

SOURAV BANERJEE

CURRICULUM VITAE

Assistant Professor
Director of i-MAPS
Mechanical Engineering Department,
University of South Carolina,
300 Main Street, Room A124
Columbia, SC, USA 29210

(803) 777 4596
baneries@cec.sc.edu
<http://sc.edu/me/banerjee>
[Banerjee's Laboratory / i-MAPS](#)
[Affiliated Laboratory / LAMSS](#)



Education

- **Ph.D.**, Department of Engineering Mechanics, **University of Arizona**, Tucson, August 2005.
Major: **Engineering Mechanics**; Minor: **Applied Mathematics**
- **M.Tech.** Indian Institute of Technology (**IIT**), Bombay, India, March 2002.
Institute of Static and Dynamics of Aerospace Structures (**ISD**), University of Stuttgart, Germany,
Major: **Structural Engineering**
- **B.E.**, Bachelor of Civil Engineering, Indian Institute of Engineering Science and Technology (**IIST**), formerly known as Bengal Engineering College (D.U.), West Bengal, India, May 2000.

Research: Themes

1. Computational NDE & SHM: Modeling of acoustic, ultrasonic waves in engineered materials
2. Damage Precursors: Materials damage assessment at multiple scales
3. AcoustoBiomechanics: Exploring the physics of acoustics in Nature
4. Metamaterials & Sensors: Multifunctional sensing guiding and energy harvesting
5. Bio-Origami & Programmable Matter: Predict & utilize the multi-scale complex dynamics of bioorganisms

Research tools

1. Quantitative Acoustic Contrast Tomography (Q-ACT)
2. Quantitative Ultrasonic Image Correlation (QUIC)
3. Distributed Point Source Method (DPSM)
4. Nonlocal Peridynamic Theory (NLPD)
5. Finite Spectral Element Method (FSEM)

Honors and Awards

- 2017: **Michael J. Mungo Teaching Award**: Prestigious highest teaching award at University of South Carolina, awarded by the Office of Provost, University of South Carolina, May 2017.
- 2016: Editorial Board Member: Scientific Reports published by Nature Publishing Group. Since 2016
- 2016: Invited Speaker: IEEE CMMI conference at Jadavpur University, Kolkata 700047
- 2015: ASPIRE Grant by the Office of Vice President of Research, University of South Carolina
- 2014: Invited Guest Lecturer: Industry workshop on SHM of Composites at Skolkovo technological Institute (Skoltech), Moscow, Russia, Dec 8th – Dec 12th
- 2014: Invited Speaker: 29th American Society of Composites, Annual Technical Conference, University of California, San Diego, Special Session on NDE and SHM of Composites
- 2013: Who is Who in America
- 2012: Invited Speaker: 164th ASA Meeting, Kansas City, Missouri, USA, Special Session 2pSA

- 2011: **Achenbach Medal** to recognize the outstanding contribution as a young researcher in the field of structural health monitoring. IWSHM
- 2008: Professional Engineers (PE) License, Since 2008
- 2007: Invited speaker Sponsored by NSF to present contemporary research in “World Forum on Smart Materials and Smart Structures Technology”, Chonqing & Nanjing, China”
- 2007: Invited as a leading author to write a technical article on contemporary research in “Industrial Sensing and Measurement” column of Optical Engineering Magazine, SPIE Newsroom
- 2006: Honored as a Technical Expert, by Department of Engineering Mechanics, University of Arizona, Tucson.
- 2004: Visiting research scholar to IIT Bombay, Awarded by University of Arizona, National Science Foundation (NSF)
- 2002: **National Award for one of the best M.Tech Thesis**, Honored by Indian Society of Technical Education (ISTE)
- 2002: **Jaya Seetha Ranjani Harihar Subramani Award**, for being outstanding graduate student. Honored by Indian Institute of Technology (IIT) Bombay
- 2001: DAAD Scholar, Honored by German Academic Exchange Program Service, Germany

Positions and Employments

Year - Year	Institution	Position
2012-present	University of South Carolina	Assistant Professor
2009-2011	Acellent Technologies Inc.	Director of Product Development
2008-2009	Acellent Technologies Inc.	Senior Project Engineer
2008-2008	Arizona State University	Research Assistant Professor
2005-2008	University of Arizona	Technical Expert (Part time)
2006-2007	Consulting Engineers Corporation	Project Engineer, Structure
2005-2006	AMEC, Earth and Environment	Staff Professional, NDE Engineer

Awards and Funding * While at USC

Sponsor	Project Title	Role	Total Funding to the team	Share of Funding Managed	Years Funded
USDA*	TOXIMAP: Computational Framework for Prediction of Geographical and Temporal Incidence of Mycotoxins in US Crop Fields	Co-PI	\$500,000	\$110,000	2017-2020
NRCS, USDA*	Demonstration of model using cover crops to improve soil health and reduce crop stress and aflatoxin contamination	Co-PI	\$75,000	\$18,750	2016-2018
NASA, LaRC*	Multiscale Computational Non-destructive Evaluation (NDE) for Composites	PI	\$775,058	\$625,058	2015-2018
Boeing Co.*	Nondestructive evaluation of Composite (Contains 8 Projects)	Co-Director	\$954,215	\$705,601	2016-2019
	Project 1: Energy Harvesting using Acoustoelastic Metamaterials	PI		\$154,836	
	Project 3: Physics based model of wave composite interaction	PI		\$250,350	
	Project 4: Angle beam ultrasonic for wrinkle inspection in composites	PI		\$300,415	

ARL SBIR Phase I *	Explaining to Damage State in Composites at Multiple Length Scale using Quantitative Ultrasonic and SEM	PI	\$100,000	\$24,723	2015-2016
ASPIRE I, USC*	"Is it possible to Quantify the Growth of Entropy due to Material Damage?"	PI	\$15,000	\$15,000	2015-2016
NASA SC SGC Office*	"A novel computational method for nondestructive evaluation of space composite" (Palmetto Academy Program)	PI	\$14,000	\$14,000	2015
SPARC program USC/VPR*	Graduate Research: "Autonomous energy scavenging from low frequency ambient noise using Acoustoelastic Metamaterials (AEMM)"	PI	\$4,980	\$4,980	2015-2016
Magellan USC*	UG Research: "Development of broad band mechanical energy harvester using cochlea mechanics"	Mentor	\$6,000	\$6,000	2015
NCI/NIH*	"Center for Colon Cancer Research: Mechanical landscaping of a colon tissue with customized gut microflora (pilot project)"	Co-PI	\$50,000	\$19,000	2014-2015
ASPIRE II, USC*	"Uncertainty quantification driven multi-scale model development for aflatoxin prediction"	Co-PI	\$100,000	\$36,700	2014-2015
SkolTech, Russia*	Advanced Structures, Processes and Engineered Materials (ASPEM), Project 1.2: Predictive Multi-scale Quantification of Precursor to Damage State in Composites	Co-PI PI for the Project 1.2	\$1,300,000	\$190,890	2014-2015
AFOSR	Development of CSLAN for real time monitoring of F-15 aircraft components: SBIR Phase I	PI	\$100,000	\$100,000	2009-2010
AFOSR	Development of CSLAN for real time monitoring of F-15 aircraft components: SBIR Phase II	PI	\$750,000	\$750,000	2010-2012
ONR	Development of SMART HULL system for Naval Structures, SBIR Phase I	PI	\$80,000	\$80,000	2011-2011
EADS, Germany	Development of on-board SHM system for full-composite Unmanned Air Vehicles	PI	\$400,000	\$400,000	2010-2011
AIRBUS	Development of predictive model to classify disbond and delamination in Composite Structures	Co-PI	\$200,000	\$50,000	2010-2011
Thales Alenia, Italy	Structural Health Monitoring System for Composite Propellant Tank used in space applications	PI	\$80,000	\$20,000	2010
NIST	Development of SCANSn System for Infrastructure health management. PI: Dr. Shawn Beard	Co-PI	\$3,000,000	\$1,000,000	2008-2012

Professional Services for Broader Scientific Community

Professional Societies

- Serving as a Secretary, and Executive Committee member of the NDE division of ASME
- Serving as a Chair of the Ultrasonic Technical Committee (TC) of the NDE division of ASME.
- Serving as a member, SHM of Aerospace Structures TC of SMASIS, ASME

- Member, The American Society of Mechanical Engineers (ASME)
- Member, The American Institute of Aeronautics and Astronautics (AIAA)

Conferences

- Track Organizer, Track 17- NDE, Diagnosis and Prognosis, ASME IMECE **2016**, Phoenix, AZ
- Topic Organizer, Track 2, Topic 17, Ultrasonic Manufacturing, ASME IMECE, 2015, Huston, TX
- Committee Member, Session Chair, SPIE NDE & Smart Structure Conference, **2008-2016**
- Session Organizer and Chair, 51st Society of Engineering Science (SES) Meeting, Purdue, **2014**
- Session Organizer and Chair, Special Session: Precursor to damage quantification, IWSHM **2013**.
- Session Organizer and Chair, 50st Society of Engineering Science (SES) Meeting, Brown, **2013**
- Session Chair, ASME SMASIS, **2011**

Journals and Publishers

- **Editorial Board Member**, Scientific Reports, Nature Publishing Group, 2016-present
- **Editorial Board Member**, International Aeronautics Journal
- **Book Reviewer**: Springer, CRC Press, Cambridge University Press,
- **Reviewer** to more than ~52 National and International Journals including Nature publishing Group

Patents

Approved / Pending / Disclosed

- P1. **Banerjee**, S., Qing, X., Beard, S., Chang, F., "*Method and Apparatus for Estimating Damage in a Structure*", US Patent No. 8521444, Approved on August 2013.
- P2. **Banerjee**, S., Chnada, A., "*Quantitative Acoustic Contrast Tomography (Q-ACT) for studying fungal growth and toxicity*", Provisional Patent No. USC# 1080; application number 61/924,928
- P3. **Banerjee**, S., Ahmed, R., "*Energy Scavenging from Broadband Ambient Vibration using Acoustoelastic Metamaterial*", Provisional Patent No. USC# 1109; application number 62/003,769

Book Chapters

Published / In Press / Writing

- B1. **Banerjee**, S., Kundu, T., Chapter 4 "Advanced Application of Distributed Point Source Method - Ultrasonic Field Modeling in Solid media". Ed. T. Kundu and D. Placko, *John & Willey Publication*, Hoboken, New Jersey, USA, ISBN: 978-0-471-73314-0 (Lib. CAT# TA347.D57P585) (**2007**).
- B2. **Banerjee**, S., Shrestha, S., "Numerical Modeling of Wave Propagation in Composites", *Structural Health Monitoring for Advanced Composite Structures*, World Scientific, (in press).
- B3. **Banerjee**, S., Patra S., Chapter 15 Multiscale Quantification of Damage Precursors, *Nonlinear Acoustic Techniques for Nondestructive Evaluation*, Acoustical Society of America (Due December 2016)

Magazine Articles

Published / In Press / Writing

- M1. **Banerjee**, S., Kundu, T., "Modeling of Ultrasonic Wave-scattering by Internal Anomalies for NDE/SHM Application.", Column - Industrial Sensing and Measurement, SPIE News Room, Optical Engineering Magazine (**2007**).

Journal Publications (2013-present while at USC)

Published / In Press / Accepted

2017

- J1. Ahmed, R., Mir, F., **Banerjee**, S., A Review on Energy Harvesting Approaches for Renewable Energies from Ambient Vibrations & Acoustic Waves using Piezoelectricity, *Smart Materials and Structures*, (Accepted).

- J2. Chijioke, A., Mir, F., Banerjee, S., Modified 'Zener' Theory to accurately predict Impact Force History for Soft Impactors employing Spiral Sensing, *Experimental mechanics*, (Accepted)

2016

- J3. Ahmed, R., **Banerjee**, S., A Sub-Wavelength Scale Acoustoelastic Sonic Crystal for Harvesting Energies at very Low Frequencies ($< \sim 1$ KHz) using Controlled Geometric Configurations, *Journal of Intelligent Material Systems and Structures*, DOI: 10.1177/1045389X16645863.
- J4. Lin, X., Terejanu, G., Shrestha, S., **Banerjee**, S., Chanda, A., (2016) Bayesian Model Selection Framework for Identifying Growth Patterns in Filamentous Fungi, *Journal of Theoretical Biology*, Vol. 398, pp. 85-95.
- J5. Rima, R., Chijioke, A., Chakraborty, P., **Banerjee**, S., Spiral Sensing & Probability Map of Impact (PMOI) for Impact characterization, *International Journal of Modern Engineering*, Vol. 16 (1), pp. 56-68.

2015

- J6. Patra, S., **Banerjee**, S., Terejanu, G., Chanda, A., (2015), Subsurface pressure profiling: a novel mathematical paradigm for computing colony pressures on substrate during fungal infections, *Scientific Reports*, **5**, 12928, (2015).
- J7. Shelke, A., **Banerjee**, S., Zhenhua, T., Yu, L., (2015) "Predictive Design of Spiral Lamb Waveguide for Spatial Filtration of Frequencies in a Confined Space". *Journal of Experimental Mechanics*, Springer, 55:1199-1209.
- J8. Dongyu X, Cheng, X., **Banerjee**, S., Huang, S., (2015), Dielectric and electromechanical properties of modified cement/polymer based 1-3 connectivity piezoelectric composites containing inorganic fillers, *Composites Science and Technology*, Vol. 114, pp. 72-78.
- J9. Habib, A., Vogel, M., Shelke, A., Brand, S., Jiang, X., Kundu, T., Pietsch, U., **Banerjee**, S., (2015) Quantitative Ultrasonic Characterization of c-axis oriented polycrystalline AlN thin film for smart device application, *Acta Austica, European Acoustic Association, Vol 101 (4)*, DOI: 10.3813/AAA.918863.
- J10. Dongyu, X., Cheng, X, **Banerjee**, S, Wang, L, Huang, S, (2015), "Dielectric, piezoelectric and damping properties of novel 2-2 piezoelectric composites", *Smart Materials and Structures*, **24**, 025003 (8pp), 2015, doi: 10.1088/0964-1726/24/2/025003.
- J11. Dongyu, X., **Banerjee**, S, Wang, Y, Huang, S, Cheng, X., (2015), "Temperature and loading effects of embedded smart piezoelectric sensor for health monitoring of concrete structures", *Construction and Building Materials*, **76**, pp. 187-193.

2014

- J12. Dongyu, X., Cheng, X, **Banerjee**, Huang, S, (2014), "Design fabrication and properties of 2-2 connectivity cement/polymer based piezoelectric composites with varied piezoelectric phase distribution", *AIP Journal of Applied Physics*, **116**, 244103.1-7.
- J13. Ahmed, R., **Banerjee**, S., (2014), "Low Frequency Energy scavenging using sub-wave length scale acousto-elastic metamaterial", *AIP Advances* **4**, 117114 (2014).
- J14. **Banerjee**, S., Gummadidala, P. M., Rima R. A., Ahmed, R. U., Kenne, G. J., Mitra, C., Goma, O. M., Hill, J., McFadden, S., Banaszek, N., Fayad, R., Terejanu, G., Chanda, A., (2014), "Quantitative acoustic contrast tomography reveals unique multiscale physical fluctuations during aflatoxin synthesis in *Aspergillus parasiticus*", *Fungal Genetics and Biology*, Oct 10. pii: S1087-1845(14)00189-3. doi: 10.1016/j.fgb.2014.10.006.

- J15. Ahmed, R., **Banerjee**, S., (2014), "Predictive Electromechanical Model for Energy Scavengers using Patterned Piezoelectric Layers", *ASCE Journal of Engineering Mechanics*, 10.1061/(ASCE)EM.1943-7889.0000829, 04014113.
- J16. **Banerjee**, S., Terejanu, G., Chanda, A., (2014), 'Uncertainty Quantification driven Predictive multi-scale model for synthesis of mycotoxin ', *Computational Biology and Bioinformatics*, Vol. 2,1, pp. 7-12, doi: 110.11648/j.cbb.20140201.12.
- J17. **Banerjee**, S., Ahmed, R., (2014), 'Phonon Confinement using Spirally Designed Elastic Resonators in Discrete Continuum', *International Journal of Material Science and Application*, ISSN: 2327-2635, Vol. 3,1, pp. 6-13, doi: 10.11648/j.ijmsa.20140301.12

2013

- J18. Yadav, S., **Banerjee**, S., Kundu, T., (2013) "On sequencing feature extraction tools for online damage characterization", *Journal of Intelligent Materials Systems and Structures*, Vol. 24 (4), pp. 473-483.
- J19. **Banerjee**, S., Ahmed, R., (2013), "Precursor/Incubation of Multi-scale Damage State Quantification in Engineered Materials: Using Hybrid Microcontinuum Field Theory and High Frequency Ultrasonic", *IEEE Transaction of Ultrasonics, Ferroelectrics and Frequency Control*, Vol. 60. No. 6, pp. 1141-1151.
- J20. Ahmed, R., **Banerjee**, S., (2013) 'Wave Propagation in Metamaterials using Multi-scale Resonators by creating Local Anisotropy', *International Journal of Modern Engineering*, Vol. 13, No. 2, pp. 51-59.
- J21. Shelke, A., **Banerjee**, S., Habib, A., Rahani, E. K., Ahmed, R., Kundu, T., (2013), 'Wave Guiding and Wave Modulation using Phononic Crystal Defects' *Journal of Intelligent Materials Systems and Structures*, 2014, Vol. 25 (13), pp. 1541-1552. DOI: 10.1177/1045389X13507344.

2011

- J22. Shelke, A., **Banerjee**, S., Kundu, T., Amjad, U., Grill, W., (2011) 'Multi Scale Damage State Estimation in Composites Using Nonlocal Kernel: An Experimental Validation', *International Journal of Solids and Structures*, Volume 48, Issues 7-8, April 2011, Pages 1219-1228
- J23. **Banerjee**, S (2011), "Electromechanical Model for a plate type energy harvester using coupled strain rate damping mechanism", *JP Journal of Solids and Structures*, Volume 5, Issue 2, Pages 75-105.

2009

- J24. **Banerjee**, S., Qing, X. P., Beard, S., Chang, F. K., (2009) "Prediction of Progressive Damage States at the Hot Spots using Statistical Estimation", *Journal of Intelligent Materials Systems and Structures*, Vol 21 (6), pp.595-605
- J25. **Banerjee**, S., (2009) "Estimation of Damage Sate in Materials using Nonlocal Perturbation: Application to Active Health Monitoring", *Journal of Intelligent Materials Systems and Structures*, Vol. 20, No. 10, pp. 1221-1232.
- J26. **Banerjee**, S., (2009) "Effect of intrinsic length scale and multi-scale information migration for calculating elastodynamic Green's function using nonlocal theory", *JP Journal of Solids and Structures*, Vol. 3 (1), pp. 43-69.
- J27. Qing, X.P., Beard, S., Shen S.B., **Banerjee**, S., Bradley, I., Salama, M.M., Chang, F.K., (2009) "Development of Real-Time Active Pipeline Integrity Detection System", *Smart Materials and Structures*, Vol. 18, 115010 (10pp).

- J28. Dao, C. M., Das, S., **Banerjee**, S., Kundu, T. (2009), "Wave Propagation in a fluid wedge over a solid half space – Mesh free analysis with experimental verification" *International Journal of Solids and Structures*, Vol. 46, Issue 11-12., pp. 2486-2492.
- J29. **Banerjee**, S., Das, S., Kundu, T., Placko, D., (2009) "Controlled Space Radiation Concept for Mesh-Free Semi-Analytical Technique to Model Wave Fields in Complex Geometries", *Ultrasonics*, Vol. 49(8), pp. 615-622, 2009.
- J30. Ahmad, R., **Banerjee**, S., Kundu, T., (2009) "Pipe Wall Damage Detection in Buried Pips Using Guided Waves" *ASME Journal of Pressure Vessel Technology*, Vol. 131, No. 1 / 011501-1-011501-10.

2008

- J31. Das, S., **Banerjee**, S., Kundu, T., (2008) "Elastic Wave Scattering in Solid Half Space with a Circular Cylindrical Hole Using Distributed Point Source Method" *International Journal of Solids and Structures*, Vol. 45, pp. 4498-4508.
- J32. **Banerjee**, S., Kundu, T., (2008). "Elastic Wave Field Computation in Multilayered Non-Planar Solid Structures: A Mesh-free Semi-Analytical Approach", *Journal of Acoustical Society of America*, Vol. 123 (3), pp. 1371-1382.
- J33. **Banerjee**, S., Kundu, T., (2008). "Semi-Analytical Modeling of Ultrasonic Fields in Solids with Internal Anomalies Immersed in a Fluid", *Wave Motion* Vol. 45, Issue 5, April 2008, Pages 581-595.

2007

- J34. Das, S., Dao, C.M., **Banerjee**, S., Kundu, T., (2007) "Interaction between Bounded Acoustic Beams and Corrugated Plates", *IEEE Transaction of Ultrasonics, Ferroelectrics and Frequency Control*, Vol. 54, Number 9, pp. 1860-1872.
- J35. **Banerjee**, S., Kundu, T., (2007). "DPSM Technique for Ultrasonic Field Modelling Near Fluid-Solid Interface", *Ultrasonics*, Vol. 46 (3), pp. 235-250.
- J36. **Banerjee**, S., Kundu, T., (2007). "Ultrasonic Field Modeling in Plates Immersed in Fluids", *International Journal of Solids and Structures*. Vol. 44, Issues 18-19, September 2007, Pages 6013-6029.
- J37. **Banerjee**, S., Kundu, T., (2007). "Scattering of Ultrasonic Waves by Internal Anomalies in Plates", *Optical Engineering Journal*. Vol. 46(5), pp. 053601-1 to 053601-9.

2006

- J38. **Banerjee**, S., Kundu, T., Placko, D., (2006). "Ultrasonic Field Modeling in Multilayered Fluid Structures Using DPSM Technique", *ASME Journal of Applied Mechanics*, Vol. 73 (4), pp. 598-609.
- J39. **Banerjee**, S., Kundu, T., (2006). "Elastic Wave Propagation in Sinusoidally Corrugated Wave Guides", *Journal of Acoustical Society of America*, Vol. 119 (4), pp. 2006-2017.
- J40. **Banerjee**, S., Kundu, T., (2006). "Symmetric and Anti-symmetric Rayleigh-Lamb modes in Sinusoidally corrugated waveguides: An Analytical approach", *International Journal of Solids and Structures*, Vol. 43. pp. 6551-6567.
- J41. Kundu, T., **Banerjee**, S., Kumar, V.J., (2006). "An Experimental Investigation of Guided Wave Propagation in Corrugated Plates Showing Stop Bands and Pass Bands", *Journal of Acoustical Society of America*, Vol. 120 (3), 1217-1226.

Conference Proceedings

Full Articles

- C1. Shrestha, S., **Banerjee**, S, (2017), Comparison of Elastodynamic Green's function formulations for wave modeling in composite materials, International Conference on Mechanical Engineering, Jadavpur University, Kolkata, India (submitted)
- C2. Shrestha, S., **Banerjee**, S., (2017), Computational Wave Field Modeling in Anisotropic Plate, *Health Monitoring and Smart Nondestructive Evaluation of Structural and Biological Systems Proceedings of SPIE 2017*.
- C3. Patra, S., Banerjee, S., (2016), Precursor damage inception quantification in composites using coda wave interferometry based on Taylor series expansion technique, Proceeding of American Society of Composite, 31st technical Meeting, Williamsburg, VA. ([Invited paper](#)).
- C4. Patra, S., **Banerjee**, S., Habtour, E., Haynes, R., (2016), A novel ultrasonic technique for the detection of distributed precursor damages in composites, Proceedings of the International Mechanical Engineering Congress & Exposition (IMECE), Phoenix, AZ.
- C5. Shrestha, S., Banerjee, S., (2016), DPSM Modeling of wave propagation in anisotropic half space, Proceeding of American Society of Composite, 31st technical Meeting, Williamsburg, VA. ([Invited paper](#))
- C6. Ahmed, R., **Banerjee**, S., (2016), A Predictive Model for Biomimetic Plate Type Broadband Frequency Sensor, *Proceedings of SPIE 2016 Bioinspiration, Biomimetics, and Bioreplication*.
- C7. Patra, S., **Banerjee**, S., (2016), Progressive Damage State Evaluation and Quantification in Composites, *Health Monitoring and Smart Nondestructive Evaluation of Structural and Biological Systems Proceedings of SPIE 2016*.
- C8. Nethala, V. D., **Banerjee**, S., (2016), Characterization of multiple damage sites in composites using reduced order piezoelectric sensor array, AIAA Infotech, Aerospace, AIAA SciTech, (AIAA 2016-1231), <http://dx.doi.org/10.2514/6.2016-1231>
- C9. Patra, S, **Banerjee**, S., (2016), Ultrasonic measurement and detection of pre-delamination damage in composites under tension-torsion loading, *IEEE International Conference on Control, Measurement and Instrumentation*, Jadavpur University, Kolkata, India. ([Invited paper](#))
- C10. Patra, S., **Banerjee**, S., (2015), On nonlocal mechanics based ultrasonic methods for the detection of inception of damage in composites, *Proceeding of American Society of Composites 2015, 30th Technical Conference on Composite Materials*, Michigan State University, September, ([Invited paper](#)).
- C11. Patra, S., **Banerjee**, S (2015), Precursor damage inception quantification, *Proc. of 10th International Workshop of Structural Health Monitoring 2013*, Stanford, CA / USA, September 2015, ([Invited paper](#)).
- C12. Ahmed, R., Adiba, A., **Banerjee**, S., (2015), "Energy scavenging from acoustoelastic metamaterial using local resonance phenomenon", *Proc. SPIE 9431, Active and Passive Smart Structures and Integrated Systems 2015*, 943106 (April 2, 2015); doi:10.1117/12.2084773.
- C13. Ahmed, R., Adiba, A., **Banerjee**, S., (2015), "A predictive model for artificial mechanical cochlea", *Proc. SPIE 9429, Bioinspiration, Biomimetics, and Bioreplication 2015*, 94290K (March 26, 2015); doi:10.1117/12.2084769
- C14. Chijioke, A., **Banerjee**, S., (2015) "Classification of Low Velocity Impact using Spiral Sensing Technique", *Experimental and Applied Mechanics*, Volume 6. Proceedings of the 2014 Annual Conference on Experimental and Applied Mechanics, Society Experimental Mechanics, Editor: Nancy Sottos, Robert Rowlands, Kathryn Sannemann.

- C15. Ahmed, R., **Banerjee**, S., (2015) "Bio-inspired Creation of Mechanical Pass-band Filter using the Physics of Local Resonance", Experimental and Applied Mechanics, Volume 6. Proceedings of the 2014 Annual Conference on Experimental and Applied Mechanics, Society Experimental Mechanics, Editor: Nancy Sottos, Robert Rowlands, Kathryn Sannemann.
- C16. **Banerjee**, S., Patra S., Chijioke, A., (2014) Quantification of Memory Effect in Composite under Fatigue for Precursor Damage Analysis. Proceeding of American Society of Composites 2014 Twenty-ninth Technical Conference on Composite Materials, Ed. H Kim, D Whisler, Z. M. Chen, R Krueger. ISBN: 978-1-60595-123-9, ([Invited paper](#)).
- C17. Ahmed, R., **Banerjee**, S., (2013) "A Numerical Approach to Analyze the Influence of Material Anisotropy on Wave Propagation in an Acoustic Metamaterial", Proceeding of the 10th International Conference on Mechanical Engineering, Dhaka, Bangladesh, December 20-22.
- C18. **Banerjee**, S., Ahmed, R., (2013) "Quantifying Damage Precursor using Microcontinuum Physics and High Frequency Ultrasonic", Proceedings of the 9 th International Workshop of Structural Health Monitoring 2013, Stanford, CA / USA, September 2013.
- C19. Rima, R. A., **Banerjee**, S., (2013) "Novel Approach for Acoustic Source Localization using Spiral Sensing", Proceedings of the 9 th International Workshop of Structural Health Monitoring 2013, Stanford, CA / USA, September 2013.
- C20. Ahmed, R., **Banerjee**, S., (2013), "Novel Split-ring Metamaterial for multiple band gaps and vibration control", *Proc. SPIE* 8695, Health Monitoring of Structural and Biological Systems 2013, 86952L (April 17, 2013); doi:10.1117/12.2010603
- C21. **Banerjee**, S., (2012), "On Optimized Placement of Multidirectional Piezoelectric Layers for Multimodal Energy Scavenging: A Theoretical Study", Health Monitoring and Smart Nondestructive Evaluation of Structural and Biological Systems Proceedings of SPIE 8348,83481E 2012.
- C22. **Mueller**, I., Janapati, V., **Banerjee**, S., Lonkar, K., Roy, S., Chang, F.-K., "On the Performance Quantification of Active Sensing SHM Systems using Model-assisted POD Methods", Proceedings of the 8th International Workshop of Structural Health Monitoring 2011, Stanford, CA / USA, September 2011
- C23. Li, F., **Banerjee**, S., Chung, H., (2011), "Development of RAPID System for Corrosion Monitoring at the Hot Spots along Gas Pipelines Joints", Proceedings of the 8th International Workshop of Structural Health Monitoring 2011, Stanford, CA / USA, September 2011.
- C24. Beard, S., **Banerjee**, S., (2011), "Challenges and Approaches for SHM Technology Transition", Proceedings of the 8th International Workshop of Structural Health Monitoring 2011, Stanford, CA / USA, September 2011.
- C25. Chung, H, **Banerjee**, S., Beard, S., Wilson, H., Bordick, N., (2011), "Hot-Spot Fatigue and Ballistic Damage Detection on a Helicopter Tail boom", Proceedings of the 8th International Workshop of Structural Health Monitoring 2011, Stanford, CA / USA, September 2011.
- C26. **Banerjee**, S., Das, S., Beard, S., (2011), "Advanced SHM system to enhance the fatigue state awareness in Naval Structures", Proceedings of the 8th International Workshop of Structural Health Monitoring 2011, Stanford, CA / USA, September 2011.
- C27. Yadav, S., **Banerjee**, S., Kundu, T., (2011), "Effective damage sensitive feature extraction methods for crack detection using flaw scattered ultrasonic wave field signal", Proceedings of the 8th International Workshop of Structural Health Monitoring 2011, Stanford, CA / USA, September 2011.
- C28. Yun, J, Ha, S. D., Zhang, D, **Banerjee**, S., (2011), "On Energy harvesting modules in SCANSn system for Bridge Health Monitoring", Submitted to SPIE 2011.

- C29. Yadav, S, Kundu, T., **Banerjee**, S, Beard, S., (2011), "On suitability of feature extraction techniques for local damage detection", Health Monitoring and Smart Nondestructive Evaluation of Structural and Biological Systems, Proc. of the SPIE 2011.
- C30. Yadav, S, **Banerjee**, S., Kundu, S., (2011), "Advanced DPSM approach for modeling ultrasonic wave scattering in an arbitrary geometry", Health Monitoring and Smart Nondestructive Evaluation of Structural and Biological Systems, Proc. of the SPIE 2011.
- C31. **Banerjee**, S., Liu, L., Liu, S. T., Yuan, F-G., Beard, S., (2011), "Integrated material state awareness system with self-learning symbiotic diagnostic algorithm and models", Health Monitoring and Smart Nondestructive Evaluation of Structural and Biological Systems, Proc. of the SPIE 2011, Vol. 7984, 79840M-1.
- C32. Yadav, S., **Banerjee**, S., Kundu, T., (2010) "Artificial Neural Network Based Damage Detection in Aging Steel Bridge Joints", Proceeding of Asia Pacific Structural Health Monitoring Conference, Tokyo, Japan 2010, Ed. N. Takeda.
- C33. **Banerjee**, S., Beard, S, Qing, X., (2010), "Rotorcrafts Hot Spot Monitoring using distributed Smart Patch System", Proceedings of 5th European workshop, Naples, Italy 2010, ISBN: 978-1-60595-024-2.
- C34. Yadav, S., **Banerjee**, S., Kundu, T., (2010), Local Damage Detection Process for Aging Steel Bridge Joints, Proceedings of 5th European workshop, Naples, Italy 2010, ISBN: 978-1-60595-024-2, July 2010.
- C35. Das, S., **Banerjee**, S., Kundu, T., (2010), "Transient ultrasonic wavefield modeling in an elastic half space using distributed point source method", Health Monitoring and Smart Nondestructive Evaluation of Structural and Biological Systems Proceedings of SPIE 2010, Vo. 7650, 76501G.
- C36. Qing, X.P., Ikegami, R., Beard, S., Zhang, D., Das, S., **Banerjee**, S., Chang, F.K., (2010) "Multifunctional sensor network for structural state sensing and structural health monitoring", Health Monitoring and Smart Nondestructive Evaluation of Structural and Biological Systems, Proc. of the SPIE 2010, Vol. 7647, 764711.
- C37. **Banerjee**, S., (2010) "Mathematical Model for power output from a plate type energy harvester under Random Vibration", Health Monitoring and Smart Nondestructive Evaluation of Structural and Biological Systems, Proc. of the SPIE 2010, Vol. 7650, pp. 765012-765012-10.
- C38. **Banerjee**, S., Beard, S., Fady, H., Martinez, M., (2010) "Comparison between different damage estimation techniques for monitoring fatigue damage in terms of computational power requirement, Health Monitoring and Smart Nondestructive Evaluation of Structural and Biological Systems, Proc. of the SPIE 2010, Vol. 7650, 76501N.
- C39. **Banerjee**, S., Qing, X. P., Beard, S., Chang, F.K., (2009) "Statistical Damage Estimation at Hot Spots using Gaussian Mixture Model", Proceedings of the 7th International Workshop of Structural Health Monitoring 2011, Stanford, CA / USA, September 2009.
- C40. Qing, X. P., Salama, M. M., Shen, B., **Banerjee**, S., Beard, S., (2009) "Real time active pipeline integrity detection system for direct assessment of corrosion", Proceedings of the 7th International Workshop of Structural Health Monitoring 2011, Stanford, CA / USA, September 2009.
- C41. **Banerjee**, S., Kundu, T., (2009) "Modeling of Energy Transmission by Piezoelectric Wafer Active Sensors through Gaussian Contacts" Health Monitoring and Smart Nondestructive Evaluation of Structural and Biological Systems, Proc. of SPIE 2009.
- C42. Qing P.X., Beard, S.J., Pinsonnault J., Chang, F. K., **Banerjee**, S., (2009), Smart Composite System for Damage Detection on Composite Structures". Health Monitoring and Smart Nondestructive Evaluation of Structural and Biological Systems, Proc. of SPIE 2009.

- C43. Soni, S., **Banerjee**, S., Das, S., Chattopadhyay, A., (2008) "Simulation of Damage Features in Complex Joint using Guided Waves", Modeling, Signal Processing, and Control for Smart Structures, Edited by Lindner, Douglas K. Proc. of SPIE, Volume 6926, pp. 69260O-1 69260O-12.
- C44. Das, S., **Banerjee**, S., Kundu, T., (2008) "Modeling of Elastic Wave Scattering by a Hole in a Half Space" Health Monitoring and Smart Nondestructive Evaluation of Structural and Biological Systems, Proc. of SPIE Vol. 6935.
- C45. Dao, C. M., Das, S., **Banerjee**, S., Kundu, T., (2007) "Effect of a Fluid Wedge on the Wave Propagation along a Fluid-Solid Interface: A Modeling Approach", SHM Conference at Stanford University, Sept. 11-13, 2007, Pub. DEStech Inc., Lancaster, PA, USA, Vol. 1, pp. 919-926.
- C46. Dao, C. M., Das, S., **Banerjee**, S., Kundu, T., (2007) "Effect of a Fluid Wedge on the Wave Propagation along a Fluid-Solid Interface: An Experimental Investigation", Review of Progress in Quantitative Nondestructive Evaluation, Colorado School of Mines, Golden, CO, USA, July 22-27, 2007, Pub. Am. Inst. of Physics.
- C47. Kundu, T., **Banerjee**, S., Das, S., Dao, C. M., (2008) "Recent Developments on Theoretical and Experimental Investigation by Ultrasonic Sensors" Paper (# 504) presented at Invited Session of World Forum on Smart Materials and Smart Structures Technology (SMSST, '07), Proceedings of SMSST'07, World Forum on Smart Materials and Smart Structures Technology (SMSST'07), China, 22-27 May, 2007
- C48. **Banerjee**, S., Kundu, T., Placko, D., (2007) "An Improved DPSM Technique for Modelling Ultrasonic Fields in Cracked Solids" Health Monitoring and Smart Nondestructive Evaluation of Structural and Biological Systems, Proc. of SPIE. Vol. 6532, pp. OR 1-11.
- C49. Kundu, T., **Banerjee**, S., (2006) "Theoretical and Experimental investigations in Ultrasonic Guided waves for Structural Health Monitoring Application.", Key Note Lecture, 1st International Conference at Bengal Engineering College and University on recent development in Civil Engineering, 150th Year Celebration.
- C50. Kundu, T., **Banerjee**, S., Kumar, V.J., (2006)"An experimental investigation of guided wave propagation in corrugated plates with series of parabolic gratings", Third European Workshop on Structural Health Monitoring , Granada , Spain , July 5-7 , Ed. A. Guemes, Pub. DEStech Publications, Inc., Lancaster, PA pp. 1037-1044.
- C51. Kundu, T., and **Banerjee**, S., (2006)"Elastic Wave Propagation Modeling by DPSM", International Symposium on Mechanical Waves in Solids (ISOMWS06), Hangzhou, China , May 15-18.
- C52. **Banerjee**, S., Kundu, T., (2006), "Scattering of ultrasonic waves by internal anomalies in plates immersed in a fluid", Health Monitoring and Smart Nondestructive Evaluation of Structural and Biological Systems , Ed. T. Kundu, SPIE's 11 th Annual International Symposium on NDE for Health Monitoring and Diagnostics, San Diego, California, Feb. 26 - March 2, Vol. 6177, pp.617709-1 to 617709-11.
- C53. Ahmed, R., **Banerjee**, S., Kundu, T., (2006), "Cylindrical guided waves for damage detection in underground pipes using wavelet transforms", Smart Structures and NDE Joint Conference: Sensors and Smart Structures Technologies for Civil, Mechanical and Aerospace Systems, Ed. M. Tomizuka, SPIE Symposium on Smart Structures and Materials and NDE for Health Monitoring and Diagnostics, San Diego, California, Feb. 26 - March 2, Vol. 6174.
- C54. Ahmad, R., **Banerjee**, S., and T. Kundu, (2005) "Influence of Water Flow on Pipe Inspection", Health Monitoring and Smart Nondestructive Evaluation of Structural and Biological Systems, Ed. T. Kundu, SPIE's 10th Annual International Symposium on NDE for Health Monitoring and Diagnostics, March 6-10, 2005, San Diego, California, Vol. 5768, pp. 285-294.
- C55. **Banerjee**, S., Kundu, T., (2005), "Elastic wave propagation in corrugated plate", Health Monitoring and Smart Nondestructive Evaluation of Structural and Biological Systems, Proc. of SPIE, Vol. 5768, pp.323-333.

- C56. Kundu, T., Ahmad, R., **Banerjee**, S., Na, W. B., (2004) "Guided Waves for Health Monitoring of Civil Infrastructure: Pipes and Reinforced Concrete Structures", Joint US-India Workshop on Advanced Sensing Systems and Smart Structures Technologies, in cooperation with IIT Bombay, Mumbai, India, December 20-21.
- C57. **Banerjee**, S., Kundu, T., (2004). "Analysis of wave propagation in symmetrically periodic sinusoidal wave guide", Health Monitoring and Smart Nondestructive Evaluation of Structural and Biological Systems, Proc. of SPIE, Vol. 5394, pp.89-98.
- C58. **Banerjee**, S., Banerji, P., Berning, F., Eberle, K., (2003). "Lamb wave propagation and scattering in laminated composite plates", Health Monitoring and Smart Nondestructive Evaluation of Structural and Biological Systems, Proc. of SPIE, Vol. 5047, pp.13-24.

Conference Presentations / Posters

- CP1. Chanda, A., **Banerjee**, S., Terejanu, S., (2016) Multiscale mapping of morphomechanical properties of fungi with ultrasound, Biology and Biochemistry of Fungi, Gordon Research Conference, New Hampshire.
- CP2. **Banerjee**, S., (2014) "Precursor to damage quantification in composites under fatigue: A method for real time implementation", A19: NDE and SHM for Composites, 2014 ASC 29 / US-Japan 16 / ASTM D30 Conference, University of California, San Diego.
- CP3. Terejanu, S., **Banerjee**, S., Chanda, A., (2014) Multiscale Modeling of Fungi, Multiscale Modeling in Biology, organized by IMAG, NIH, NIH Campus, Bethesda, MD.
- CP4. **Banerjee**, S., Ahmed, R., (2013) "Guided Wave Propagation Showing Frequency Trapping in Periodic Structure", Society of Engineering Science, 50 the Annual Technical Meeting and ASME-AMD Annual Summer Meeting (July 28-31 2013).
- CP5. Ahmed, R., **Banerjee**, S., (2013) "Introduction of Novel Split Ring Metamaterial for Acoustic Wave Control", Society of Engineering Science, 50 the Annual Technical Meeting and ASME-AMD Annual Summer Meeting (July 28-31 2013).
- CP6. **Banerjee**, S., (2013), Incubation of Damage State Quantification in Laminated Composites and Metallic Alloys", Session 3aSA, San Francisco, CA December 2013, Acoustical Society of America. 2013 Nov; 134(5):4105. doi: 10.1121/1.4831066.
- CP7. **Banerjee**, S., (2012), Hybrid Microcontinuum Field Approach for Intrinsic Damage State Quantification", Session 2pSA, 164th Meeting, Acoustical Society of America, Kansas City, MO, 2012
- CP8. Beard, S., **Banerjee**, S., Zhang, D., Kumar, A., Chang, F., (2011), "Networked Elements for Resin Visualization and Evaluation (NERVE) System", DARPA Conference, March 2011.
- CP9. Qing, X., **Banerjee**, S., Beard, S., (2010) "Maturation of Active Smart patch System for monitoring the integrity of aircraft structures", Aircrafts Airworthiness and Sustainability Conference (AASC), Austin, Texas, 2010.

Presentations in Professional Technical Meeting

- PM1. Chanda, A., **Banerjee**, S., Mechanical Landscaping of Gut Microbiome using Quantitative Acoustic Contrast Tomography (Q-ACT), Invited seminar in COBRE Retreat to demonstrate the technologies applied for colon cancer research, January 2016, River Center at Saluda Shoals Park.
- PM2. **Banerjee**, S., Terejanu, G., Chanda, A., Hazardous Aflatoxin Map for South Carolina farmers using trans disciplinary UQ driven multi-scale modeling frame work. Invited as Guest Presented at the USDA State Technical Committee Meeting organized by NRCS, South Carolina in Forestry Department, Columbia, SC on 3rd March 2015.

PM3. Chanda, A., **Banerjee**, S., Mechanical Landscaping of Gut Microbiome using Quantitative Acoustic Contrast Tomography (Q-ACT), Invited seminar in COBRE Retreat to demonstrate possible new technologies, January 2015, River Center at Saluda Shoals Park.

PM4. Chanda, A., **Banerjee**, S., Quantitative Acoustic Contrast Tomography (Q-ACT): A possible diagnostic tool for studying invasive cellular colonies, Invited seminar in COBRE Retreat to demonstrate possible new technologies, January 2014, River Center at Saluda Shoals Park.

Workshop / Lectures

PM5. **Banerjee**, S., Acoustoultrasonics: New directions and visions – A pathway to the new Future of Engineering, Department of Mechanical Engineering, Michigan Tech., Hancock, Michigan (April 2017).

PM6. **Banerjee**, S., Research to Product: The fundamentals of Online NDE and SHM of Composite, December 2014, Skolkovo Institute of Science and Technology, Moscow, Russia. (65 Professional Registered)

Teaching

Year	Semester	Course	Title	Institution	Enrollment	Max. Rating
2016	Fall	EMCH 220	Mechanical Engineering Fundamental for non-majors (Sub: Fluid Mechanics)	University of South Carolina	35	-
2014 - 2016	Fall Spring	EMCH 201 PHYS 311	Introduction to the Application of Numerical Methods for Engineers	University of South Carolina	130-165 / yr.	4.3
2012 - 2016	Fall	EMCH 501	Engineering Analysis I (Advanced Mathematical Methods for Engineers)	University of South Carolina	12-25 /yr.	4.7
2013	Fall	EMCH 561	Advanced Numerical Methods	University of South Carolina	20	4.2

Research Mentorship

Postdoctoral

Name	Year	Title or Topic
Dr. Riaz U. Ahmed	2016 -	Multiple projects Multidisciplinary
Dr. Xu Dongyu	2014-2015	Periodic Piezoelectric Sensors for Civil Engineering Applications
Dr. Amit Shelke*	2012-2013	Phononic Metamaterials for Wave Confinement

Doctoral Students (Graduated)

Name	Year	Title or Topic
Dr. Riaz U. Ahmed	2012-2015	Bio-inspired Design of Mechanical Band Pass Filter with the

Ability of Scavenging Energy

Current Doctoral Students (In Progress)

Name	Year	Title or Topic
Mr. Subir Patra	2014-2018	Incubation of Damage Quantification in Composites using Multi-scale Information Migration.
Mr. Sajan Shrestha	2014-TBD	Interaction of Acousto-ultrasonic Waves in Porous Media
Mr. Mustahseen M. Indaleeb	2015-TBD	Detection and quantification of precursor damage in composites for rotorcrafts
Mr. Sadegh Saadatzi	2016-TBD	Energy harvesting from Acoustoelastic Metamaterials
Mr. Vahid Tavaf	2016-TBD	Multiscale understanding of degradation of material parameters for simulating virtual ultrasonic NDE experiment
Ms. Fariha Mir	2016-TBD	Mechanical Landscaping of Gut microbiome using QACT

Masters Students (Graduated)

Name	Year	Title or Topic
Ms. Rowshan Rima	2012-2014	Modeling of Ultrasonic Wave Filed Emanating from Scanning Acoustic Microscope for Reliable Characterization of Pathogens
Mr. Agbasi Chijioke	2013 - 2014	Classification of Material Properties of the Foreign Impactors using Acoustoultrasonic Spiral Sensing

Current Masters Student (In Progress)

Name	Year	Title or Topic
Nethala V. Daniel	2015-2016	Symmetric and Anti-symmetric Wave interactions in Perturbed Waveguides

Undergraduate Students

Name	Year	Title or Topic
Shelby Rushe (Magellan Scholar)	2015-2018	Development of Broad-band Mechanical Energy Harvester using Cochlea Mechanics
Dylan Madisetti (Magellan Scholar)	2015-2018	Development of Broad-band Mechanical Energy Harvester using Cochlea Mechanics
Mr. Cody D Smithy (Palmetto Academy)	2015-2018	Numerical Calculation of Green's Function ; The Citadel, Military College of South Carolina ; Under Palmetto Academy Program

High School Students

Name	Year	Program	Title or Topic
Mr. Philip Richardson	2013-2014	Spring Valley High School	Impact monitoring on Aerospace Structures
Ms. Carol Yu	2014-2015	Hammond School	Fabrication of vibration based Energy Harvester
Mr. Hollin Ke	2014-2015	Hammond School	Fabrication of vibration based Energy Harvester

Other Research Supervision

Serving in Doctoral Dissertation Committee

Name	Year	Program	Title or Topic
Md. Hafiz Talukdar	2012-2015	Electrical Engineering	Piezotransistive GaN micro cantilever for photoacoustic detection of chemicals
Banibrata Poddar	2013-2016	Mechanical Engineering	
Rajib Mahmud	2013-present	Mechanical Engineering	Not Defended yet
Eric Frankforter	2014-present	Mechanical Engineering	Not Defended yet
Nasser M Abbas	2015-present	Mechanical Engineering	Not Defended yet
Ali Charchi Aghdam	2015-present	Mechanical Engineering	Not Defended yet

Professional Services

Conference | Journal | Grant Reviewer

Grants

- NSF CMMI : Dynamics Systems and Control, 2015
- NSF CMMI : Sensors, Dynamics Systems and Controls, 2016
- USC ASPIRE I Grants to Aspiring Young Faculties, 2016
- USC Magellan Scholar Grants for Under Graduate Research, 2016

Conference

- ASME Pressure Vessel Technology Conference
- ASME IMECE Conference
- SPIE Smart Structures and NDE Conference
- IEEE Conference

Journal

- Reviewer to more than **~52** National and International Journals including Nature publishing Group

Professional & Academic Services

University | College | Department

University

Dates	Duties	Recompense
April 6, 2016 - present	Serving as a Faculty Senate, representative of Mechanical Engineering Department	Not Applicable
March 29, 2016	Served in a Reviewer's Panel for the ASPIRE I Trask 3 proposals, reviewed 7 proposals	Not Applicable
April 24, 2015	Served as a judge for evaluating the presentations by Undergraduate Students at the Discovery Day	Not Applicable
August 19, 2013	Served as a First Year Reading Experience 2013 Discussion Leader	Not Applicable
August 20, 2012	Served as a First Year Reading Experience 2012 Discussion Leader	Not Applicable

College

Dates	Duties	Recompense
February 2015	Show case i-MAPS laboratory during the open house e-Week, 2014	Not Applicable
Jan 2014 – Sep 2014	Served in the PhD committee for Dr. Abdul Hafiz Talukdar (Advisor: Goutam Koyel, Electrical Engineering Dept.) Evaluate the research, approve/disapprove comprehensive and final defense.	Not Applicable
April 2014	Participated in prospective “Student Q&A” session and provided guided tour to Mechanical Engineering Laboratories during Spring Big Friday event.	Not Applicable
February, 2014	Show case i-MAPS laboratory during the open house e-Week, 2014	Not Applicable
March 2013	Participated in prospective “Student Q&A” session and provided guided tour to Mechanical Engineering Laboratories during Spring Big Friday event.	Not Applicable
February 22, 2012	Judge in the Graduate Student Competition during e-Week 2012.	Not Applicable

Department

Dates	Duties	Recompense
From December 2015- present	Serving in the PhD committee for Mr. Ali Charchi Aghdam (Advisor: Prof. Tanvir I. Farouk) Taking qualifying exam and evaluate the research. Provide help to the student if necessary	Not Applicable
From August 2015- present	Serving in the PhD committee for Mr. Nasser M Abbas (Advisor: Prof. X. Deng) Taking qualifying exam and evaluate the research. Provide help to the student if necessary	Not Applicable
November 2015	Review portfolio of Mechanical Engineering courses, Particularly reviewed EMCH 200 Statics	Not Applicable
January 2015	Review portfolio of Mechanical Engineering courses, Particularly reviewed EMCH 354 Thermodynamics	Not Applicable
March 2014	Review portfolio of Mechanical Engineering courses, Particularly reviewed EMCH 330 Vibration	Not Applicable
From Apr 2014- present	Serving in the PhD committee for Mr. Behrad Koohbor (Advisor: Prof. Addis Kidane) Taking qualifying exam and evaluate the research. Provide help to the student if necessary	Not Applicable
During May 2014-July 2014	Served as a committee member for strategic planning to come up with immediate solution for handling increasing number of students in the Mechanical Department.	Not Applicable
From Jan 2014- present	Serving in the PhD committee for Mr. Rajib Mondal (Advisor: Prof. Tanvir I. Farouk)	Not Applicable

	Taking qualifying exam and evaluate the research. Provide help to the student if necessary	
From January 2014 –present	Serving in the Mechanical Engineering web committee	Not Applicable
From October 2013- present	Serving as Undergraduate Committee member in the newly planned Aerospace Engineering program, meet with the committee members every month and evaluate the design of courses for the AE program. Study other university programs on AE and justify the curriculum for AE at the USC.	Not Applicable
From Sep 2013- present	Serving in the PhD committee for Mr. Banibrata Poddar (Advisor: Prof. Victor Giurgiutiu) Taking qualifying exam and evaluate the research. Provide help to the student if necessary	Not Applicable
From August 2013-present	Serving as a Graduate Committee member, responsibility includes, review course proposal, evaluate current graduate courses, vote for appointment of graduate faculty etc.	Not Applicable
Nov 2012- January 2013	Served as Secretary of the Department Faculty Meeting, Prepared Meeting Minutes.	Not Applicable

Others

Mentee

Dates	Relevance	Name
2012-present	Technical, Non-technical, Teaching, Research	Prof. Victor Giurgiutiu
2013-present	Proposal Mentee	Prof. Mike Sutton
2013-presnet	Materials and Multidisciplinary Research Mentee	Prof. Ken Reifsnider
2014-present	NIH Proposal Mentee	Prof. Swapan K Ray
2014-present	Cancer Biology Mentee	Prof. Frank Berger
2015-present	NIH Proposal Mentee	Prof. Jim Carson