CURRICULUM VITA

Krisanu Bandyopadhyay
Department of Natural Sciences, University of Michigan-Dearborn
4901 Evergreen Road, Dearborn, MI 48128
Phone: 313-593-5159; Fax: 313-593-4937; Email: krisanu@umich.edu

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1. Education

Ph.D. - Surface/Materials Chemistry **1999**
National Chemical Laboratory, Pune, India
Advisor: Prof. K. Vijayamohanan

M.S. - Chemistry **1992**
University of Calcutta, Calcutta, India

B.S. – Chemistry **1990**
University of Calcutta, Calcutta, India

2. Teaching and Research Interests

Teaching Interests:
1. General Chemistry
2. Physical Chemistry
3. Nanoscience and Nanotechnology
4. Nanobiotechnology

Research Interests:
1. Metal nanoparticle synthesis for catalytic applications
2. DNA detection using carbon nanotube arrays
3. Two dimensional metal nanoparticle assemblies as biosensor
4. Metal nano-shell synthesis and photo-thermal properties
5. Nanomedicine and bioconjugation for targeted drug delivery

3. Employment History

Chair
Department of Natural Sciences **July 2023 to present**
University of Michigan-Dearborn, Dearborn, MI

Associate Chair **June 2018 to July 2019**
Department of Natural Sciences

Professor of Chemistry **September 2016 to present**
Department of Natural Sciences

Associate Professor of Chemistry **September 2010 to August 2016**
Department of Natural Sciences

Assistant Professor of Chemistry **September 2005 to August 2010**
Department of Natural Sciences

Postdoctoral Fellow **January 2003 to August 2005**
Keck Graduate Institute of Applied Life Sciences, Claremont, CA
(Dr. Angelika Niemz)
Harvey Mudd College, Claremont, CA
(Prof. Shenda Baker)

Scientist **August 2000 to December 2002**
GE Global Corporate Research and Development
GE India Technology Center
Polymer and Synthetic Material group, Bangalore, India

Teaching Postdoctoral Fellow **July 1998 to June 2000**
Department of Chemistry
University of Miami, Miami, FL
(Prof. Luis Echegoyen)

4. Honors and Awards

- My undergraduate student Veronica Gerios has received American Chemical Society (ACS) Colloid and Surface Chemistry PUI Student Award. In this award undergraduate students and advisors from PUI (Primarily Undergraduate Institution) was invited to contribute to the standing symposia of the Colloid and Surface Chemistry division under Basic Research in Colloids, Surfactants and Interfaces at the spring ACS National Meeting in Philadelphia, PA during March 22 - 26, 2020. In addition, student and advisor was invited to Colloid and Surface Chemistry division luncheon and award certificate for student ($200 travel award and registration fee) and advisor will be presented at the luncheon. (The American Chemical Society has canceled its spring 2020 National Meeting & Expo amid growing concerns over the global outbreak of the novel coronavirus).Finally, Veronica presented her research though Zoom under Basic Research in Colloids, Surfactants and Interfaces (Session 1), 8:40-9:00 AM, 'University of Michigan-Dearborn, Generation of anisotropic gold and gold-palladium bimetallic nanoparticles on functionalized

surfaces. (ACS Division of Colloid and Surface Chemistry (COLL), Virtual Technical Program, March 22-24, 2020).

- Recipient of the UM-D Distinguished Teaching Award (non-tenured category) in 2009.

- Invited in the award presentation and dinner, by Chancellor, Provost and Director of Research and Sponsored Programs, University of Michigan – Dearborn, in Recognition of Contribution to the External Grant Support of the University of Michigan – Dearborn, 2004 – 2005 and 2005 – 2006, Henry Ford Estate – Fair Lane, November 16, 2006

- Rackham Faculty Fellowship, 2006.

5. Media Coverage/Reaction

1. Article in May 14th, 2007 issue of "**Crain's Detroit Business**" on Krisanu Bandyopadhyay's research on DNA detection in the section: "10 Research Projects to Watch" under "Focus - Innovation"
2. Article in June 19, 2007 issue of "**The Michigan Journal**" on Krisanu Bandyopadhyay's profile entitled "Chemistry Professor studies the small things on campus".
3. Article in September 28, 2007 issue of "**The Hindu: Business Line**" (a well known Indian business newspaper) on Krisanu Bandyopadhyay's profile entitled "Rare Chemistry".
4. Article in December 31, 2007 (Vol. 23, No. 53, page 121) of **Crain's Detroit Business** Special "2008 Book of Lists" Edition on "10 Research projects to watch".

6. Memberships in Professional Societies

American Chemical Society (ACS) (1999 – 2000, 2003 – present)
Material Research Society (MRS) (2004 – present)
Council on Undergraduate Research (CUR) (2007-Present)

7. Teaching Experience

a) Teaching Assignments at the University of Michigan-Dearborn since Fall 2005

Course	Course Title	Terms
FNDS/CPBL 103	PBL: Health and Community	F'22, F'23, F'24

CHEM368	Physical Chemistry I	W'23, W'22, W'21*,W'2020, W'15, W' 14, W'13, W'12
CHEM437/490E	Nanobiotechnology	W'24, W '21*, W' 19, W'17, W' 14, W'12, W'10, W'08
CHEM469	Physical Chemistry II	F'18, F'17,F'16, F' 13, F'10, F'09, F'08, F'06, F'05
CHEM481	Physicochemical Measurements	F18, F'17, F'16,F'13, F'10, F'09, F'08, F'06, F'05
CHEM493	Presentations in Chemistry	F'23, W'17, W'07, F'06
CHEM134	General Chemistry IA (Lecture, Laboratory and Recitation)	Fall '21, Su, '22, Su '21*, Su'20*, F'19, Sp'19, Sp'17, Sp'16, F'15,Sp'15, F'14, Sp'13, Sp'12, W'12, F'11, W'11, W'10, W'08, F'07, W'06
CHEM136	General Chemistry IIA (Lecture, Laboratory and Recitation)	W'23, W '22, W'2020,W'19, Sp'18, W'18, W'17, W'16,W'15, Su'14, Su'11, Su'10, Su'09, Su'07
CHEM146	General Chemistry IIB (Laboratory and Recitation)	W'06
ENGR350	Nanoscience and Nanotechnology	W'07
CHEM499/BCHM499/ PHYS499/ BIOL499/ECE 591/ ESCI499	Laboratory Research in Chemistry/Biochemistry	Every term

*Online mode

b) Curriculum Development

Nano-Biotechnology CHEM 437(490E)
NSCI 102: Pre-Health Careers: Introduction and Preparation

c) Graduate/Undergraduate Student Supervision

Ph.D. Student(s)

Jinghai Xu (Mechanical Engineering), "Nanofluid as the Heat Transfer Fluid in Automotive Application", with Prof. Duhoy Jung, Department of Mechanical Engineering, College of Engineering and Computer Science University of Michigan-Dearborn.

Undergraduate Research Projects (2005 to present)

Total 103 students (***2005 to 2009: 24 students and 2010 to present: 79 students***) are part of the following 5 projects in my laboratory. These students are from different disciplines including Chemistry, Biochemistry, Biology, Physics, Microbiology, Environmental Science, Bioengineering, Mechanical and Electrical Engineering.

1. Metal Nanoshell as High Efficiency Selective Solar Absorber
2. Functionalized Surfaces as Templates for *in situ* Formation of Metal Nanoparticle Catalysts
3. Toxic Potential of Metal and Semiconductor Nanoparticles on Yeast Cells
4. Carbon Nanotube Array as DNA Detection Platform
5. Metal Nanostructures as Biosensor
6. Nanomedicine and bioconjugation for targeted drug delivery

Service on Thesis Committees

1. Candidate: Avinash Yella for the degree of Master of Science in Engineering (Mechanical Engineering), 2011. Thesis title "*Light Attenuation and Temperature Distribution in a Thin Slab of Agar Embedded with Gold Nanoshells*".

2. Candidate: Xuan Zhou for the degree of Doctor of Philosophy in Engineering (Automotive System Engineering), 2012. Thesis title "*Hydroxyapatite/Titanium Composite Coating for Biomedical Applications*". Xuan Zhou was the first doctoral student who graduated in Automotive System Engineering from UM-Dearborn.

3. Candidate: Neelima Radhika Kommaraju for the degree of Master of Science in Engineering (Mechanical Engineering), winter 2014. Thesis title "Design and Validation of a Depolymerization Apparatus".

4. Candidate: Mao Ye for the degree of Master of Science in Engineering (Mechanical Engineering), summer 2014. Thesis title "*Fabrication and characterization of polymeric scaffold for tissue engineering*".

5. Candidate: Yuan – Wei Nei (David) for the degree of Doctor of Philosophy in Chemistry, Wayne State University, Department of Chemistry.

Thesis title: “Probing the Intrinsic Interactions of Proton and Metal Cations with Nucleobases and Nucleic Acids: Studies Using Infrared Multiple Photon Dissociation Action Spectroscopy and Electronic Structure Calculations” Major: Analytical Chemistry, March 2015.

6. Summer 2021 - summer 2021, Candidate: Jason Solocinski (Bioengineering), Member Ph.D Thesis Committee and PhD dissertation defense.

7. Summer 2021 - Winter 2022, Candidate: Lukas Underwood (Bioengineering), Member Ph.D Thesis Committee and PhD dissertation defense.

High School Student Supervision

1. Latifa Bazzi, 2. Ruixiao Zuo, 3. Stephanie Chen, 4. Mimi Chen,

5. Nikita Shukla, 6. Urshita Biswas, 7. Advika Deb, 8. Divya Nelluri.

d) Previous Teaching and Mentoring Experience

1. Co-Instructor; *Physical Chemistry, Ch51: Thermodynamics and Kinetics.* (Core elective) Phase Equilibria, thermodynamics, and chemical kinetics, fall 2004, Harvey Mudd College.
2. Co-Instructor; *Physical Chemistry Laboratory, Ch53* Fall 2004, Harvey Mudd College.
3. Teaching Assistant, General Chemistry Laboratory University of Miami, 07/1998 – 06/2000

Summer 2004: Keck Graduate Institute and Harvey Mudd College: Mentor for four undergraduate research students in the NSF funded REU program for undergraduate research in biotechnology and bioengineering at the Keck Graduate Institute and chemistry at the Harvey Mudd College

Summer 2003: Keck Graduate Institute and Harvey Mudd College: Mentor for three undergraduate research students in the NSF funded REU program for undergraduate research in biotechnology and bioengineering at the Keck Graduate Institute and chemistry at the Harvey Mudd College.

8. Research Activities

A. Publications (Undergraduate co-authors denoted by *)

a) Papers Published or Accepted for Publication in Refereed Journals

1. 'Gold nanoparticle-4-(4-aminophenyl)butyric acid ameliorates endoplasmic reticulum stress and improves outcomes after traumatic brain injury' Tejas Athavale*, Nazik Ebrahem*, Dhuha Al-Rasool*, Alaina Small*, Amy Nkrumah*, Mauda Abdullah*, **Krisanu Bandyopadhyay**, Zhi Zhang. **Journal of Drug Delivery Science and Technology (2025), *in press*.**

2. 'A Gain of Function Paradox: Targeted Therapy for Glioblastoma Associated with Abnormal NHE9 Expression' Ashley E. Pall*, Lena Juratli*, Dhyana Guntur*, **Krisanu Bandyopadhyay** and Kalyan C. Kondapalli. **J Cell Mol Med. 2019 Nov; 23(11): 7859–7872.**

3. Two dimensional palladium nanoparticle assemblies as electrochemical dopamine sensors, C. Alexander* and **K. Bandyopadhyay**, **Inorganica Chimica Acta, 2017, 468, 171-176.**

4. Experimental investigation on the correlation between nanofluid characteristics and thermal properties of Al_2O_3 nanoparticles dispersed in ethylene glycol-water mixture, J. Xu, **K. Bandyopadhyay** and D. Jung, **International Journal of Heat and Mass Transfer, 2016, 94, 262.**

5. Mediated electron transfer at vertically aligned single-walled carbon nanotube electrodes during detection of DNA hybridization, R. Wallen*, N. Gokarn*, P. Bercea*, E. Grzincic* and **K. Bandyopadhyay, Nanoscale Research Letters, 2015, 10, 268**.

6. Synthesis of gold and palladium nanoshells by in situ generation of seeds on silica nanoparticle cores, E. Grzincic*, R. Teh*, R. Wallen*, G. McGuire*, A. Yella, B. Q. Li and **K. Bandyopadhyay, RSC Advances 2014, 4, 32283**.

7. Electrocatalytic properties of in situ-generated palladium nanoparticle assemblies towards oxidation of multi-carbon alcohols and polyalcohols, D. Renard*, C. McCain*, B. Baidoun*, A. Bondy* and **K. Bandyopadhyay, Colloids and Surfaces A: Physicochem. Eng. Aspects 2014, 463, 44**.

8. Measurement of Light Attenuation in Phantom Tissue Embedded with Gold Nanoshells
   C. H. Liu, A. Yella, B. Q. Li and **K. Bandyopadhyay**, **Advanced Materials Research, Vol. 647, 2013, 232**.

9. Analysis of Mineral Water: A General Chemistry Laboratory Experiment, Ali Bazzi, **Krisanu Bandyopadhyay**, Judith Bazzi, and Ogie Stewart, **Chem. Educator 2012, 17, 1**.

10. In situ Generation of Two Dimensional Au-Pt Core-Shell Nanoparticle Assemblies, Madiha Khalid*, Natalie Wasio*, Thomas Chase* and **Krisanu Bandyopadhyay**, **Nanoscale Research Letters, 2010, 5, 61**.

11. Functionalized Surfaces as Templates for in situ Generation of Two-dimensional Metal Nanoparticle assembly, Madiha Khalid*, Irina Pala*, Natalie Wasio*, and **Krisanu Bandyopadhyay**, **Colloids and Surfaces A: Physicochem. Eng. Aspects 2009, 348, 263**.

12. Fabrication of Nanoporous Templates from Diblock Copolymer Thin Flims on Alkylchlorosilane- Neutralized Surfaces Angelika Niemz, **Krisanu Bandyopadhyay,** Eric Tan, Kitty Cha*, Shenda M. Baker, **Langmuir**, **2006, *22*, 11092**.

13. Deposition of DNA-functionalized Gold Nanospheres into Nanoporous Surfaces **K. Bandyopadhyay**, E. Tan, L. Ho*, S. Bundick*, S. M. Baker and A. Niemz, **Langmuir, 2006, *22*, 4978**.

14. Redox-Active Self-Assembled Monolayers for Solid-Contact Polymeric Membrane Ion-selective Electrodes, Monia Fibbioli, **Krisanu Bandyopadhyay**, Sheng-Gao Liu, Luis Echegoyen, Olivier Enger, François Diederich, Philippe Bühlmann, and Ernö Pretsch ***Chem. Mater,* 2002*, 14(4),* 1721.**

15. Comparative Behavior of Aromatic Disulfide and Diselenide Monolayers on Polycrystalline Gold Films Using Cyclic Voltammetry, STM, and Quartz Crystal Microbalance, Mohammed Aslam, **K. Bandyopadhyay**, K. Vijayaymohanan and V. Lakshminarayanan ***J. Colloid and Interface Sc.* 2001, *234*, 410.**

16. Preparation, Characterization and Mechanistic Features of Zirconia Films on Bare and Functionalized Gold Surfaces, M. Aslam, Sushama Pethkar, **Krisanu Bandyopadhyay**, I. S. Mulla, S. R. Sainkar, A. B. Mandale and K. Vijayamohanan, ***J. Mater. Chem*, 2000, *10*, 1737**.

17. Dithia-Crown-Annelated Tetrathiafulvalene Disulfides: Synthesis, Electrochemistry, Self-Assembled Films and Metal Cation Recognition Properties, Sheng-Gao Liu, Haiying Liu, **Krisanu Bandyopadhyay**, Ziqiang Gao, and Luis Echegoyen, ***J. Org. Chem.*, 2000, *65*, 3292**.

18. Ion Recognition at the Interface of Self-Assembled Monolayers (SAMs) of Bis-Thioctic Ester Derivatives of Oligo(ethyleneglycols), **Krisanu Bandyopadhyay**, Sheng-Gao Liu, Haiying Liu, and Luis Echegoyen, ***Chem. Eur. J.*, 2000, *6*, 4385**.

19. Redox-Active Self-Assembled Monolayers as Novel Solid Contacts for Ion-Selective Electrodes, Monia Fibbioli, **Krisanu Bandyopadhyay**, Sheng-Gao Liu, Luis Echegoyen, Olivier Enger, François Diederich, Philippe Bühlmann, and Ernö Pretsch, ***Chem. Commun.*, 2000, 339**.

20. Selective K^+ Recognition at the Interface during Self-Assembly of a Bis-podand Thiol on a Gold Surface **Krisanu Bandyopadhyay**, Lianhe Shu, Haiying Liu and Luis Echegoyen,, ***Langmuir*, 2000, *16*, 2706**.

21. Self-Assembled Monolayers of Bis-Thioctic Ester Derivatives of Oligoethyleneglycols:Remarkable Selectivity for K^+/Na^+ Recognition **Krisanu**

Bandyopadhyay,Haiying Liu, Shenggao Liu and Luis Echegoyen, ***Chem. Commun.*****, 2000, 141**.

22. Self-assembled monolayers of small aromatic disulfide and diselenide molecules on polycrystalline gold films: a comparative study of the geometrical constraint using temperature-dependent surface-enhanced Raman spectroscopy, X-ray photo electron spectroscopy, and electrochemistry **Krisanu Bandyopadhyay** K. Vijayamohanan, M. Venkataramanan and T. Pradeep ***Langmuir*** **1999, *15*, 5314**.

23. Self-assembled monolayers of two aromatic disulfides and diselenide on polycrystalline silver films: An investigation by SERS and XPS M. Venkataramanan,G.Skanth,**K. Bandyopadhyay**, K. Vijayamohanan and T. Pradeep ***J. Colloid and Interface Science*** **1999, *212*, 553.**

24. Novel room-temperature synthesis of microcrystalline zirconia **Krisanu Bandyopadhyay**, S. R. Sainkar and K. Vijayamohanan ***J. Am. Ceram. Soc.*** **1999, *81*, 222**.

25. Formation of microcrystalline zirconia using the functionalized interface of a self-assembled monolayer of dithiol on polycrystalline gold at room temperature **Krisanu Bandyopadhyay** and K. Vijayamohanan ***Langmuir*** **1998, *14*, 6924**.

26. Effect of co-adsorbed surfactant on the structure of self-assembled monolayer of thiol on polycrystalline gold **Krisanu Bandyopadhyay**, K. Vijayamohanan, A. Manna and B. D. Kulkarni" ***J. Colloid and Interface Sc.*** **1998, *206*, 224**.

27. Effect of geometric costraints on the self-assembled monolayer formation of aromatic disulfides on polycrystalline gold **Krisanu Bandyopadhyay**, V. Patil, Murali Sastry and K. Vijayamohanan ***Langmuir*** **1998, *14*, 3808**.

28. Impedance analysis of self-assembled naphthalene disulfide monolayer on gold using exteranl redox probe **Krisanu Bandyopadhyay**, K. Vijayamohanan, G. S. Shekhawat and Ram. P. Gupta ***J. Electroanal. Chem.*** **1998, *447*, 11**.

29. Role of surfactants in the synthesis of poly(p-phenylene) film in microemulsions A. Manna, **Krisanu Bandyopadhyay**, K. Vijayaymohanan, P. R. Rajmohanan, S. Sainkar and B. D. Kulkarni **Langmuir 1998, *14*, 84**.

30. Formation of self-assembled monolayer of diphenyl diselenide on polycrystalline gold **Krisanu Bandyopadhyay** and K. Vijayamohanan ***Langmuir*** **1998, *14*, 625**.

31. pH dependent changes in the optical properties of carboxylic acid derivatized silver colloidal particles Murali Sastry, K. S. Mayya and **K. Bandyopadhyay *Colloid and Surface A.*** **1997, *127*, 221**.

32. Spontaneously organized molecular assembly of an aromatic organic disulfide on silver/platinum alloy surfaces: an angle dependent X-ray photoemision investigation **K.Bandyopadhyay**, K. S. Mayya, K. Vijayamohanan and Murali Sastry***J.Electron. Spectrosc. Relat. Phenom.*** **1997, *87*, 101**.

33. Synthesis and Characterization of Hydrophobic, approtically-dispersible, silver nanoparticles in winsor II type microemulsions A. Manna, B. D. Kulkarni, **Krisanu Bandyopadhyay** and K. Vijayamohanan ***Chem. Mater.*** **1997, *9*, 3032**.

34. Adsorption of silver colloidal particles through covalent linkage to self-assembled monolayers **Krisanu Bandyopadhyay**, V. Patil, K. Vijayamohanan and Murali Sastry ***Langmuir*** **1997, *13*, 5244**.

35. Formation of a redox active self-assembled monolayer: Naphtho [1,8-cd]-1,2-dithiol on gold **Krisanu Bandyopadhyay**, Murali Sastry, Vincent Paul and K. Vijayamohanan ***Langmuir*** **1997, *13*, 866**.

b) Patents

1. Polymeric resin bonded magnets, **Krisanu Bandyopadhyay**, Amit Chakrabarti and Kunj Tandon. (US20040045635A1)

2. An improved process for the preparation of nano-composite cathode materials for high energy density rechargeable lithium batteries, P. Ganguly, Y. B. Khollam, **K. Bandyopadhyay**, N. Natarajan, K. Vijayamohanan (1207/DEL/2000).

c) Scientific Presentations

(Undergraduate co-authors are denoted by an asterisk, presenter is underlined)

1. "Research with undergraduates towards generation and applications of metal nanoparticle assemblies on functionalized surfaces," Division of Colloid and Surface Chemistry under Session "Mentoring Undergraduate Surface Science Research," **Invited Presentation** (Oral - In-person), American Chemical Society (ACS) Fall 2023 National Meeting, August 13 - 17, San Francisco, CA and online.

2. "Bioconjugation of 4-phenylbutyric acid (4-PBA) to gold nanoparticles". K. Bandyopadhyay, N. Ebrahem*, A. Small*, A. Nkrumah*, Z. Zhang. **Poster.** Division of Colloids and Surface Chemistry poster session). American Chemical Society (ACS) Fall 2023 National Meeting, August 13 - 17, San Francisco, CA and online.

3. "Generation of two-dimensional arrays of copper nanoparticles on functionalized Surfaces," Yakeen Aljaber* and Krisanu Bandyopadhyay. **Poster,** Division of Colloids and Surface Chemistry poster session). American Chemical Society (ACS) Fall 2023 National Meeting, August 13 - 17, San Francisco, CA and online.

4. "Generation of gold nanoparticle assemblies: A possible experiment for undergraduate physical chemistry laboratory" Faith Culp*, Yakeen Aljaber*, and Krisanu Bandyopadhyay, **Poster** presented Division of Chemical Education, poster session). American Chemical Society (ACS) Fall 2023 National Meeting, August 13 - 17, San Francisco, CA and online.

5. 'Bioconjugation of 4-phenylbutyric acid (4-PBA) to gold nanoparticle, Krisanu Bandyopadhyay; Tejas Athavale, Dhuha Al-Rasool, Zhi (Elena) Zhang. **Poster**, ACS Fall 2022, Aug 21-25, 2023, Chicago, IL and online.

6. Two dimensional metal nanoparticle assemblies on functionalized surfaces, Ayah Ramadan, Maria Obeidat, Krisanu Bandyopadhyay. **Poster**, ACS Fall 2022, Aug 21-25, 2023, Chicago, IL and online.

7. 'Bioconjugation of 4-Phenylbutyric Acid (4-PBA) to Gold Nanoparticle'. K. Bandyopadhyay, T. Athavale*, D. Al-Rasoo*l, Z. Zhang, **Poster,** Central Regional Meeting of the American Chemical Society (ACS), June 7-10, 2022, Ypsilanti, MI.

8. 'In situ Generated Surface-bound Palladium-Gold Bimetallic Nanoparticles and their Potential towards Electrochemical Alcohol Oxidation'. A. Ramadan*, M. Obeidat*, K. Bandyopadhyay, **Poster,** Central Regional Meeting of the American Chemical Society (ACS), June 7-10, 2022, Ypsilanti, MI.

9. Generation of Anisotropic Gold and Au-Pd Bimetallic Nanoparticles on Functionalized Surfaces, Ian Smith*, Ayah Ramadan*, Krisanu Bandyopadhyay. ACS Annual Undergraduate Research Conference, Oakland University, November 14, 2020. (Remote format).

10. Bioconjugation of 4-(4-Aminophenyl)butyric Acid onto Gold Nanoparticles'. Cindy Hakim*, Tejas Athavale*, Dhuha Al-Rasool*, and Krisanu Bandyopadhyay. Undergraduate Research Conference, Oakland University, November 14, 2020. (Remote format).
    (The 2020 Annual Undergraduate Research Conference was supported in part by Oakland University, Department of Chemistry, Detroit Local Section ACS, Oakland University Office of Academic Affairs, Oakland University Student Activities Funding Board (SAFB)

    American Chemical Society Spring 2021 Meeting (Virtual), Virtual, Live Oral technical sessions took place live within the virtual platform. April 5-30, 2021. **Krisanu Bandyopadhyay**, Invited talk in a symposium honoring Prof Kerry Karukstis, recipient of the 2020 ACS Award for Research at an Undergraduate Institution. "In situ generated metal nanoparticles as two-dimensional assemblies, core-shell structure and biosensor".

11. Two-dimensional assemblies of gold nanoparticles as non-enzymatic glucose biosensor Ahmed Bitar, Ramzi Bitar, Emily Ehrheart, and Krisanu Bandyopadhyay, June 6, **Poster** presented at the CERM 2019, the Central Regional Meeting of the American Chemical Society (ACS) Hosted by ACS and The Midland Section of the American Chemical Society, Jun 3 – Jun 8, 2019, The H Hotel, Midland, MI

12. Structural analysis and synthesis of surface bound gold nanorods, Ian Smith, Diana Paicu, Veronica Gerios and Krisanu Bandyopadhyay, June 6, June, **Poster** presented at the CERM 2019, the Central Regional Meeting of the American Chemical Society (ACS) Hosted by ACS and The Midland Section of the American Chemical Society, Jun 3 – Jun 8, 2019, The H Hotel, Midland, MI.

13. Variation of gold shell thickness using in situ generated gold and palladium seeds on silica cores for variation in photo-physical properties, Luay Jawad, Arwa Saleem, Lena Juratli and Krisanu Bandyopadhyay, **Poster** presented at the CERM 2019, the Central Regional Meeting of the American Chemical Society (ACS) Hosted by ACS and The Midland Section of the American Chemical Society, Jun 3 – Jun 8, 2019, The H Hotel, Midland, MI.

14. 'Structural determination of anisotropic gold nanostructures through absorbance measurement and AFM analysis'. V. Gerios*, A. Peer, D. Paicu and K. Bandyopadhyay. **Poster,** Glass City Chemistry Conference (Reginal American Chemical Society (ACS) Meeting University of Toledo June 14 - 16, 2018.

15. 'Generation of anisotropic gold and Au-Pd bimetallic nanoparticles on functionalized surfaces'. V. Gerios, A. Peer, K. Bandyopadhyay, **Poster** presented at the 256th American Chemical Society (ACS) National Meeting, National Meeting, Boston, MA, Aug. 19, 2018 - Aug 23, 2018.

16. Application of gold-silica core-shell nanostructures to treat gliobastoma associated with NHE9 Overexpression. L. Juratli, S. Nasser, A. Pall, K.C. Kondapalli, K. Bandyopadhyay. **Poster,** presented at the 256th American Chemical Society (ACS) National Meeting, National Meeting, Boston, MA, Aug 19, 2018 - Aug 23, 2018.

17. 'In situ Generated Metal Nanoparticles as Two-dimensional Assemblies, Core-Shell Structure and Biosensor', **Oral**, Key note talk, Krisanu Bandyopadhyay, International Conference on Nanomaterials: Synthesis, Characterization and Applications (ICN 2018), Mahatma Gandhi University, Kottayam, Kerala, India, May 11 – 13, 2018.

18. 'Synthesis of gold-silica core-shell nanostructures', Jamie Jeffries*, Sarah Nasser*, Kristen Ruta*, Ola Altahan*, Krisanu Bandyopadhyay, **Poster,** Fall 2017 ACS National Meeting, Washington, DC, Aug. 20-24.

19. 'Generation of Au-Pd bimetallic nanoparticles and anisotropic structure of gold on functionalized surfaces', **Poster**, Aileen Peer*, Krisanu Bandyopadhyay, Fall 2017 ACS National Meeting, Washington, DC, Aug. 20-24.

20. 'Dopamine biosensor using two dimensional assemblies of palladium nanoparticles' **Poster,** Muhammad Osto*, Courtney Dodge*, Krisanu Bandyopadhyay, Fall 2017 ACS National Meeting, Washington, DC, Aug. 20-24.

21. 'Two dimensional assemblies of gold nanoparticle as non-enzymatic glucose biosensor', **Poster**, Ahmed Bitar*, Krisanu Bandyopadhyay, ACS Fall 2017 National Meeting, Washington, DC, Aug. 20-24.

22. 'Palladium nanoparticle seed mediated growth of palladium nanoshell on silica core' **Oral** Krisanu Bandyopadhyay, Jamie Jeffries*, Ruishen Teh*, Spring 2016 ACS National Meeting, San Diego, CA, Mar. 13-17, 2016.

23. 'Synthesis of metal nanoshell on silica core using in situ generated metal nanoparticle seeds', **Poster**, Krisanu Bandyopadhyay, Jamie Jeffries*, Ruishen Teh*,

Sarah Nasser*, Elissa Grzincic*, Noble Metal Nanoparticles Gordon Research Conference From Crystal Form to Active Functions in Physics, Chemistry and Biology, Mount Holyoke College, South Hadley, MA, June 19-24, 2016.

24. "In situ generated metal nanoparticles as two-dimensional assemblies, core-shell structure and biosensor", **Oral**, Krisanu Bandyopadhyay, David Renard*, Ruishen The*,Celeste Alexander*, 2015 Joint Great Lakes/Central Regional American Chemical Society Meeting, Grand Rapids, MI, May 27-30, 2015.

25. "Catalytic assessment and characterization of in-situ generated gold-palladium bimetallic nanoparticles on functionalized surfaces" **Poster**, Joshua Hales*, David Renard*, Aileen Peer* and Krisanu Bandyopadhyay, 2015 Joint Great Lakes/Central Regional American Chemical Society Meeting, Grand Rapids, MI, May 27-30, 2015.

26. "Non-enzymatic glucose biosensing using gold nanoparticles" **Poster**, Pheng Yang*, Celeste Alexander* and Krisanu Bandyopadhyay, 2015 Joint Great Lakes/Central Regional American Chemical Society Meeting, Grand Rapids, MI, May 27-30, 2015.

27. "Silver nanoshells synthesis by in situ generation of silver seeds on silica" **Poster**, Tamara Siblini*, Ruishen Teh* and Krisanu Bandyopadhyay, 2015 Joint Great Lakes/Central Regional American Chemical Society Meeting, Grand Rapids, MI, May 27-30, 2015.

28. Non-Enzymatic Glucose Biosensing using Gold Nanoparticles, **Poster**, Pheng Yang* and Krisanu Bandyopadhyay, CASL Undergraduate Research Showcase event, University of Michigan-Dearborn, March 27, 2015.

29. "Silver nanoshells synthesis by in situ generation of silver seeds on silica nanoparticle cores" **Poster** Tamara Siblini*, Ruishen Teh* and Krisanu Bandyopadhyay, CASL Undergraduate Research Showcase event, University of Michigan-Dearborn, March 27, 2015.

30. "Electrochemical Detection of DNA Hybridization on Vertically Aligned Carbon Nanotube Array Electrodes, **Poster**, Joshua Hales and Krisanu Bandyopadhyay, CASL Undergraduate Research Showcase event, University of Michigan-Dearborn March 27, 2015.

31. "In situ generated surface-bound palladium-gold bimetallic nanoparticles and their potential towards electrochemical methanol oxidation", Brooke Rodwell, David Renard, and Krisanu Bandyopadhyay, **Poster**, 248th American Chemical Society (ACS), Fall National Meeting, August 10-14, 2014, San Francisco, CA. **Program Area:** COLL: Division of Colloid and Surface Chemistry, **Symposium Title:** Fundamental Research in Colloids, Surfaces and Nanomaterials.

32. "Synthesis of gold nanoshell with less than 100 nm diameter and palladium nanoshell on silica core using in situ generated metal nanoparticle seeds" Ruishen Teh, and Krisanu Bandyopadhyay, **Poster**, 248th American Chemical Society (ACS), Fall National Meeting, August 10-14, 2014, San Francisco, CA. **Program Area:** COLL: Division of Colloid and Surface Chemistry, **Symposium Title:** Fundamental Research in Colloids, Surfaces and Nanomaterials.

33. "Electrocatalytic behavior of in situ generated surface-bound palladium nanoparticles towards wide range of alcohol oxidation reactions", David Renard, and Krisanu Bandyopadhyay, **Poster**, 248th American Chemical Society (ACS), Fall National Meeting, August 10-14, 2014, San Francisco, CA. **Program Area:** COLL: Division of Colloid and Surface Chemistry, **Symposium Title:** Fundamental Research in Colloids, Surfaces and Nanomaterials.

34. "Metallic nanoparticle assemblies as electrochemical dopamine sensor in presence of uric acid and ascorbic acid" Celeste Alexander, and Krisanu Bandyopadhyay, **Poster**, 248th American Chemical Society (ACS), Fall National Meeting, August 10-14, 2014, San Francisco, CA. **Program Area:** Division of Chemical Education **Symposium Title**: Undergraduate Research Posters.
35. "Synthesis of gold nano-shell with varying thickness by in situ generation of gold seeds on silica core", Abraham Husseini*, Krisanu Bandyopadhyay, **Poster**, Twenty second Annual Student Poster Session, April 20, 2014, Department of Natural Sciences, University of Michigan-Dearborn.

36. "Gold Nanoparticle Assemblies as Non-enzymatic Electrochemical Glucose Biosensors", Batoul Baidoun* and Mariam Beydoun*, Krisanu Bandyopadhyay, **Poster**, Twenty second Annual Student Poster Session, April 20, 2014, Department of Natural Sciences, University of Michigan-Dearborn.

37. "In Situ Generated Surface-bound Palladium-Gold Bimetallic Nanoparticles and their Potential towards Electrochemical Methanol Oxidation", David Renard*, Brooke Rodwell*, Krisanu Bandyopadhyay, **Poster** , Twenty second Annual Student Poster Session, April 20, 2014, Department of Natural Sciences, University of Michigan-Dearborn.

38. "Seed Mediated Growth Technique for the Preparation of Palladium Nanoshell on Silica Core", Ruishen Teh*, Krisanu Bandyopadhyay, **Poster**, Twenty second Annual Student Poster Session, April 20, 2014, Department of Natural Sciences, University of Michigan-Dearborn.

39. "Gold Nanoparticle Assemblies as Electrochemical Dopamine Sensors in presence of Uric Acid and Ascorbic Acid", Celeste Alexander*, Krisanu Bandyopadhyay, **Poster**, Twenty second Annual Student Poster Session, April 20, 2014, Department of Natural Sciences, University of Michigan-Dearborn.

40. "In Situ Generated Surface-bound Palladium-Gold Bimetallic Nanoparticles and their Potential towards Electrochemical Methanol Oxidation", **Poster**, David Renard*, Brooke Rodwell*, Krisanu Bandyopadhyay, **Poster**, CASL Undergraduate Research Showcase event, March 28, 2014, University of Michigan-Dearborn.

41. "Seed Mediated Growth Technique for the Preparation of Palladium Nanoshell on Silica Core", Ruishen Teh*, Krisanu Bandyopadhyay, **Poster**, CASL Undergraduate Research Showcase event, March 28, 2014, University of Michigan-Dearborn.

42. "Gold Nanoparticle Assemblies as Electrochemical Dopamine Sensors in presence of Uric Acid and Ascorbic Acid", **Poster**, Celeste Alexander*, Krisanu Bandyopadhyay, Poster, CASL Undergraduate Research Showcase event, March 28, 2014, University of Michigan-Dearborn.

43. "Making the Undergraduate Laboratory Experience more Relevant in the General and Analytical Chemistry Courses", A. Bazzi, Krisanu Bandyopadhyay, Yiwei Deng Judith Bazzi, and Ogie Stewart, 96th Canadian Chemistry Conference & Exhibition, May 26-30, 2013, Quebec City, Quebec, Canada.

44. "Catalytic activity of in situ generated palladium nanoparticle assembly", Batoul K Baidoun* and Krisanu Bandyopadhyay, **Poster**, 44th ACS Central Regional Meeting, Central Michigan University, May 15-17, 2013, Mount Pleasant, Michigan.

45. "Synthesis of gold nanoparticles in solution using polyethyleneimine silane of varying chain length", Michael M Micheletti* and Krisanu Bandyopadhyay, **Poster**, 44th ACS Central Regional Meeting, Central Michigan University, May 15-17, 2013, Mount Pleasant, Michigan.

46. "In situ synthesis of bimetallic nanoparticle assemblies on functionalized surface", David Renard* and Krisanu Bandyopadhyay, **Poster**, 44th ACS Central Regional Meeting, Central Michigan University, May 15-17, 2013, Mount Pleasant, Michigan.

47. "Biosynthesis of metal nanoparticles by Saccharomyces cerevisiae", Shiem Al-Azawi*, Carina Dagher*, Celeste Alexander*, Debalina Bandyopadhyay and Krisanu Bandyopadhyay, **Poster**, 44th ACS Central Regional Meeting, Central Michigan University, May 15-17, 2013, Mount Pleasant, Michigan.

48. "Synthesis of gold and silver nanoshell by in situ generation of seeds on silica core", Ruishen Teh* and Krisanu Bandyopadhyay, **Poster**, 44th ACS Central Regional Meeting, Central Michigan University, May 15-17, 2013, Mount Pleasant, Michigan.

49. "Polyethyleneimine silane as reducing and capping agent for gold nanoparticle synthesis in solution", Michael Michno* and Krisanu Bandyopadhyay, **Poster**, Division of Chemical Education, 245th Spring ACS National Meeting, April 7–11, 2013, New Orleans, LA.

50. "Effect of monolayer template on generation of 2D assemblies of gold nanoparticle", Harkamal Jhajj* and Krisanu Bandyopadhyay, **Oral**, Division of Chemical Education, 245th Spring ACS National Meeting, April 7–11, 2013, New Orleans, LA.

51. "In situ generated palladium nanoparticle assemblies and its electro-catalytic properties towards oxidation of polyalcohols", Caitlyn McCain* and Krisanu Bandyopadhyay, Division of Chemical Education, **Oral**, 245th Spring ACS National Meeting, April 7–11, 2013, New Orleans, LA.

52. "Effect of reducing agent on synthesis of palladium nanoparticle assemblies", David Renard*, Caitlyn McCain* and Krisanu Bandyopadhyay, **Poster**, Division of Colloid and Surface Chemistry in Fundamental Research, Colloid and Surface Science poster session, 245th Spring ACS National Meeting, April 7–11, 2013, New Orleans, LA.

53. "In situ synthesis of palladium nanoparticle assemblies on functionalized surfaces and potential catalytic application towards oxidation of polyalcohols", Ayman Ayash*, David Renard*, Amy Bondy* and Krisanu Bandyopadhyay, **Poster**, 43rd ACS Central Regional Meeting, June 5-9, 2012, Dearborn, Michigan.

54. "Polyethyleneimine silane as reducing and capping agent for synthesis of gold nanoparticles in solution", Michael Michno*, Harkamal Jhajj*, and Krisanu Bandyopadhyay, **Poster**, 43rd ACS Central Regional Meeting, June 5-9, 2012, Dearborn, Michigan.

55. "Functionalized Surface as Template for in situ Generation of Two-dimensional Nanoparticle Assemblies" Thomas Chase*, Amy Bondy*, Rachel Wallen* and Krisanu Bandyopadhyay, **Oral**, Department of Chemistry, University of Toledo, November 10, 2011, Toledo, Ohio.

56. "Functionalized Surface as Template for in situ Generation of Two-dimensional Nanoparticle Assemblies", Thomas Chase*, Amy Bondy*, Rachel Wallen* and Krisanu Bandyopadhyay, **Oral**, The Association of Analytical Chemistry, Anachem, ANACHEM/SAS Symposium, (Anachem Award Session), November 3, 2011, Detroit, Michigan.

57. "Synthesis of gold nanoshell by in situ generation of gold seeds on silica core", Gabrielle McGuire*, Elissa Grzincic*, Avinash Yella, Ben Q. Li and Krisanu Bandyopadhyay, **Poster,** 242nd American Chemical Society (ACS), Fall National Meeting, August 28-September 1, 2011, Denver, Colorado.

58. "In situ synthesis of bimetallic nanoparticle assemblies on functionalized surfaces", Amy Bondy* and Krisanu Bandyopadhyay, **Poster,** 242nd American Chemical Society (ACS), Fall National Meeting, August 28-September 1, 2011, Denver, Colorado.

59. "Biosynthesis of gold nanoparticles by Saccharomyces cerevisiae", Ryan Stegenga*, Shiem Al-Azawi*, Debalina Bandyopadhyay and Krisanu Bandyopadhyay, **Poster**, 2011 Annual American Society for Biochemistry and Molecular Biology (ASBMB) Meeting, April 9-13, 2011, Washington D.C.

60. "Biosynthesis of Gold Nanoparticles by Saccharomyces cerevisiae", Ryan Stegenga*, Shiem Al-Azawi*, Debalina Bandyopadhyay and Krisanu Bandyopadhyay, **Poster**, Nineteenth Annual Student Poster Session, April 15, 2011, Department of Natural Sciences, University of Michigan-Dearborn.

61. "In Situ Synthesis of Bimetallic Nanoparticle Assemblies on Functionalized Surface", Amy Bondy* and Krisanu Bandyopadhyay, **Poster**, Nineteenth Annual

Student Poster Session, April 15, 2011, Department of Natural Sciences, University of Michigan-Dearborn.

62. "Synthesis of Gold Nanoshell by in-situ Generation of Gold Seeds on Silica Core", Gabrielle McGuire*, Elissa Grzincic*, Rachel Wallen*, Ben Q. Li and Krisanu Bandyopadhyay, **Poster**, Nineteenth Annual Student Poster Session, April 15, 2011, Department of Natural Sciences, University of Michigan-Dearborn.

63. "Biosynthesis of gold nanoparticles by Saccharomyces cerevisiae", Ryan Stegenga*, Shiem Al-Azawi*, Debalina Bandyopadhyay and Krisanu Bandyopadhyay, **Poster**, 241st ACS National Meeting, March 27-31, 2011, Anaheim, CA.

64. "Biosynthesis of Gold Nanoparticles by Saccharomyces cerevisiae", Ryan Stegenga*, Shiem Al-Azawi*, Debalina Bandyopadhyay and Krisanu Bandyopadhyay, **Poster**, CASL Undergraduate Research Showcase event, March 25, 2011, University of Michigan-Dearborn.

65. "In Situ Synthesis of Bimetallic Nanoparticle Assemblies on Functionalized Surface", Amy Bondy* and Krisanu Bandyopadhyay, **Poster**, CASL Undergraduate Research Showcase event, March 25, 2011, University of Michigan-Dearborn.

66. "Synthesis of Gold Nanoshell by in-situ Generation of Gold Seeds on Silica Core", Gabrielle McGuire*, Elissa Grzincic*, Rachel Wallen*, Ben Q. Li and Krisanu Bandyopadhyay, **Poster**, CASL Undergraduate Research Showcase event, March 25, 2011, University of Michigan-Dearborn.

67. "Synthesis of Surface-Bound Gold Nanoparticles for Catalysis in Direct Methanol Fuel
Cells", Thomas Chase* and Krisanu Bandyopadhyay, **Oral**, CASL Undergraduate Research Showcase event, March 25, 2011, University of Michigan-Dearborn.

68. "Effect of temperature and incubation time on the in situ synthesis of gold nanoparticle assemblies", Marissa Kerrigan*, Amy Bondy*, Thomas Chase* and Krisanu Bandyopadhyay, **Poster**, 240th American Chemical Society (ACS) National Meeting, August 22-26, 2010, Boston, MA.

69. "Synthesis of gold nanoshell by in situ generation of gold seeds on silica core", Elissa Grzincic*, Rachel Wallen*, Ben Q Li and Krisanu Bandyopadhyay, **Poster**, 240th American Chemical Society (ACS) National Meeting, August 22-26, 2010, Boston, MA.

70. "Functionalized Surface as Template for in situ Generation of Two-dimensional Nanoparticle Assembly", Krisanu Bandyopadhyay, Amy Bondy* Thomas Chase*, Marissa Kerrigan* Rachel Wallen* and Elissa Grzincic*, **Poster**, Gordon Research Conferences: Noble Metal Nanoparticles Preparation, Modeling and Applications, June
20-25, 2010, Mount Holyoke College, South Hadley, MA.

71. "Functionalized Surfaces as Templates for in situ Generation of Metal Nanoparticle Assemblies", Amy Bondy* Thomas Chase*, Marissa Kerrigan* and Krisanu

Bandyopadhyay, **Poster**, 84th Colloid and Surface Science Symposium, June 20-23,
2010, University of Akron, Akron, Ohio.

72. "Toxicity of Magnetic Nanoparticles on Yeast Cells", Priscila A. Bercea*, Courtney Niland*, Ryan Stegenga*, C. Sudakar, Rajesh K. Regmi, Gavin Lawes, Debalina Bandyopadhyay and Krisanu Bandyopadhyay, **Poster**, Eighteenth Annual Student Poster Session, April 23, 2010, Department of Natural Sciences, University of Michigan-Dearborn.

73. "Effect of reducing agent on the in situ generated gold nanoparticles assemblies", Thomas Chase*, Amy Bondy* and Krisanu Bandyopadhyay, **Poster**, Eighteenth Annual Student Poster Session, April 23, 2010, Department of Natural Sciences, University of Michigan-Dearborn.

74. "Synthesis of gold nano-shell by in situ generation of gold seeds on silica core", Gabrielle McGuire*, Elissa Grzincic*, Rachel Wallen* and Krisanu Bandyopadhyay, **Poster**, Eighteenth Annual Student Poster Session, April 23, 2010, Department of Natural Sciences, University of Michigan-Dearborn.

75. "2D assemblies of gold-platinum bimetallic nanoparticles on functionalized surfaces",
Thomas Chase*, Madiha Khalid* and Krisanu Bandyopadhyay, **Poster**, 239th ACS National Meeting, March 21-25, 2010, San Francisco, CA.

76. "Generation of gold nanoparticle films: A possible experiment for undergraduate physical chemistry laboratory", Lauren Hopper*, Natalie Wasio*, Amy Bondy*, Marissa Kerrigan* and Krisanu Bandyopadhyay, **Poster**, 239th ACS National Meeting, March 21-25, 2010, San Francisco, CA.

77. "Initiating and sustaining a research program at a predominantly undergraduate institution: A new faculty perspective", Krisanu Bandyopadhyay, **Oral**, 239th ACS National Meeting, March 21-25, 2010, San Francisco, CA.

78. "Electrochemical Detection of DNA Hybridization on Vertically Aligned Carbon Nanotube Array Electrode", Elissa Grzincic*, Rachel Wallen, and Krisanu Bandyopadhyay, **Oral,** 20th Annual Argonne Symposium for Undergraduates in Science, Engineering and Mathematics, November 13, 2009, Argonne National Laboratory, Argonne, IL.

79. "Toxic Potential of Gold and Magnetic Nanoparticles on Yeast Cells", Debalina Bandyopadhyay, Priscila Bercea*, Courtney Niland*, Ali Mirza*, Rachel Wallen*, C. Sudakar, R. Regmi, Gavin. Lawes and Krisanu Bandyopadhyay, **Oral**, 20th Annual Argonne Symposium for Undergraduates in Science, Engineering and Mathematics, November 13, 2009, Argonne National Laboratory, Argonne, IL.

80. "Effect of Temperature and Incubation Time on the In Situ Generated Gold Nanoparticles Assemblies", Marissa Kerrigan*, Thomas Chase*, Natalie Wasio* and Krisanu Bandyopadhyay, **Oral**, 20th Annual Argonne Symposium for

Undergraduates in Science, Engineering and Mathematics, November 13, 2009, Argonne National Laboratory, Argonne, IL.

81. "In Situ Generation of Metal and Magnetic Nanoparticles Arrays" Natalie Wasio*, Thomas Chase*, Madiha Khalid*, and Krisanu Bandyopadhyay, **Poster**, The 13th International Conference on Surface and Colloid Science [ICSCS], June 14 -19, 2009, Columbia University, New York City, NY.

82. "2D Organization of Au and Au-Pt Bimetallic Nanoparticle Catalysts", Thomas Chase*, Natalie Wasio* and Krisanu Bandyopadhyay, **Poster**, 17th Annual "Meeting of Minds", University of Michigan-Dearborn, May 15, 2009.

83. "Electrochemical Detection of DNA Hybridization on Vertically Aligned Carbon nanotube Array Electrodes", Elissa Grzincic*, Rachel Wallen*, William Wood* and Krisanu Bandyopadhyay, **Poster**, 17th Annual "Meeting of Minds", University of Michigan-Dearborn, May 15, 2009.

84. "2D Organization of Au and Au-Pt Bimetallic Nanoparticle Catalysts", Thomas Chase*, Natalie Wasio* and Krisanu Bandyopadhyay, **Poster**, Seventeenth Annual Student Poster Session, April 24, 2009, Department of Natural Sciences, University of Michigan-Dearborn.

85. "Electrochemical Detection of DNA Hybridization on Vertically Aligned Carbon nanotube Array Electrodes", Elissa Grzincic*, Rachel Wallen*, William Wood* and Krisanu Bandyopadhyay, **Poster**, Seventeenth Annual Student Poster Session, April 24, 2009, Department of Natural Sciences, University of Michigan-Dearborn.

86. "Generation of Gold Nanoparticle Films: A Possible Experiment for Undergraduate Physical Chemistry Laboratory", Lauren Hopper*, Natalie Wasio* and Krisanu Bandyopadhyay, **Poster**, Seventeenth Annual Student Poster Session, April 24, 2009, Department of Natural Sciences, University of Michigan-Dearborn.

87. "Organic Monolayers as Template for in situ Generation of 2-D Metal Nanoparticle Arrays", Krisanu Bandyopadhyay, Madiha Khalid*, Natalie Wasio* and Thomas Chase*, **Oral**, 237th ACS National Meeting, Salt Lake City, UT, March 22-26, 2009.

88. "Formation of 2D Arrays of Metal Nanoparticles on Functionalized Surfaces", Natalie Wasio*, Tom Chase* and Krisanu Bandyopadhyay, **Oral**, 19th Annual Argonne Symposium for Undergraduates in Science, Engineering and Mathematics, November 7, 2008, Argonne National Laboratory, Argonne, IL.

89. "Organic Monolayers as Template for Formation of 2D Metal Nanoparticle Arrays", Madiha Khalid*, Natalie Wasio*, Thomas Chase* and Krisanu Bandyopadhyay, **Poster**, Tenth Graduate Research Symposium, Department of Chemistry, Wayne State University, October 4, 2008.

90. "Electrochemical Detection of DNA Hybridization on Vertically Aligned Carbon nanotube Array Electrodes", Rachel Wallen* and Krisanu Bandyopadhyay, **Poster**, Tenth Graduate Research Symposium, Department of Chemistry, Wayne State University, October 4, 2008.

91. "Electrochemical Detection of DNA Hybridization on Vertically Aligned Carbon Nanotube Array Electrodes", Krisanu Bandyopadhyay, Rachel Wallen*, Nirmal Gokarn* and William Wood*, **Poster**, 236th ACS National Meeting, Philadelphia, PA, August 17-21, 2008.

92. "Toxic Potential of Metal Nanoparticles on Yeast Cells", Debalina Bandyopadhyay, Bo Ra Ye*, Priscila Bercea*, Rachel Wallen*, C. Sudakar R. Regmi, G. Lawes and Krisanu Bandyopadhyay, **Poster**, 236th ACS National Meeting, Philadelphia, PA, August 17-21, 2008.

93. "Effect of Monolayer Template on In Situ Generated Gold Nanoparticles", Natalie Wasio*, Madiha Khalid*, and Krisanu Bandyopadhyay, Soft Matt-2008: Student Research Symposium on Soft Materials, **Poster**, June 19, 2008, Department of Chemical and Biomolecular Engineering, North Carolina State University, Raleigh, NC.

94. "Functionalized Surfaces as Templates for in Situ Formation of Metal Nanoparticle", Madiha Khalid*, Natalie Wasio* and Krisanu Bandyopadhyay, **Poster**, 82nd American Chemical Society Colloid and Surface Science (ACS CSS) Symposium, June 15-18, 2008, North Carolina State University, Raleigh, NC.

95. "Electrochemical Detection of DNA Hybridization on Vertically Aligned Carbon Nanotube Array Electrodes", Rachel Wallen* and Krisanu Bandyopadhyay, **Poster**, May 20, 2008, Michigan Undergraduate Research Forum (MURF), in the Senate Committee Room of the Michigan Legislature, Lansing, MI, USA.

96. "Functionalized Surfaces as Templates for in Situ Formation of Gold Nanoparticle Catalyst", Madiha Khalid* and Krisanu Bandyopadhyay, **Poster**, May 16, 2008, 16th Annual "Meeting of Minds", Oakland University, Oakland, MI, USA.

97. "In Situ Synthesis of Two Dimensional Arrays of Silver and Platinum Nanoparticle on Functionalized Surfaces as Templates", Natalie Wasio* and Krisanu Bandyopadhyay, **Poster**, May 16, 2008, 16th Annual "Meeting of Minds", Oakland University, Oakland, MI, USA.

98. "Organic Monolayers as Template for Formation of 2D Metal Nanoparticle Arrays", Madiha Khalid*, Natalie Wasio* and Krisanu Bandyopadhyay, **Poster**, Sixteenth Annual Student Poster Session, April 18, 2008, Department of Natural Sciences, University of Michigan-Dearborn, Dearborn, MI, USA.

99. "Functionalized Surfaces as Templates for *in situ* Formation of Gold Nanopaticle Catalyst", Krisanu Bandyopadhyay, Madiha Khalid* and Natalie Wasio*, **Oral**, 235th ACS National Meeting, April 6-10, 2008. Abstract: COLL 299, New Orleans, LA, USA.

100. "DNA Detection on Silicon and Gold Substrates", Nirmal Gokarn* and Krisanu Bandyopadhyay, **Oral**, Medical Student Research Symposium 2008, January 11, 2008, School of Medicine, Wayne State University, 3125 Scott Hall, Detroit, MI, USA.

101. "Electrochemical Detection of DNA Hybridization on Vertically Aligned Carbon Nanotube Array Electrodes", Rachel Wallen*, Priscilla Bercea*, Holly Sobczak*, and Krisanu Bandyopadhyay, **Oral**, Eighteenth Annual Argonne Symposium for Undergraduates in Science, Engineering and Mathematics, November 2-3, 2007, Argonne National Laboratory, Argonne, IL, USA.

102. "Functionalized Surfaces as Templates for *in situ* Formation of a Gold Nanoparticle Catalyst, Natalie Wasio*, Madiha Khalid*, and Krisanu Bandyopadhyay, **Oral**, Eighteenth Annual Argonne Symposium for Undergraduates in Science, Engineering and Mathematics, November 2-3, 2007, Argonne National Laboratory, Argonne, IL, USA.

103. "Electrochemical Detection of DNA Hybridization on Vertically Aligned Carbon Nanotube Array Electrodes", Rachel Wallen*, Priscila Bercea*, Nirmal Gokarn*, Krisanu Bandyopadhyay, **Oral**, 15th Annual "Meeting of Minds", May 18, 2007, Flint, MI, USA.

104. "Vertically Aligned Carbon Nanotube Arrays as Platform for Electrochemical Detection of DNA Hybridization", Rachel Wallen*, Priscila Bercea*, Nirmal Gokarn* and Krisanu Bandyopadhyay **Poster**, Fifteenth Annual Poster Session, April 20, 2007, Department of Natural Sciences, University of Michigan-Dearborn, Dearborn, MI, USA.

105. "In situ Nanoparticle Synthesis on Monolayer Templates", Irina Pala*, Madiha Khalid*, Nirmal Gokarn*, Krisanu Bandyopadhyay, **Poster**, 233rd ACS National Meeting, March 25 - 29, 2007, Chicago, IL, USA.

106. "Electrochemical Detection of DNA Hybridization on Vertically Aligned Carbon Nanotube Array Electrodes", Nirmal Gokarn*, Adam Fisher*, Rachel Wallen*, Krisanu Bandyopadhyay, **Poster**, Gordon Research Conference (GRC) on Electrochemistry, January 14 – 19, 2007, Ventura, CA, USA.

107. Electrochemical Detection of DNA Hybridization on Vertically Aligned Carbon nanotube Array Electrodes", Nirmal Gokarn*, Adam Fisher*, Rachel Wallen*, Nadia Petlakh*, Krisanu Bandyopadhyay, **Oral**, Seventeenth Annual Argonne Symposium for Undergraduates in Science, Engineering and Mathematics, November 3 - 4, 2006, Argonne National Laboratory, Argonne, IL, USA.

108. "Synthesis of Metal Nanoparticles on Monolayer Templates", Irina R. Pala*, Krisanu Bandyopadhyay, **Oral**, Seventeenth Annual Argonne Symposium for Undergraduates in Science, Engineering and Mathematics, November 3 - 4, 2006, Argonne National Laboratory, Argonne, IL, USA.

109. "In situ Nanoparticle Synthesis on Monolayer Templates", Krisanu Bandyopadhyay, **Poster**, 2006 Material Research Society Spring Meeting, April 17 – 21, 2006, San Francisco, CA Abstract: W8-11.

110. “Optimization of DNA Colloid Immobilization in Self-Assembled DNA Nanoarrays”, **Poster,** 2004 MRS Spring Meeting, April 12-16, San Francisco, CA, USA.

111. “Oriented Protein Immobilization in arrays of surface nanopores”, **Poster**, 227th ACS National Meeting, March 27-April1, 2004, Anaheim, CA, USA.

112. “Templated ion recognition at the interface via self-assembled monolayers (SAMs) of bis-podand thiol/disulfides with oligo(ethylene glycol)’ **Oral**, 219th ACS National Meeting, March 26-30, 2000, San Francisco, CA, USA.

e) Invited Talks/Presentations

1. Invited talk entitled “Functionalized Surface as Template for in situ Generation of Two-dimensional Nanoparticle Assemblies” at the Department of Chemistry, University of Toledo, November 10, 2011.

2. Invited talk entitled “Functionalized Surface as Template for in situ Generation of Two-dimensional Nanoparticle Assemblies” at the ANACHEM/SAS Symposium, Detroit, Michigan, November 3, 2011.

3. Invited talk entitled “Functionalized Surfaces as Templates for in situ Formation of 2D Metal Nanoparticle Arrays" at the Inorganic Chemistry Seminar, Department of Chemistry, Wayne State University, April 2, 2009.

4. Oral presentation entitled “Organic monolayers as template for in situ generation of 2-D metal nanoparticle arrays” at the 237th ACS National Meeting, Salt Lake City, UT, March 22-26, 2009 under session entitled “Frontiers in Nanoparticle and Nanoporous Materials”.

5. Invited talk entitled “Organic Monolayers as Templates for In Situ Generation of 2D Metal Nanoparticle Arrays" at the Condensed Matter Physics Seminar, Department of Physics and Astronomy, Wayne State University, November 4, 2008.

6. Oral presentation entitled “Functionalized Surfaces as Templates for *in situ* Formation of Gold Nanopaticle Catalyst” at The 235th ACS National Meeting, New Orleans, LA, April 6-10, 2008 under session entitled “Polymer-Nanoparticle Systems: Theory, Simulation, Experiments”.

7. Presentation entitled "My experiences with collaboration" at the Faculty Salon, Mardigian Library Room 1212, University of Michigan-Dearborn, November 2, 2007.

8. “Electrochemical Detection of DNA Hybridization on Vertically Aligned Carbon Nanotube Array Electrodes”, Gordon Research Conference (GRC) on Electrochemistry, January 14 – 19, 2007, Crowne Plaza, Ventura, CA.

9. *"Nanotechnology: Why we care?"* 2006 US National Chemistry Olympiad Awards Banquet, Detroit Section, American Chemical Society, University of Michigan-Dearborn, April 20, 2006.

B. Research Grants

Awarded Research Grants

1. Thematic Research Planning grant – ORSP (FY23 Fall Cycle), 'Steelmaking with Radically Reduced Carbon Emissions' Christopher Pannier (PI-ME), Pravansu Mohanty, Krisanu Bandyopadhyay, **$30,000,** (01/17/2023 - 01/16/2024).

2. Training Grant, Research and Sponsored Programs-Dearborn, 'Use of Metal Nanostructures to Create Microspectroscopic Application for Direct Antigen Detection' **$10,000**. Nilay Chakraborty (ME) and Krisanu Bandyopadhyay. (2020-2021).

3. "Targeting endoplasmic reticulum (ER) stress and restoring ER homeostasis in pediatric traumatic brain injuries." MCubed, Mini Cube **($15,000)**, Zhi (Elena) Zhang, (PI-LSA: Nat. Sci. – UMD), Krisanu Bandyopadhyay (LSA: Nat. Sci. – UMD) Guojun Shi (Medicine).

4. Sponsor: Mr. and Mrs. Ranvir Trehan (Trehan Foundation), Diamond Cube, under MCubed/UM-Ann Arbor, Gargi Ghosh (PI), Krisanu Bandyopadhyay (co-PI), Anish Tuteja (co-PI) "*Develop Novel and Affordable Water Purification for Rural India*", **$60,000** (May 2016 - Sept. 2017).

5. MCubed/UM-Ann Arbor, Krisanu Bandyopadhyay, Ben Li (co-PI), Kalyan Kondapalli (co-PI), "*Metal nanoshell synthesis by in situ generation of metal seeds on silica nanoparticle cores*",**15,000** (May 2016 - Sept. 2017).

6. American Chemical Society-The Petroleum Research Fund (ACS-PRF), (May, 2015) Undergraduate Research (UR) Proposal, "*In Situ Generated Two Dimensional Metal and Bimetallic Nanoparticle Catalysts*", Krisanu Bandyopadhyay**, $70,000.**

7. National Science Foundation (NSF), (July, 2014), Alex Y. Yi (PI), Krisanu Bandyopadhyay, Joe Lo, Pravansu Mohanty, Yi Lu Murphey Co-PI(s), *MRI: Acquisition of Hybrid and Versatile Magnetron Sputtering/E-beam/Evaporation Thin Film Deposition System for Research and Education*, **$303,000** .

8. Office of Research and Sponsored Program, UM-Dearborn, (May-August 2013), "*Synthesis of Two Dimensional Arrays of Pd-Au Bimetallic Nanoparticle and its Electrocatalytic Activity towards Electro-Oxidation of Polyalcohols*". Undergraduate Research Fellowship, **$2,500**.

9. Office of Research and Sponsored Program, UM-Dearborn, (March 25, 2013), "*Undergraduate Research at the Interface of Physical and Biological Sciences at UM-Dearborn*", Krisanu Bandyopadhyay, Step-2 Grants for Faculty Research, **$15,000**.

10. Office of Research and Sponsored Program, UM-Dearborn, (December 2012), "*In Situ Generated Two Dimensional Metal and Bimetallic Nanoparticle Catalysts*", Krisanu Bandyopadhyay, CASL Senior Faculty Grants to Encourage and Reward Scholarship, **$3,500** (or a course release)

11. Office of Research and Sponsored Program, UM-Dearborn, (May-August 2011), "*Generation of Gold Nanorods on Functionalized Surfaces*". Undergraduate Research Fellowship, **$2,500**.

12. Whirlpool Corporation, Benton Harbor, MI (Fall 2011) "Application of Zeta Potential and Submicron Particle Size Measurements in Aqueous System: Proposed Collaboration between University of Michigan-Dearborn and Whirlpool Corporation", Krisanu Bandyopadhyay, **$10,000**.

13. Office of Research and Sponsored Program, UM-Dearborn, (May-August 2010), "*Exploring Graphene as Biosensing Platform*". Undergraduate Research Fellowship, **$2,500**.

14. Office of Research and Sponsored Program, UM-Dearborn, (March 30, 2010), "*In Situ Generation of Two Dimensional Nanoparticle Assemblies*", Krisanu Bandyopadhyay, CASL Faculty Summer Research Grant, **$7,000**.

15. National Science Foundation (NSF), 2010, *"MRI: Acquisition of a Zeta Potential and Submicron Particle Size Analyzer to Enhance Research and Teaching at the University of Michigan-Dearborn"*, K. Bandyopadhyay (PI), Vaman Naik, Michael Twiner, Anne Danielson-Francois, **$94,821**.

16. Office of the Vice President for Research (OVPR), – University of Michigan, (Dec. 2010), *"In Situ Generated Two Dimensional Metal and Bimetallic Nanoparticle Catalysts"* K. Bandyopadhyay (PI), **$11,250**.

17. National Science Foundation (NSF), 2009, *"MRI: Acquisition of Transmission Electron Microscope at the University of Michigan-Dearborn"*, Pravansu Mohanty (PI), Ramesh Guduru (College of Engineering, ME), K. Bandyopadhyay (co-PI), Vaman Naik (Nat. Sci.), **$416,325**.

18. Office of the Vice President for Research (OVPR), – University of Michigan, (May'09 – Apr'10), *"Electrochemical Studies on Vertically Aligned Carbon Nanotube Arrays:*

Potential Platform for Detection of DNA Hybridization". K. Bandyopadhyay (PI), **$18,000**.

19. Office of Research and Sponsored Program-UM-Dearborn, (May'09 – Aug'09) "*Generation of Two Dimensional Arrays of Magnetic Nanoparticles on Functionalized Surface*". Undergraduate Research Fellowship. **$2,500.**

20. Office of Research and Sponsored Program-UM-Dearborn, (May'08 – Aug'08), *"Synthesis of Two Dimensional Arrays of Pt-Au Bimetallic Nanoparticle and its Electrocatalytic Activity in Methanol Electro-Oxidation"*. Undergraduate Research Fellowship, **$2,500.**

21. American Chemical Society (ACS) – Petroleum Research Fund (PRF), G Type, (Sep'07 – Aug'09), "*Functionalized Surfaces as Templates for in situ Formation of Gold Nanoparticle Catalyst*", K. Bandyopadhyay (PI), **$ 40,000.**

22. Office of the Vice President for Research (OVPR) – University of Michigan, (May'07 – Apr'08), *"Gold Nanoparticle Arrays Generated in situ on Monolayer Templates: Potential Catalyst for Methanol Electro-oxidation",* K. Bandyopadhyay (PI), **$ 13,000.**

23. Office of Research and Sponsored Program-UM-Dearborn, (May'07 – Apr'08), *"Toxic Potential of Metal and Semiconductor Nanoparticles on Yeast Cells"*, Faculty Research Initiation and Seed Grants, K. Bandyopadhyay (PI), **$ 6,000.**

24. Office of Research and Sponsored Program-UM-Dearborn, (May'07 – Aug'07), *"Optimization of DNA Hybridization Attached to the Vertically Aligned Carbon Nanotube Arrays on Gold Surface"*, Undergraduate Research Fellowship, **$ 2,500.**

25. NSF, (Sep'06 - Aug'09), *"Acquisition of an Atomic Force Microscope to Enhance Research and Teaching in the Physical and Biological Sciences"*, NSF – Major Research Instrumentation (MRI) Program, K. Bandyopadhyay (PI), J. Thomas (Co-PI) and V. M. Naik (Co-PI), (DMR 0619267), **$ 85,932.**

26. Office of Research and Sponsored Program-UM-Dearborn, (May'06 – Aug'06), *"Synthesis of Metal Nanoparticles on Monolayer Templates"*, Undergraduate Research Fellowship, **$ 3,000.**

27. Office of Research and Sponsored Program-UM-Dearborn, (May'06 – Aug'06), "*End-Functionalization of Vertically Oriented Carbon Nanotube with DNA-probe: Capacitance Measurement for DNA Detection by Impedance Spectroscopy*", Undergraduate Research Fellowship, **$3,000.**

28. Office of Research and Sponsored Program-UM-Dearborn, (May'06 – Apr'05), *"Detection of DNA Hybridization on Semiconductor Surface through Capacitance Measurement: A Theoretical Understanding",* Research Assistant Award, **$ 2,000.**

29. Rackham School of Graduate Studies, (Feb'06 – Jan'07), *"Electrochemical Detection of DNA Hybridization on Vertically Aligned Carbon Nanotube Array Electrodes"*, K. Bandyopadhyay (PI), **$ 15,000.**

C. Research Collaborations

1. Dr. Ben Q. Li, Department of Mechanical Engineering, UM-Dearborn.
2. Dr. Duhoy Jung, Department of Mechanical Engineering, UM-Dearborn.
3. Dr. Alex Yi, Department of Electrical and Computer Engineering, UM-Dearborn.
4. Dr. Pravansu Mohanty, Department of Mechanical Engineering, UM-Dearborn.
5. Dr. Nilay Chakravarti, Department of Mechanical Engineering, UM-Dearborn.
6. Dr. Vaman Naik, Physics Discipline, Department of Natural Sciences, UM-Dearborn.
7. Dr. Anne Danielson-Francois, Biology Discipline, Department of Natural Sciences, UM-Dearborn.
8. Whirlpool Corporation, Benton Harbor, Michigan.
9. Dr. Kalyan Kondapalli, Biology Discipline, Department of Natural Sciences, UM-Dearborn.
10. Dr. Zhi (Elena) Zhang, Biology Discipline, Department of Natural Sciences, UM-Dearborn

D. Professional Meetings Attended

1. Academic Chairpersons Conference, February 7-9, 2024, in Indianapolis, IN.

2. CUR Biennial Conference 2016,University of South Florida (USF), Tampa, FL Jun 26, 2016 to Jun 28, 2016.

3. CUR Dialogues, organized by Council on Undergraduate Research (CUR), Hamilton Crowne Plaza Washington, DC, Feb 25, 2010 to Feb 27, 2010

4. Initiating and Developing Undergraduate Research Programs organized by Council on Undergraduate Research (CUR), University of Portland, Portland, OR, May 25, 2011 to May 27, 2011

9. Service Activities

a) Department-wide Committee Service

- Chair, Chemistry Discipline, Fall 17 – present.
- Chair, Search Committee for Assistant Laboratory Director, Department of Natural Sciences, Winter 18 – present.
- Master Thesis Review Committee in Environmental Science, Department of Natural Sciences (member, 2013-present)

- Poster Session Committee, Natural Sciences (Chair, 2009-present, member, 2006-2009)
- Department Executive Committee, Natural Sciences, Member-at-Large (2010-2011, 2008-2009)
- Chemistry Lecturer Search Committee (member, 2009-2010)
- Physics Faculty Search Committee (member, 2008-2009)
- Science Learning Center/Computer Center Advisory Committee, Natural Sciences (member, 2008-2009)
- Colloquium Committee (member, 2007-2009, Chair 2008)
- Library Committee, Natural Sciences (member, 2005-2009)
- Organismal Biology Faculty Search Committee (member, 2006-2007)
- Faculty Secretary, Natural Sciences (2005-2006, Fall 2006, Fall 2007)
- Safety Committee, Natural Sciences (member, 2005 – 2006)

b) College-wide Committee Service

- Member of Add-hoc full professors' review committee, College of Arts, Sciences and Letters (CASL), Winter 2018
- College of Arts, Sciences and Letters (CASL) strategic planning Committee (member, 2014 – present)
- College of Arts, Sciences and Letters (CASL) Executive Committee (Department of Natural Sciences representative, 2014 - 2017)
- College of Arts, Sciences and Letters (CASL) Executive Committee (member at large, 2012)
- Member of the Ad-hoc committee for re-appointment of Mechanical Engineering Department chair, Winter 2015.
- Ph.D. and Master's Thesis Review Committee, College of Engineering and Computer Science (CECS), (2011-present)
- Bio-Engineering Program Committee, CECS, (member, 2010-present)
- Bioengineering Faculty Search Committee, CECS, (member, 2010-2011)
- Transition Team for CASL's New Dean (member, 2010-2011)
- CASL Online Learning Advisory Committee (OLAC) (member, 2007-2011)

c) University-wide Committee Service

- Task force for Periodic Evaluation of Provost Davy (member, 2013-present)
- Promotion and Tenure Committee for Associate Professor Promotions (Faculty Senate), (member, 2013, 2014)
- Vision 2020 team, Goal 2: Support student learning through increased investment in innovative, emerging and proven pedagogies, (member, 2012-present)
- Committee on the Economic Status of the Faculty, (member, 2012-2014)
- CASL At-Large Representative to the Faculty Senate, (member, 2010-2013, 2013-2016)
- Faculty Senate Council (member, 2010-2011)
- Vision 2020 Emerging Strategies Team, (member, 2010-present)

d) Outreach Activities

- Presentations and laboratory tour at the Annual Science Exploration Day, University of Michigan Dearborn, 2011, 2012 and 2013.
- Presentation at the 2006 US National Chemistry Olympiad Awards Banquet, Detroit Section, American Chemical Society, (Winter 2006)

e) Additional Professional Activities

- Instructor, Responsible Conduct in Research (RCR), Workshop A: Sources, Authorship and the Publication Process, Winter 2018 – present.
- Break-out Session Facilitators on *"Student/Faculty Research Collaborations and Resources"*, Vision 2020 Forum, November 1, 2016, Michigan Rooms, Fairlane Center South.
- One of the three panelists of faculty research panel discussion as part of the new faculty orientation session, University of Michigan – Dearborn, August 22, 2014.
- Faculty Speaker (College of Arts, Sciences and Letters (CASL)) at the April 2013 commencement (April 28, 2013)
- Reviewed a promotion and tenure case from Washington and Jefferson College, Washington, PA (Winter 2013)

- Panelist for Scanning Microscopy Major Research Instrument (MRI) panel for the National Science Foundation, Division of Materials Research (NSF-DMR) (May 2012)
- Served as hoc reviewer for two proposals submitted to National Science Foundation (NSF) Macromolec/Supramolec/Nano Program (March, 2015).
- Reviewer of proposals from American Chemical Society (ACS) Petroleum Research Fund (PRF) and from Research Corporation for Science Advancement, Tucson, AZ.
- Reviewer for *Environmental Technology, Langmuir, Colloids and Surface A, Physicochemical and Engineering Aspect, Journal of Nanoscience letters, Analytical Chemistry, Journal of Nanoparticle Research*
- Faculty Advisor to UM-Dearborn *Chemistry Club* (Winter 2011-present).
- Faculty Advisor to UM-Dearborn *Lend a Hand* Organization (Fall 2016-present).