
Research Topic: Dynamic Fracture of Structural Adhesive in Extreme Temperature Conditions
Current Employer: Walsh Jesuit High School, Position: High School 12th Grader.
2. Michelle Reitz, High School Research Student, Summer 2018,
Research Topic: Dynamic Fracture of Structural Adhesive in Extreme Temperature Conditions
Current Employer: Akron Firestone High School, Position: High School 12th Grader.

Other Students Supervision

1. Catherine Galla, 6th Grader at Incarnate Word Academy in Parma Heights, Summer 2015,
Research Topic: Swim Suit Soak: Saline vs Chlorine Water
2. Deepanshu Sodhani, Ph.D. Visiting Research Student (Institute of Applied Mechanics, RWTH Aachen University, Germany), Spring 2016,
Research Topic: Reinforced Elastomer
3. Daniel Hoewer, Ph.D. Visiting Research Student (Institute of Applied Mechanics, RWTH Aachen University, Germany), Spring 2016,
Research Topic: Large-Scale Bridging using Cohesive Models
4. Bor-Kai (Bill) Hsiung, Ph.D. Collaborative Research Student, Spring 2015-Spring 2017,
Research Topic: Biomimetic Structures for Impact Protection
Current: Post-Doctoral Research Fellow at University of California San Diego.
5. Emily Kennedy, Ph.D. Collaborative Research Student, Spring 2015-Spring 2017,

Research Topic: Biomimetic Structures for Impact Protection
Current: Director of External Relations at Biomimicry Research and Innovation Center in the University of Akron.

6. Nathan Swift, M.Sc. Collaborative Research Student, Spring 2015-Spring 2017,
Research Topic: Biomimetic Structures for Impact Protection
Current: Chief Operating Officer at Hedgemon, LLC.

STUDENT THESIS COMMITTEE

M.S. Thesis Committee Member

1. Preethi Bahadursha (M.S. in Mechanical Engineering, Defense: 5/2015)
Advisor: Dr. Michelle Hoo-Fatt
Thesis Title: Tearing of Styrene Butadiene Rubber (SBR) using Finite Element Analysis
2. Guang Ji (M.S. in Mechanical Engineering, Defense: 6/2015)
Advisor: Dr. Josh Shing-Chung Wong
Thesis Title: Study on Microstructure and Adhesion Property of Electrospun Polymer Blends
3. Mathew Citarella (M.S. in Mechanical Engineering, Engineering Report: 11/25/2015)
Advisor: Dr. Xiaosheng Gao
Report Title: Fatigue, Crack Growth and Brittle Fracture Analysis of a Pressure Vessel Weld
4. Jonathan A. Wilch (M.S. in Mechanical Engineering, Engineering Report: 5/10/2017)
Advisor: Dr. Gregory N. Morscher
Report Title: Crack Initiation and Propagation in Carbon Fiber Reinforced Polymer Composites: A Comparison Study Between Laminate and Woven Architectures
5. Chapin Hutama (M.S. in Mechanical Engineering, Defense: 4/17/2019)
Advisor: Dr. Josh Shing-Chung Wong
Thesis Title: The Influence of Thermoplastic Polyurethane on Continuous Randomly Oriented Fiber Reinforced Silicone Rubber Composite in Rolling Resistance and Static Friction Performance
6. Paul Wischt Jr. (M.S. in Mechanical Engineering, Engineering Report: 4/30/2019)
Advisor: Dr. Xiaosheng Gao
Report Title: Failure Analysis and Design for Plunger Testing of Pneumatic Tires using Experimental Testing and Finite Element Analysis

Ph.D. Dissertation Committee Member

1. Dushyanth Sirivolu (Ph.D. in Mechanical Engineering, Proposal: 9/2015, Defense: 4/21/2016)
Advisor: Dr. Michelle Hoo-Fatt
Thesis Title: Marine Composite Panels under Blast Loading
2. Matthew Appleby (Ph.D. in Mechanical Engineering, Proposal: 12/11/2015, Defense: 4/25/2016)
Advisor: Dr. Gregory N. Morscher
Thesis Title: High Temperature Damage Characterization of Ceramic Composites and Protective Coatings
3. Craig Smith (Ph.D. in Mechanical Engineering, Proposal: 1/2016, Defense: 4/25/2016)
Advisor: Dr. Gregory N. Morscher

Thesis Title: Electrical Resistance Changes of Melt Infiltrated SiC/SiC subject to Long-Term Tensile Loading at Elevated Temperatures

4. Moshabab Alkhtany (Ph.D. in Mechanical Engineering, Proposal: 10/2015, Defense: 8/3/2016)
   Advisor: Dr. Michelle Hoo-Fatt
   Thesis Title: Modeling Structural Polymeric Foams under Combined Cyclic Compression-Shear Loading
5. Kartik Gopal (Ph.D. in Mechanical Engineering, Proposal: 11/23/2015, Defense: 12/6/2016)
   Advisor: Dr. Shengyong Wang
   Thesis Title: Modeling and Optimization of Hospital Transportation System
6. Amjad Almansour (Ph.D. in Mechanical Engineering, Proposal: 9/2015, Defense: 2/1/2017)
   Advisor: Dr. Gregory N. Morscher
   Thesis Title: Use of Single Tow Ceramic Matrix Minicomposites to Determine Fundamental Room and Elevated Temperature Properties
7. Rabih Mansour (Ph.D. in Mechanical Engineering, Proposal: 11/22/2016, Defense: 4/28/2017)
   Advisor: Dr. Gregory N. Morscher
   Thesis Title: Mode I Interlaminar Fracture Properties of Oxide and Non-Oxide Ceramic Matrix Composites
8. Fang Peng (Ph.D. in Polymer Engineering, Proposal: 2/2016, Defense: 10/19/2018)
   Advisor: Dr. Miko Cakmak, Dr. Brian Vogt
   Thesis Title: Net Shape Manufacturing of 3D Printed Parts with Controlled Anisotropy Utilizing Designed Feed Stream
9. Zipeng Han (Ph.D. in Mechanical Engineering, Proposal: 12/9/2016, Defense: TBD)
   Advisor: Dr. Gregory N. Morscher
   Thesis Title: Health Monitoring During Fatigue Testing of Ceramic Composites
10. Sarah Han (Ph.D. in Integrated Biology, Proposal: 12/7/2017, Defense: TBD)
    Advisor: Dr. Todd Blackledge
    Thesis Title: Spitting Spiders, Power Amplification and Self-Righting
11. Chi Ma (Ph.D. in Mechanical Engineering, Proposal: 12/8/2017, Defense: TBD)
    Advisor: Dr. Chang Ye and Dr. Yalin Dong
    Thesis Title: Increasing the ductility of bulk metallic glass (BMG)
12. Chaitanya Borra (Ph.D. in Mechanical Engineering, Proposal: TBD)
    Advisor: Dr. Dane D. Quinn
    Thesis Title: Large Array Micro/Nano Coupled Resonators
13. Tarig Hyder Mekki Sadig (Ph.D. in Electrical and Computer Engineering, Proposal: TBD)
    Advisor: Dr. Hamid Bahrami and Dr. Nghi Tran
    Thesis Title: Cross-Layer Security
14. Arturo Machado (Ph.D. in Mechanical Engineering, Proposal: TBD)
    Advisor: Dr. Shing-Chung "Josh" Wong
    Thesis Title: Damage Mechanics and Life Prediction of Composite Laminates under Multi-Axial Fatigue Loading Conditions
15. Chong Zhong (Ph.D. in Mechanical Engineering, Proposal: 9/7/2018, Defense: TBD)
    Advisor: Dr. Michelle Hoo-Fatt
    Thesis Title: Pressure Chamber Experiments to Determine Triaxial Material Properties of Polymer Foams

16. Michael Presby (Ph.D. in Mechanical Engineering, Proposal: 11/30/18)
    Advisor: Dr. Gregory N. Morscher
    Thesis Title: Foreign Object Damage and Solid Particle Erosion Behavior of Ceramic Matrix Composites
17. Xiaoxiao Liu (Ph.D. in Mechanical Engineering, Proposal: 12/7/2018)
    Advisor: Dr. Shing-Chung "Josh" Wong
    Thesis Title: Study Water Harvesting Ability of Hydrophobic/Hydrophilic Nanofibers Through Simple Electrospinning Process
18. Cheng Zhang (Ph.D. in Chemical and Biomolecular Engineering, Proposal: 3/8/2019, Defense: TBD)
    Advisor: Dr. Qixin Zhou
    Thesis Title: Green Polyurethanes from Renewable Resources
19. Jiawei Wu (Ph.D. in Mechanical Engineering, Proposal: 3/22/2019, Defense: TBD)
    Advisor: Dr. Shing-Chung "Josh" Wong
    Thesis Title: Study on Epoxidized Poly (styrene-butadiene-styrene) Modified Epoxy Resins
20. Liwei Ni (Ph.D. in Mechanical Engineering, Proposal: 5/3/2019, Defense: TBD)
    Advisor: Dr. Jiang Zhe
    Thesis Title: Microfluidic Device for Noninvasive Cell Electrical Stimulation and Extracellular Field Potential Analysis

Ph.D. External Examiner (International)

1. Hossein Darban (Ph.D. in Civil, Chemical and Environmental Engineering, University of Genova , Italy, January 2018)
   Advisor: Dr. Roberta Massabo
   Thesis Title: Multiscale Modeling of Delamination Fracture in Multilayered Structures

PUBLIC & PROFESSIONAL SERVICE

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

1.	American Society for Composites (ASC)	2010–Present
2.	The American Institute of Aeronautics and Astronautics (AIAA)	2012–Present
3.	American Society of Mechanical Engineers (ASME)	2012–Present
4.	Acoustical Society of America (ASA)	2012–Present
5.	American Society for Engineering Education (ASEE)	2015–Present
6.	International Phononics Society (IPS)	2017–Present
7.	Asian Human Network Databank	2008–Present
8.	European Society for Composite Materials (ESCM)	2010–2014
9.	The Japan Society for Aeronautical and Space Sciences (JSASS)	2008–2011
10.	Japan Society for Composite Materials (JSCM)	2008–2011

REVIEWER/REFEREE/PANELIST/EDITORIAL BOARD

Reviewer for the following International Journals:

1. *Composites Science and Technology*

2. *Composites Part A: Applied Science and Manufacturing*
3. *Composites Part B: Engineering*
4. *Composite Structures*
5. *Journal of Composite Materials*
6. *Journal of Reinforced Plastics and Composites*
7. *Science and Engineering of Composite Materials*
8. *International Journal of Composite Materials*
9. *Open Journal of Composite Materials*
10. *Advanced Composites Letters*
11. *International Journal of Damage Mechanics*
12. *Scientific Reports Nature*
13. *Nature Communications*
14. *Applied Physics Letters*
15. *Journal of Applied Physics*
16. *Applied Acoustics*
17. *Materials*
18. *Materials and Design*
19. *Advanced Materials Wiley*
20. *Meccanica* (An International Journal of Theoretical and Applied Mechanics)
21. *Inverse Problems in Science & Engineering*
22. *Experimental Techniques*
23. *Journal of Materials Science Research*
24. *American Journal of Materials Science and Engineering*
25. *American Journal of Materials Engineering and Technology*
26. *American Journal of Mechanical Engineering*
27. *Open Journal of Inorganic Non-metallic Materials*
28. *Journal of Mechanics Engineering and Automation*
29. *Journal of Mechanical Design and Vibration*
30. *International Journal of Mechanics and Materials in Design*
31. *Journal of Aerospace Engineering*
32. *Journal of Sandwich Structures and Materials*
33. *ASME Journal of Vibration and Acoustics*
34. *ASME Journal of Applied Mechanics*
35. *ASME Journal of Pressure Vessel Technology*
36. *AIAA Journal*
37. *Proceedings of the Royal Society A*
38. *Journal of Intelligent Material Systems and Structures*
39. *Mechanics of Advanced Material and Structures*
40. *Journal of Mechanics*
41. *International Journal of Mechanical Sciences*
42. *Aerospace Science and Technology*
43. *Modern Physics Letters B*
44. *Journal of Manufacturing Processes*
45. Frontiers Materials – Mechanics of Materials
46. *International Journal of Solids and Structures*
47. *Computers and Structures*
48. *Journal of Thermoplastic Composite Materials*

49. *Canadian Journal of Zoology*
50. *International Journal of Aeronautical and Space Sciences*
51. *AIP Advances*
52. *Wave Motion*
53. *Acta Biomaterialia*
54. *Journal of Dynamic Behavior of Materials*
55. *Thin-Walled Structures*
56. *Engineering Structures*
57. *Multiscale and Multidisciplinary Modeling, Experiments and Design*
58. *Journal of Physics: Condensed Matter*
59. *Advances in Aircraft and Spacecraft Science, An International Journal*
60. *Journal of Materials Engineering and Performance*
61. *Mechanics of Materials*
62. *Journal of the Mechanics and Physics of Solids*
63. *Bioinspiration & Biomimetics*
64. *Engineering Optimization*

Editorial Board Member in the following International Journals:
1. *Journal of Materials Science Research*
2. *American Journal of Materials Engineering and Technology*
3. *Journal of Materials Sciences and Applications*
4. *International Journal of Composite Materials*

Associate Guest Editor for Journal of Composite Materials (Fall 2017-Current)
Special issue on ASC2017 & ASC2018 Impact, Dynamic Response

Reviewer for the Thomson Reuters **Academic Reputation Survey - Times Higher Education World University Rankings 2012 and 2014**.

Judge for **Postgraduate Student Poster and Oral Competition** at IMRE (Institute of Materials Research Engineering) **Scientific Research Forum** (3-4 October 2013).

Judge for **The Singapore Young Physicists' Tournament (SYPT 2014)** (Grade 10: 18 January & Grade 12: 25 January 2014).

Judge for **2014 AIAA Region VII Australia-Asia, Student Paper Conference**, 26-28 November, The University of Sydney.

Judge for **2015 AIAA Region VII Australia-Asia, Student Paper Conference**, 23-24 November, The University of New South Wales.

Judge for **2016 AIAA Region VII Australia-Asia, Student Paper Conference**, 21-22 November, Monash University in Melbourne.

Reviewer for **2016 American Society for Engineering Education, North Central Section Conference**, 18-19 March, Central Michigan University, Mt Pleasant, MI, USA.

Invited Proposal Reviewer for **National Science Foundation (NSF), Division of Civil, Mechanical and Manufacturing Innovation (CMMI), Mechanics of Materials and Structure Program (MOMS),** Arlington, VA, USA.

Invited Proposal Reviewer for **Swiss National Science Foundation (SNSF)** on Sinergia funding that supports interdisciplinary collaboration of two to four research groups that propose breakthrough research, Switzerland.

Invited Reviewer for **National Science Foundation (NSF), Graduate Research Fellowship Program (GRFP)**, Arlington, VA, USA.

Invited Reviewer for **Science, Mathematics & Research for Transformation (SMART) Scholarship Program**, American Society for Engineering Education & Department of Defense.

Invited Reviewer for **NASA Space Technology Research Fellowship (NSTRF) Program**, NASA's Space Technology Mission Directorate (STMD).

TECHNICAL CONFERENCE/SESSION/TOPIC ORGANIZER/CHAIR

Session Co-Chair on "Acoustic Metamaterials and Phononic Crystals" Symposium 4-4, ASME McMat 2015 conference, Seattle, Washington, 29 Jun-1 Jul 2015.

Session Organizer on "Structural Response, Wave Propagation and Dynamics", American Society for Composites 30th Technical Conference, Michigan State University, 28-30 Sept 2015.

Session Chair on "Impact and Dynamic Response" and "General Topics", American Society for Composites 30th Technical Conference, Michigan State University, 28-30 Sept 2015.

Topic Organizer and Session Chair on "Impact, Damage and Fracture of Composite Structures" for Advances in Aerospace Technology Track, ASME IMECE 2015, Houston, TX, 13-19 Nov 2015.

Technical Organizing Committee, 17th US-Japan Conference on Composite Materials, Hokkaido, Japan, 1-2 Aug 2016.

Session Organizer and Chair on "Impact and Dynamic Responses", American Society for Composites 31st Technical Conference, Williamsburg, VA, 19-21 Sept 2016.

Topic Organizer and Session Chair on "Impact, Damage and Fracture of Composite Structures" for Advances in Aerospace Technology Track at ASME IMECE 2016, Phoenix, AZ, 11-17 Nov 2016.

Invited Conference Technical Committee, International Conference on Material and Manufacturing Technology ICMMT 2017, Singapore, 4-6 May 2017.

Invited Conference Technical Committee, International Conference on Material Engineering and Advanced Manufacturing Technology MEAMT 2017, Busan, Korea, 25-27 Aug 2017.

Session Organizer and Chair on "Impact and Dynamic Response", American Society for Composites 32nd Technical Conference, West Lafayette, IN, 22-25 Oct 2017.

Topic Organizer and Session Chair on "Impact, Damage and Fracture of Composite Structures" for Advances in Aerospace Technology Track at ASME IMECE 2017, Tampa, FL, 3-9 Nov 2017.

Invited Conference Technical Committee, International Conference on Material and Manufacturing Technology ICMMT 2018, Moscow, Russia, 28-30 Apr 2018.

Invited Conference Technical Committee, International Conference on Material Engineering and Advanced Manufacturing Technology MEAMT 2018, Beijing, China, 25-27 May 2018.

Session Organizer and Chair on "Impact Dynamic Response" and "Bio-Based Composites", American Society for Composites 33rd Technical Conference, Seattle, WA, 24-26 Sept 2018.

Topic Organizer and Session Chair on "Impact, Damage and Fracture of Composite Structures" for Advances in Aerospace Technology Track at ASME IMECE 2018, Pittsburgh, PA, Nov 2018.

Invited Conference Technical Committee, International Conference on Material and Manufacturing Technology ICMMT 2019, Kuala Lumpur, Malaysia, 26-28 Apr 2019.

Invited Conference Technical Committee, International Conference on Material Engineering and Advanced Manufacturing Technology MEAMT 2019, Shanghai, China, 26-28 April 2019.

TECHNICAL ADVISOR/PROFESSIONAL SOCIETY COMMITTEE MEMBER

Technical Advisor for Start-Up Company Hedgemon, LLC Spring 2015-Current
Advising startup company for research, development and manufacturing of unique, hedgehog-inspired impact protection technologies to be adopted by OEM companies with initial focus on development of a football helmet liner. Aim to be global leader in impact protection technology.

Elected Technical Committee Member Fall 2015-Current
ASME Aerospace Division Structures and Materials Technical Committee.

Nominee for American Society for Composites (ASC) Executive Committee Fall 2017
Nominated as Members-at-Large in ASC ExCom.

FACULTY DEPARTMENT COMMITTEE

Search Committee Member Fall 2018-Spring 2019
Robotics/BRIC (Biomimicry Research Innovation Center) Tenure-Track Position
Member of the search committee for hiring a tenure track position at the Assistant Professor level, with primary appointment in the Department of Mechanical Engineering and a joint appointment in a department acceptable to BRIC. Screened of candidates based on application packages, conducted phone interview and provided recommendation for on-campus interview. Hosted faculty candidates for on-campus interview and facilitated candidate research seminars.

Search Committee Member Fall 2017-Spring 2018
Aerospace System Engineering (ASE) (Avionics/Robotics/Control) Tenure-Track Position
Member of the search committee for hiring a position in Aerospace System Engineering program, specifically in avionics, controls and robotics. Screened of candidates based on application packages, performed phone interview and provided recommendation for on-campus interview. Hosted faculty candidates for on-campus interview and facilitated candidate research seminars.

Committee Member Fall 2014-current
Aerospace System Engineering (ASE) Accreditation Board for Engineering and Technology (ABET)
Planning for ABET program outcomes and undergraduate educational objectives, prepared course notes, evaluated students results, attended interviews by ABET evaluators. Results of ABET visit: Zero weaknesses and 2 concerns.

Freshmen Student Adviser Spring 2015-current
Mechanical Engineering (ME) and Aerospace System Engineering (ASE)
Advising incoming freshmen regarding class selection and allocation during New Student Orientation Program (NSOP).

Committee Member Fall 2015-current
Integrated Bioscience PhD Program Committee
Vetting applicants, monitoring progress of offering lines to better applicants, and facilitate funding for these better applicants.

Primary Faculty Committee Member Spring 2019-current
Proposed Academic Research Cluster: Performance of Structures and Materials
Analysis, design and behavior of structural systems at multiple scales, their performance over long and short-term horizons, materials, methods of protection and bioinspired design. Part of main committee to lead this ARC effort in Performance of Structures and Material.

Advisor for Soap Box Derby Gravity Car Project Spring 2017-current
Advising freshmen in building their gravity race car and compete in the Soap Box Derby Gravity Race Competition at Collegiate level.

Organizer for Senior Seminar and Host for Guest Speaker Fall 2015-current
1. Dr. Akinori Yoshimura, Japan Aerospace Exploration Agency (10/1/2015)

2. Dr. Evan Pineda, NASA Glenn Research Center (2/5/2016)
3. Dr. Lin Ye, The University of Sydney (10/10/2016)
4. Dr. Gunjin Yun, Seoul National University (10/6/2017)
5. Dr. Steven Arnold, NASA Glenn Research Center (10/30/2017)
6. Dr. Huanyu Cheng, Penn State University (11/13/2017)
7. Dr. Evan Pineda, NASA Glenn Research Center (12/4/2017)
8. Dr. Muhammad Ali, Ohio University (9/28/2018)

PROFESSIONAL DEVELOPMENT

NEXT (New Explorations in Teaching) Conference 28 February- 1 March 2019
Design and Development Services and Faculty Steering Committee, The University of Akron
The New Explorations in Teaching (NEXT) Conference is an annual gathering at The University of Akron to share new ideas and explore innovative topics that support teaching in higher education. NEXT conference answers the question "how do we create and sustain communities of practice that support teaching in higher education?" by providing an annual conference where faculty, instructional designers, administrators and students gather to share ideas, resources, and a passion for innovation. NEXT is for all those interested in getting more out of what they do in higher education. Sessions and speakers address issues ranging from pedagogy to maker movements to educational technology and beyond.

Assessment Series 11 September, 2, 23 October 2018
Institute for Teaching and Learning, The University of Akron
"Assessment Rx: How to Keep Your Program Assessment Healthy" is a series of three workshops designed to create and improve healthy program assessment. (1) Annual Assessment Report Check-Up: This session will walk attendees through writing their annual assessment reports and answer questions regarding their program assessments. (2) Maximizing Healthy Habits: Much of what we do to maintain and improve programs counts as assessment, but is often not included in assessment reports. This session will cover activities that could be providing useful assessment information for the future. (3) Assessment Huddle: Assessment is about conversations. This workshop will discuss and generate topics that could improve program assessment.

2018 NSF CAREER Proposal Writing Workshop 26-27 March 2018
NSF Division of Civil, Mechanical and Manufacturing Innovation (CMMI), Northeastern University
The workshop mainly aims to provide future CAREER proposal submitters with proposal review experience and interactions with NSF program directors and recent NSF CAREER awardees.

NEXT (New Explorations in Teaching) Conference 16 February 2018
Design and Development Services and Faculty Steering Committee, The University of Akron
The New Explorations in Teaching (NEXT) Conference is an annual gathering at The University of Akron to share new ideas and explore innovative topics that support teaching in higher education. This conference is designed to share ideas amongst the faculty who are in the classrooms, engaging student learners. This is an opportunity to learn about the strategies faculty use to promote active

learning, and overcome challenges that every educator encounters. This is a conference where faculty share both scholarship and practical applications of new technologies.

Innovation Corps (I-Corps) Site Program 6 Oct-17 Nov 2017
The University of Akron Research Foundation
The University of Akron Research Foundation's UA I-Corps Site provides a compact seven-week program to train teams of faculty and students in National Science Foundation curriculum on technology commercialization, including how to conduct market research and customer discovery. These teams have gained valuable insight into technology commercialization and achieved an above 60 percent success rate on follow-on grants, such as Ohio Third Frontier and I-Corps@Ohio.

National Effective Teaching Institute (NETI-1B, Basic NETI) 21-23 May 2017
American Society for Engineering Education (ASEE)
The basic National Effective Teaching Institute (NETI-1) is a three-day workshop given twice a year. It is intended to give the participants information and some hands-on practice in the elements of effective teaching – course planning, lecturing, active learning, assessment of learning, and dealing with a variety of problems that commonly arise in the life of a faculty member. The workshop is also intended to provide new faculty with tips on getting their careers off to a good start and experienced faculty with instructional materials and methods that they can use in faculty development and new faculty mentoring programs on their own campuses.

NEXT (New Explorations in Teaching with Technology) Conference 19 February 2016
Design and Development Services and Faculty Steering Committee
The University of Akron
The focus of this conference is for UA faculty members to share and discuss innovative strategies for engaging learners using technology. A wide variety of perspectives will be shared by UA faculty from various disciplines across campus. Attendees will have an opportunity to collaborate and interact with colleagues.

Best Practices for Teaching Online BP4TO (Online session) 4-11 January 2016
Institute for Teaching and Learning, The University of Akron
Learnt strategies for managing time in an online course, strategies for building community, tips for hosting live sessions in WebEx, grading strategies, and tips for how to make teaching online enjoyable. Gained access to video and step-by-step tutorials for all of the tools needed to know how to use to teach online. This course has been designed to give a mini experience as an online student. It is packed full of advice from experience UA faculty who have taught online and were willing to record their experiences.

Supporting Student Success Series January – April 2015
Institute for Teaching and Learning, The University of Akron
Examined critical factors in supporting student success, covering topics like: using peer mentors to support classroom instruction, supporting Veteran students and Adult learners, teaching in a Learning Community and five steps every faculty member can take to support at-rick students.

NSF Research Proposal Development Workshop 18 November 2014
ASME 2014 International Mechanical Engineering Congress & Exposition

Learnt about fundamentals of formulating and funding an academic research program. Past participants have found the information and tips presented at this interactive workshop to be extremely helpful in research program and proposal development. Workshop conducted by George Hazelrigg, Acting Division Director, Civil, Mechanical and Manufacturing Innovation (CMMI).

The Faculty Career Series: Good Beginning Seminar Series September – November 2014
Institute for Teaching and Learning, The University of Akron
Examined critical success factors that contribute to effective teaching, covering topics like: course planning, building a student-centered syllabus, writing measurable performance objectives, instructional strategies, assessment strategies and techniques, learning activities, technologies to support teaching and learning, and learner engagement and management strategies for classroom instruction.

College Teaching Workshop- Series II: Best Practices, Tools & Resources for Teaching ESL Students Jan – Apr 2013
Center for Instructional Excellence, Purdue University
Participated and successfully completed a series of advanced college teaching workshops focused on bringing together the best practices, scholarship of teaching and learning, and resources to address the growing internationalization of Purdue, and help all students address global needs and challenges across all disciplines.

Improving Research Communication with Improv October – November 2012
The Graduate School, Purdue University
This series of six workshops, by Dr. Linda Mason, uses Improv techniques from theater to improve both oral and written research communication skills. This allows researchers to find greater clarify in presenting their subject matter, which thus enables them to directly and dynamically connect with their audience.

Grant Writing Workshops October 2012
The Graduate School, Purdue University
Workshops by Sally Bond (Lead Proposal Coordinator in the Office of the Vice President for Research) and Amanda Hamaker (Assistant Director in the Pre-Award Sponsored Program Services) on successful grant writing strategies and the art of crafting budget for a grant proposal.

Preparing Future Faculty January – May 2012
The Graduate School, Purdue University
Explored faculty roles, responsibilities and development opportunities at different higher education institutions. Mentoring experience with top administrators including the provost, vice-president for research, vice-provosts, deans, department heads, and faculty members.

College Teaching Workshop- Series I: Building on the Basics January – May 2012
Center for Instructional Excellence, Purdue University
Participated and successfully completed a series of college teaching workshops focused on improving teaching skills to enhance student learning, including topics such as student-teacher relationships, designing a course from scratch, creating the engaged classroom, getting feedback to improve your teaching, tools and techniques for creating effective tests, etc.

College Teaching Workshop- Series II: Expanding Your Teaching Toolkit Jan–May 2012
Center for Instructional Excellence, Purdue University
Participated and successfully completed a series of college teaching workshops focused on improving teaching skills to enhance student learning, including topics such as the scholarship of teaching and learning, how can we get our students to write, techniques for giving a great seminar, demystifying the new core curriculum, etc.

Grant and Proposal Writing Strategies February 2012
The Graduate School, Purdue University
Workshop by Dr. Peter Dunn (Associate Vice Provost of Research, Director of University Research Administration & Compliance) providing tips, advice and instruction on how to write a proposal for funding.