

Dibyendu Mukherjee

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EDUCATION:

Ph. D. (Mechanical Engineering) University of Minnesota at Twin Cities, Minneapolis	August 2005
M.S. (Mechanical Engineering) University at Buffalo, The State University of New York	March 2001
B.E. (Mechanical Engineering) M.S. University of Baroda, Vadodara, India	June 1997

PROFESSIONAL EXPERIENCE:

Research Professor , Department of Chemical & Biomolecular Engineering (CBE), University of Tennessee, Knoxville	August, 2019 – Till date.
Assistant Professor , Department of Mechanical, Aerospace & Biomedical Engineering (MABE), University of Tennessee, Knoxville	January, 2012 – July, 2019
Gibson Post-doctoral Fellow , Department of Chemical & Biomolecular Engineering (CBE), University of Tennessee, Knoxville	August, 2007 – December, 2011
Post-doctoral Research Associate , Environmental Sciences Division, Oak Ridge National Laboratory (ORNL), Oak Ridge	August, 2005 – August, 2007
Design Engineer , Blue Star Limited (Vadodara, India)	April, 1998 – June, 1999
Design Engineer , Inox India Limited (Kalol, India)	September, 1997 – March, 1998

RESEARCH INTERESTS:

- **Nano-bio materials for energy, energetics and environment**
- Photosystem I (PS I) based bio-hybrid photoelectrochemical conversions.
- Bio-hybrid materials design for quantum biology.
- Scalable nanomanufacturing processes.
- Novel nanomaterials with energetic, catalytic and supercapacitive properties.
- Laser Ablation Synthesis in Solution (LASiS) for composite/intermetallic & metastable nanomaterials.
- Laser Induced Breakdown Spectroscopy (LIBS).
- Nanotoxicology.
- Monte-Carlo and phenomenological models for nanoparticle formation, growth and evolution study.

RESEARCH CONTRACTS AWARDED (TILL DATE):

1. **Agency:** SunEdison Semiconductor (Industry)
Project Title: Analysis of Oxygen in Silicon by Quantitative Laser Induced Breakdown Spectroscopy (Q-LIBS)
Total research funding awarded for individual^a: \$ 122,996
Date Awarded: March, 2015 – March, 2017
2. **Agency:** Kurt Lesker Co. (Industry)
Project Title: Synthesis & characterization of metastable c-BN nanoparticles with tailored surface structures
Total research gift awarded for individual^a: \$ 48,000
Award Period: July, 2017 – Till Date
3. **Agency:** DOE - UT Battelle Subcontract
Project Title: Synthesis and spectrochemical characterizations of battery electrode materials via laser ablation techniques and laser induced breakdown spectroscopy (LIBS)
Total research funding awarded for individual^a: \$ 50,000
Award Period: April 16, 2018 – April 15, 2019.

4. **Agency:** Army Research Office (**ARO**) - Short-Term Innovative Research (**STIR**)
Project Title: Synthesis and characterization of graphitic shell coated metal nanoparticles: A facile design to preserve and enhance interfacial activities of energetic nanomaterials.
Total research funding awarded for individual^a: \$ 60,000
Award Period: October 01, 2018 – June 30, 2019.
5. **Agency:** Air Force Office of Scientific research (**AFOSR**)
Project Title: Designing composite energetic nanomaterials with tunable interfacial activities via laser ablation synthesis in solution
Total research funding awarded for individual^a: \$ 870,000
Award Period: 09/01/2019 – 08/31/2023
6. **Agency:** NSF – IUCRC (Industry–University Cooperative Research Centers Program)
Project Title: Digital Composite Joining & Repair (D-CJAR) Center (University partners: Georgia Tech, Oakland University, and the University of Tennessee/Knoxville (UTK), and perspective industry members via UT-led *Institute for Advanced Composites & Manufacturing Innovation (IACMI)*)
Total research funding awarded for individual^a: \$ 15,000 (*for Phase I planning stage*)
Award Period: 09/01/2018 – 08/31/2019

ANTICIPATED RESEARCH CONTRACTS:

1. **Agency:** NSF – IUCRC (Industry–University Cooperative Research Centers Program)
Project Title: Digital Composite Joining & Repair (D-CJAR) Center (University partners: Georgia Tech, Oakland University, and the University of Tennessee/Knoxville (UTK))
Proposed research funding for individual^a: \$ 250,000 - 300,000 (*Leading 2 projects*)
Submission Date: June 19, 2019; **Award Period:** 02/01/2020 – 01/31/2025 (Tentative)
2. **Agency:** NSF – CBET (Process Systems, Reaction Engg. & Molecular Thermodynamics)
Project Title: Tuning the reaction mechanisms of laser ablation synthesis in solution-galvanic replacement reaction (LASiS-GRR) for facile synthesis of functional intermetallic nanomaterials.
Proposed research funding: \$375,000
Submission Date: October, 2019
3. **Agency:** ARO (Molecular Structure & Dynamics Program)
Project Title: Fundamental insights into tuning LASiS-GRR to synthesize tailored metastable states in advanced energetic nanomaterials.
Proposed research funding: \$450,000
Submission Date: October 20, 2019.
4. **Agency:** DOE – BES (Photosynthetic Systems)
Project Title: Disentangling long-lived quantum coherence in PS I confined in bio-mimetic scaffolds.
Proposed research funding: \$600,000
Submission Date: Pre-proposal submitted on Sept. 16, 2019; Full proposal due on Dec. 16, 2019.

^a According to budgeted percent for individual.

STUDENT ADVISING:

Total Number of Current Graduate Students:	3
Number of graduate students individually advised:	1 (1 from MABE and 1 from CBE Department)
Number of graduate students co-advised:	1 (from CBE Department)
Number of Current undergraduate researchers advised:	2
Number of PhDs Graduated:	4
Number of PhDs individually advised:	2 (1 from MABE; 1 from CBE)
Number of PhDs co-advised:	2 (from CBE)
Number of post-docs mentored:	1

TEACHING ACTIVITIES & REVIEWS:

Undergraduate Courses:

1. **Thermodynamics (ME 331):** Taught 9 semesters with an average instructor rating of ~ 4.3 (Out of 5)

2. **Applied Chemical Engineering Thermodynamics (CBE 250):** Taught 1 semester (Summer 2019) with an average instructor rating of ~ **4.75 (Out of 5)**
3. **Senior Mechanical Engineering Lab (ME 449):** Taught 10 semesters with an average instructor rating ~ **4.00 (Out of 5)**

Graduate Courses:

1. **Graduate Seminar Series (ME 595):** Organized every fall for incoming graduate students for 6 semesters.

PROFESSIONAL SERVICES:

- Ad-hoc reviewer for **Journal of Physical Chemistry; ACS Catalysis; Journal of Aerosol Science; Analytical Chemistry, Langmuir, Biochemistry, Journal of Analytical Atomic Spectrometry, Electrochemical & Solid-State Letters, Physical Chemistry Chemical Physics, Aerosol Science & Technology; Colloids & Surfaces B; Tellus; Talanta; Journal of Materials Chemistry A; AIChE Journal; Particuology; Chemical Engineering Journal; Environmental Progress & Sustainable Energy.**
- Member of **American Association for Advancement of Science (AAAS), American Society of Mechanical Engineers (ASME), American Chemical Society (ACS), Materials Research Society (MRS), American Society for Engineering Education (ASEE).**
- Served as on-site Technical Reviewer from May 17, 2016 to May 19, 2016 on **NSF panel for the Nanomanufacturing program.**
- Served as an international reviewer for proposal submitted to **China-Israel Cooperative Scientific Research**, Ministry of Science, Technology & Space, Jerusalem, Israel.

JOURNAL PUBLICATIONS: (Total Citations: 870; h-index: 15 as per Google Scholar)

([‡] = Corresponding Authors)

1. T. H. Bennett, R. Pamu, T. Kinsey, D. Mukherjee[‡], Bamin Khomami[‡], (2019) "Augmented photocurrents from Photosystem I embedded in zinc and imidazole based TCNQ charge transfer salt films derived from ZIF-8." **In Preparation.**
2. R. Pamu, S. A. Davari, D. Darbar, E. C. Self, J. Nanda, D. Mukherjee[‡], (2019) "Calibration-Free Quantitative Analysis of Lithium-ion Battery Elements using Laser Induced Breakdown Spectroscopy (LIBS)." **In Preparation.**
3. M. P. Aranha[‡], D. Mukherjee, L. Petridis, B. Khomami, (2019) "An atomistic molecular dynamics study of titanium dioxide adhesion to lipid bilayers." **Submitted to Langmuir.**
4. S. A. Davari[‡], D. Mukherjee, (2019) "Deep convolutional neural networks and regularized regression models for as data-driven solutions in for detecting trace on of impurities in silicon wafers using laser-induced breakdown spectroscopy." **Submitted to Spectrochimica Acta B.**
5. E. L. Ribeiro, S. A. Davari, S. Hu, D. Mukherjee[‡], B. Khomami[‡], (2019) "Laser-induced synthesis of ZIF-67: A facile approach for the fabrication of crystalline MOFs with tailored size and geometry," **Materials Chemistry Frontiers, 3**, 1302 [**Selected for Front Cover**]. (Impact Factor: Pending)
6. S. A. Davari, J. L. Gottfried, C. Liu, E. L. Ribeiro, G. Duscher, D. Mukherjee[‡], (2019) "Graphitic coated Al nanoparticles manufactured as superior energetic materials via laser ablation synthesis in organic solvents," **Applied Surface Science (Special Issue), 473**, 156. (Impact Factor: 4.44).
7. T. H. Bennett, M. D. Vaughn, S. A. Davari, K. Park, D. Mukherjee[‡], B. Khomami[‡], (2019) "Jolly Green MOF: Confinement and Photoactivation of Photosystem I in the Metal Organic Framework ZIF-8," **Nanoscale Advances, 1**, 94 [**Selected for Inaugural Issue Front Cover**]. (Impact Factor: Pending)
8. S. A. Davari, P. A. Taylor, R. W. Standley, D. Mukherjee[‡], (2019) "Detection of interstitial oxygen contents in Czochralski grown silicon crystals using internal calibration in laser-induced breakdown spectroscopy (LIBS)," **Talanta, 193**, 192. (Impact Factor: 4.24).
9. H. Niroomand, R. Pamu, D. Mukherjee[‡], B. Khomami[‡], (2018) "Tuning the photocurrent generations from photosystem I assembled in tailored biotic–abiotic interfaces," **MRS Comm., 1**, 1. (Impact Factor: 3.00)
10. R. Pamu, V. P. Sandireddy, R. Kalyanaraman, B. Khomami[‡], D. Mukherjee[‡], (2018) "Plasmon-Enhanced Photocurrent from Photosystem I Assembled on Ag Nanopyramids," **Journal of Physical Chemistry Letters, 9 (5)**, 970. (Impact Factor: 8.71).

11. H. Niroomand, R. Pamu, D. Mukherjee[‡], B. Khomami[‡], (2018) "Microenvironment alterations enhance photocurrents from photosystem I confined in supported lipid bilayers," **Journal of Materials Chemistry A** **6**, 12281. [Selected for Front Cover] (Impact Factor: 9.93).
12. S. A. Davari, D. Mukherjee[‡], (2018) "Homogeneous nucleation of metal nanoparticles: A kinetic Monte Carlo model to study the vapor phase synthesis of Al nanoparticles," **AIChE Journal**, **64**, 18. (Impact Factor: 3.33).
13. S. A. Davari, S. Masjedi, J. Patel, Z. Ferdous, D. Mukherjee[‡], (2017) "In-vitro early detection of calcium in aortic valvular interstitial cells undergoing osteogenic differentiation using Laser-Induced Breakdown Spectroscopy (LIBS)," **Journal of Biophotonics**, **11**, e201600288 [Selected for Back Cover] (Impact Factor: 3.77).
14. S. Hu, E. L. Ribeiro, S. A. Davari, M. Tian, D. Mukherjee[‡], B. Khomami[‡] (2017) "Hybrid nanocomposites of nanostructured Co₃O₄ interfaced with reduced/nitrogen-doped graphene oxides for selective improvements in electrocatalytic and/or supercapacitive properties," **RSC Advances**, **7** (53), 33166. (Impact Factor: 2.94).
15. H. Niroomand, D. Mukherjee[‡], B. Khomami[‡], (2017) "Tuning the photoexcitation response of cyanobacterial Photosystem I via reconstitution into Proteoliposomes," **Scientific Reports**, **7**, 2492. (Impact Factor: 4.12).
16. S. A. Davari, S. Hu, R. Pamu, D. Mukherjee[‡], (2017) "Calibration-free quantitative analysis of thin-film oxide layers in semiconductors using Laser Induced Breakdown Spectroscopy (LIBS)," **Journal of Analytical Atomic Spectrometry**, **32** (7), 1378. (Impact Factor: 3.61)
17. S. Hu, K. Cheng, E. L. Ribeiro, K. Park, B. Khomami[‡], D. Mukherjee[‡], (2017) "A facile route for the rapid synthesis of tailored ternary nanoalloys as superior oxygen reduction reaction electrocatalysts," **Catalysis Science & Technology**, **7**, 2074. (Impact Factor: 5.37)
18. S.A. Davari, S. Hu, E. L. Ribeiro, D. Mukherjee[‡], (2017) "Rapid elemental composition analysis of intermetallic ternary nanoalloys using calibration-free quantitative Laser Induced Breakdown Spectroscopy (LIBS) ", **MRS Advances**, **7** (53), 33166. (Impact Factor: Pending)
19. S. A. Davari, S. Hu, D. Mukherjee[‡], (2017) "Calibration-free quantitative analysis of elemental ratios in intermetallic nanoalloys and nanocomposites using Laser Induced Breakdown Spectroscopy (LIBS)," **Talanta**, **164**, 330. (Impact Factor: 4.24).
20. H. Niroomand, G. A. Venkatesan, S. A. Sarles, D. Mukherjee[‡], B. Khomami[‡], (2016) "Lipid-detergent phase transitions during detergent mediated liposome solubilization". **Journal of Membrane Biology**, **249**, 523. (Impact Factor: 1.64).
21. T. H. Bennett, H. Niroomand, R. Pamu, I. Ivanov, D Mukherjee[‡], B. Khomami[‡], (2016) "Elucidating the role of Methyl Viologen as scavenger of photoactivated electrons from Photosystem I under aerobic and anaerobic conditions," **Physical Chemistry Chemical Physics**, **18**, 8512. (Impact Factor: 3.91).
22. S. Hu, M. Tian, E. L. Ribeiro, G. Duscher, D. Mukherjee[‡], (2016) "Tandem Laser Ablation Synthesis in Solution-Galvanic Replacement Reaction (LASIS-GRR) for the production of PtCo nanoalloys as oxygen reduction electrocatalysts," **Journal of Power Sources**, **306**, 413. (Impact Factor: 6.95).
23. S. Hu, G. Goenaga, C. Melton, T. A. Zawodzinski, D. Mukherjee[‡], (2016) "PtCo/CoOx nanocomposites: Bifunctional electrocatalysts for oxygen reduction and evolution reactions synthesized via tandem laser ablation synthesis in solution-galvanic replacement reactions," **Applied Catalysis B: Environmental**, **182**, 286. (Impact Factor: 11.7).
24. S. Hu, C. Melton, D. Mukherjee[‡], (2014) "A facile route for the synthesis of nanostructured oxides and hydroxides of cobalt using laser ablation synthesis in solution (LASIS)", **Physical Chemistry Chemical Physics**, **16**, 24034. (Impact Factor: 3.91).
25. D. Mukherjee[‡], M. Wang, B. Khomami, (2012) "Impact of particle morphology on surface oxidation of nanoparticles: A Kinetic Monte Carlo based study", **AIChE Journal**, **58**(11), 3341. (Impact Factor: 3.33).
26. D. Mukherjee, M. Vaughn, B. Khomami[‡], B. D. Bruce, (2011) "Modulation of cyanobacterial Photosystem I deposition properties on alkanethiolate Au substrate by various experimental conditions", **Colloids and Surfaces B: Biointerfaces**, **88**, 181. (Impact Factor: 3.99).
27. D. Mukherjee, M. May, B. Khomami[‡], (2011) "Detergent-protein interactions in aqueous buffer suspensions of Photosystem I (PS I)", **Journal of Colloids and Interface Science**, **358**(2), 477. (Impact Factor: 5.09).

28. D. Mukherjee, M. May, M. Vaughn, B. D. Bruce, B. Khomami[‡], (2010) "Controlling the morphological assembly of Photosystem I deposited on thiol activated Au substrates", *Langmuir*, **26(20)**, 16048. (Impact Factor: 3.8).
29. D. Mukherjee, M-D. Cheng[‡], (2008) "Characterization of Carbon-Containing Aerosolized Drugs using Laser-Induced Breakdown Spectroscopy", *Applied Spectroscopy*, **62(5)**, 554 [Selected for Cover Feature: pp. 117A – 118A]. (Impact Factor: 1.64).
30. D. Mukherjee, M-D. Cheng[‡], (2007) "Quantitative analysis of carbonaceous aerosols using Laser-Induced Breakdown Spectroscopy: A study on mass loading induced plasma matrix effects", *Journal of Analytical Atomic Spectrometry*, **23**, 119. (Impact Factor: 3.61).
31. D. Mukherjee, A. Prakash, M. R. Zachariah[‡], (2006) "The implementation of a discrete nodal model to probe the effect of size-dependent surface tension on nanoparticle formation and growth", *Journal of Aerosol Science*, **37**, 1388. (Impact Factor: 2.3).
32. D. Mukherjee, A. Rai, M. R. Zachariah[‡], (2006) "Quantitative laser-induced breakdown spectroscopy for aerosols using internal calibration standards: Application to the oxidative coating of aluminum nanoparticles", *Journal of Aerosol Science*, **37**, 667. (Impact Factor: 2.3).
33. K. Park, D. Lee, A. Rai, D. Mukherjee, M. R. Zachariah[‡], (2004) "Size resolved kinetics measurements of aluminum nanoparticle oxidation by single particle mass spectrometry", *Journal of Physical Chemistry B*, **109**, 7290. (Impact Factor: 3.15).
34. D. Mukherjee, C. G. Sonwane, M. R. Zachariah[‡], (2003) "Kinetic Monte-Carlo simulation of the effect of coalescence energy release on the size and shape evolution of nanoparticles grown as an aerosol", *Journal of Chemical Physics*, **119**, 3391. (Impact Factor: 2.84).

PATENTS:

- D. Mukherjee[‡], S. Hu, (2019) "Compositions, systems and methods for producing nanoalloys and/or nanocomposites using tandem laser ablation synthesis in solution-galvanic replacement reaction," **U.S. Patent No. US 10.326,146 B2** (Issued: Jun. 18, 2019).
- D. Mukherjee[‡], S. Hu, (2019) "Compositions, systems and methods for producing nanoalloys and/or nanocomposites using tandem laser ablation synthesis in solution-galvanic replacement reaction," **U.S. Divisional Patent (In Application)**.
- E. Davis, B. Khomami, D. Mukherjee,[‡] (2019) "Method for designing and deploying composite nanothermites in self-heating thermoplastics and thermosetting resins for on-site joining of composite materials," **Invention Disclosure for Patent Application Submitted with UTRF**
- D. Mukherjee[‡], S. A Davari, P. A. Taylor, R. W. Standley, (2016) "Novel method for rapid and reliable detection of dissolved oxygen in heavily doped Silicon crystals using Laser Induced Breakdown Spectroscopy (LIBS)," **Invention Disclosure Submitted with UTRF**

BOOKS & BOOK CHAPTERS:

- D. Mukherjee, S. A. Davari, (2017) "Computational modeling of fate, transport and evolution of energetic metal nanoparticles grown via aerosol route" in the book entitled "**Energetic Materials: Cradle to Grave**" ed. by Dr. Manoj Shukla, Environmental Laboratory, US Army Engineer Research and Development Center (ERDC), **Springer Int. Publishing, Cham, USA**, pp. 271 - 341.
- S. Hu, D. Mukherjee, (2017) "Colloidal Synthesis of Advanced Functional Nanostructured Composites and Alloys via Laser Ablation Based Techniques," in the book entitled "**Multifunctional Nanocomposites for Energy & Environmental Applications**" ed. by Zhanhu Guo, et al., **Wiley, USA**, pp. 135 - 172.

CONFERENCES & SYMPOSIUMS: (* = Presenter)

INVITED TALKS:

- Elijah Davis, Dibyendu Mukherjee*, "Designing Composite and Metastable Energetic Nanomaterials with Tunable Interfacial Activities via Laser Ablation Synthesis in Solution," **Computational Chemistry/ Modeling Meeting, US Army Engineer Research & Development Center (ERDC)**, Sept. 24, 2019, Vicksburg MS.

- Dibyendu Mukherjee*, "Structurally designed metal/ceramic nanoparticles with tailored interfacial activities manufactured as superior energetic materials via laser ablation synthesis in solution," Eglin Air Force Base, **Air Force Research Laboratory (AFRL)**, Dec. 4, 2018, Eglin FL.
- Dibyendu Mukherjee*, Seyyed Ali Davari "Kinetic Monte Carlo models to study nucleation and evolution of energetic metal nanoparticles grown via aerosol route," **1st Symposium on Nonequilibrium Multiphase Systems**, Dec. 7-8, 2018, Saint Louis, MO, USA.
- Dibyendu Mukherjee*, "Composite nanomaterials and nanoalloys with engineered interfacial functionalities manufactured via Laser Ablation Synthesis in Solution (LASiS)-based techniques," **5th International Conference on Advanced Nanoparticle Generation & Excitation by Lasers in Liquids (ANGEL 2018)**, June 4-7, 2018, Lyon, France.
- Dibyendu Mukherjee*, "Composite nanomaterials and nanoalloys with engineered interfacial functionalities manufactured via Laser Ablation Synthesis in Solution (LASiS)-based techniques," Center for NanoIntegration, Duisburg-Essen, **University of Duisburg-Essen (Germany)**, Oct. 9-11, 2017, Duisburg, Germany.
- Dibyendu Mukherjee*, "Kinetic Monte Carlo models to study nucleation and evolution of energetic metal nanoparticles grown via aerosol route," **Computational Chemistry/Modeling Meeting, US Army Engineer Research & Development Center (ERDC)**, Sept. 12, 2017, Vicksburg, MS.
- Dibyendu Mukherjee*, "Tandem Laser Ablation Synthesis in Solution-Galvanic Replacement Reactions (LASiS-GRR): A facile route for the synthesis of nanocomposites and nanoalloys with engineered functionality," Aberdeen Proving Ground, **U.S. Army Research Lab.**, May 12, 2016, Aberdeen, MD.
- Dibyendu Mukherjee*, "Integrating nano-biomaterials for future bio-hybrid solar fuel conversions," **MSE Spring Colloquium Series, Boston University**, April 8, 2016, Boston, MA.
- Dibyendu Mukherjee*, "Systematic Assembly and Characterization of Photosystem I (PS I): Towards Bio-hybrid Photovoltaic Device," **MRS Fall Meeting**, Dec. 1, 2014, Boston, MA, USA.
- Dibyendu Mukherjee*, "Characterization of Surface Assembled Photosystem I (PSI): Towards Future Bio-hybrid Photovoltaic Devices," **2nd Photovoltaic Workshop, Center for Nanophase Materials Sciences (CNMS), Oak Ridge National Laboratory (ORNL)**, Sept. 13, 2012, Oak Ridge, TN, USA.

CONFERENCE PRESENTATIONS:

- Dibyendu Mukherjee, "Designing Composite Energetic Nanomaterials with Tunable Interfacial Activities Via Laser Ablation Synthesis in Solution", **AICHE Annual Meeting**, Nov.10-15, 2019, Orlando, FL.
- Dibyendu Mukherjee, "Synthesis of composite energetic nanomaterials with tunable interfacial activities via laser ablation synthesis in solution," **U.S. Army Research Office (ARO): Molecular Structure & Dynamics Program Review**, June 25 2019, Durham, NC.
- Dibyendu Mukherjee*, Patrick, A. Taylor, Robert W. Standley, Ali Davari, "Detection of Dissolved Oxygen in Heavily Doped Silicon Crystals Using Laser Induced Breakdown Spectroscopy (LIBS)," **SciX Conference**, Oct. 21-26, 2018, Atlanta, GA.
- Dibyendu Mukherjee*, Seyyed Ali Davar, Patrick A. Taylor, Robert W. Standley, "Quantitative detection of interstitial oxygen in Czochralski-grown Si crystals via unique matrix-assisted calibration in laser-induced breakdown spectroscopy (LIBS)," **MRS Spring Meeting**, April 2-6, 2018, Phoenix, AZ.
- Dibyendu Mukherjee*, Hanieh Niroomand, Ramki Kalyanaraman, Bamin Khomami, "Microenvironment alterations affect photocurrent responses from Photosystem I (PSI) confined in biomimetic solid-supported lipid bilayers," **MRS Spring Meeting**, April 2-6, 2018, Phoenix, AZ.
- Dibyendu Mukherjee*, Seyyed Ali Davari, Bamin Khomami, "Kinetic Monte Carlo models to study nucleation and evolution of metal/metal oxide nanoparticles grown via aerosol route," **ACS National Meeting & Expo** (Division of Environmental Chemistry), March 21, 2018, New Orleans, LA.
- Dibyendu Mukherjee*, Hanieh Niroomand, Ramki Kalyanaraman, Bamin Khomami, "Tuning the photoresponse and photocurrent generations from Photosystem (PSI) assembled in tailored biotic-abiotic interfaces," **MRS Fall Meeting**, Nov 26 - Dec. 1, 2017, Boston, MA.
- D. Mukherjee* "High-energy laser-based synthesis and spectrochemical characterization of intermetallic nanoparticles manufactured as efficient electrocatalysts," **ASME-IMECE**, Nov. 8, 2017, Tampa, FL.

- Dibyendu Mukherjee*, "Photocurrent generations from Photosystem I assembled on nanostructured surfaces," **MRS Fall Meeting**, Nov 29, 2016, Boston, MA.
- Dibyendu Mukherjee*, "PtCo/CoOx Nanocomposites & PtCo Nanoalloys as electrocatalysts for Oxygen Reduction and Evolution Reactions synthesized via Tandem Laser Ablation Synthesis in Solution-Galvanic Replacement (Tandem LASiS-GRR)", **MRS Fall Meeting**, Nov 30, 2015, Boston, MA.
- Dibyendu Mukherjee*, "PtCo/CoOx Nanocomposites/Nanoalloys as electrocatalysts for Oxygen Reduction and Evolution Reactions synthesized via Tandem Laser Ablation Synthesis in Solution-Galvanic Replacement (LASiS-GRR)", **ASME Power and Energy**, July 2, 2015, San Diego, CA.
- D. Mukherjee* and B. Khomami, "Characterization of Surface Assembled Photosystem I (PSI): Towards Future Bio-hybrid Photovoltaic Devices", **Gordon Research Conference**, July 8, 2012, Davidson, NC.
- Dibyendu Mukherjee*, Ilia Ivanov, and Bamin Khomami, "Electrochemical Investigation into the Photoactivated Electronic Activities of Photosystem I (PS I) Immobilized on Self-assembled Monolayer/Gold Substrates", **MRS Spring Meeting**, April 9-13, 2012, San Francisco, CA.
- Dibyendu Mukherjee*, and Bamin Khomami, "Systematic Assembly of Photosystem I on Chemically Tailored SAM/ Au Substrates for Future Bio-hybrid Device Fabrication", **MRS Spring Meeting**, April 25-29, 2011, San Francisco, CA.
- Dibyendu Mukherjee* and Bamin Khomami. "Characterizations of Photosystem I assembly on SAM/ Au substrates: Towards bio-hybrid photovoltaic devices", **APS March Meeting**, March 21 - 25, 2011, Dallas, TX.
- Dibyendu Mukherjee*, Barry D. Bruce, and Bamin Khomami, "Systematic assembly of Photosystem I on thiol activated SAM/ Au substrates for future bio-hybrid photovoltaic devices", **AICHe Annual Meeting**, Nov. 7-12, 2010, Salt Lake City, UT.
- Dibyendu Mukherjee*, Matthew Wang, and Bamin Khomami, "Impact of Fractal-like Morphology on Surface Oxidation of Al Nanoparticles Synthesized via Aerosol Route: A Kinetic Monte Carlo study," **AAAR 29th Annual Meeting**, Oct. 25-29, 2010, Portland, OR..
- Dibyendu Mukherjee*, Barry D. Bruce, and Bamin Khomami. "Attachment dynamics of Photosystem I on SAM substrates for photovoltaic applications", **APS March Meeting**, March 15-17, 2010, Portland, OR..
- Dibyendu Mukherjee*, Michael Vaughn, Barry D. Bruce, and Bamin Khomami, "Effect of Surface Attachment Characteristics On Photoactivity of Photosystem I Assembly On Thiol-Activated Au Substrates", **AICHe Annual Meeting**, Nov. 8-13, 2009, Nashville, TN.
- Dibyendu Mukherjee*, Anand Prakash, and Michael R. Zachariah, "Implementation of a Discrete Nodal Model to Probe the Effect of Size-dependent Surface Tension on Nanoparticle Formation and Growth", **7th International Aerosol Conference**, Sept. 10-15, 2006, St. Paul, MN.
- Dibyendu Mukherjee*, and Michael R. Zachariah, "Quantitative Laser-Induced Breakdown Spectroscopy for Aerosols via Internal Calibration: Application to the Oxidative Coating of Aluminum Nanoparticles", **7th International Aerosol Conference**, Sept. 10-15, 2006, St. Paul, MN.
- M.-D. Cheng, E. Corporan, B. Harris, R. Shores, R. Hashmonay, W. Fisher, R. Kaganan, and J.M. Storey, J. Parks, C. Maxey, D. W. Lee, and D. Mukherjee, "Characterization of Cargo Aircraft Emissions with An Array of In-situ and Remote Sensing Instruments", **Annual Symposium of DOD SERDP/ESTCP**, Washington, DC, Nov. 2005.
- D. Mukherjee*, C. G. Sonwane and M. R. Zachariah, "Ensemble Kinetic Monte Carlo Simulation: Effect of coalescence energy release on size and shape evolution of nanoparticles", **AAAR 23rd Annual Conference**, Oct. 4-8, 2004, Atlanta, GA.

REFERENCES: Available upon request.