



## Buddini I. Karawdeniya, Ph.D.

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### WORK / TEACHING EXPERIENCE

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- 08/2024 – present     **Assistant Professor, Department of Biomedical Engineering and Department of Chemistry and Biochemistry. The Ohio State University.**
- 03/2020 – 06/2024     **Research Fellow: ‘Our Health in Our Hands’ (OHIOH) Grand Challenge project  
Program Coordinator, OHIOH Sensors Team  
ARC Centre of Excellence for Transformative Meta-optical Systems (TMOS)**  
Research School of Physics, Australian National University, Canberra, Australia  
Research Areas: solid-state nanopore sensing, metasurface optical sensing, surface modification, nanofabrication, bio and gas sensing. Established solid-state nanopore sensing at ANU, Physics  
**Lecturer:** PHY2204 Soft Condensed Matter Physics on ‘Electrochemical Concepts for the Investigation of Soft Condensed Matter’ since 2021 (introduced a brand-new section to the course)  
**Laboratory Manager:** Common chemistry laboratory WHS Tier 3 inductions, training, and management
- 10/2018 – 01/2020     **Postdoctoral Fellow: Biological, Actuation, Sensing and Transport Laboratory**  
Lyle School of Engineering, Southern Methodist University, Texas, USA
- 06/2018 – 09/2018     **Postdoctoral Researcher**  
National Science Foundation RI EPSCoR Coastal Ecology Assessment Innovation and Modelling (C-AIM), Department of Chemistry, University of Rhode Island, RI, USA
- 08/2012 – 05/2018     **Graduate Teaching/Research Assistant, Dept. of Chemistry, URI, USA**
- 11/2010 – 06/2012     **Full-Time Teaching Assistant, Institute of Chemistry Ceylon, Sri Lanka**  
**Lecturer: teaching an analytical chemistry course for students in the Diploma in Laboratory Technicians.**

### EDUCATION

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- 2018     Ph.D. in Analytical Chemistry  
Advisor: Prof. Jason R. Dwyer  
Department of Chemistry, University of Rhode Island, USA  
*Nanostructured Interfaces for Single Molecule Sensing and Molecular Fingerprinting*
- 2010     BSc equivalent in Chemistry  
Institute of Chemistry Ceylon, Sri Lanka
- 2010     BSc in Biological Science:  
University of Colombo, Sri Lanka

### INTELLECTUAL PROPERTY

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- 2024     International patent application (application no: 2023903065) on a breath acetone sensing device, IP Australia, Shiyu Wei, **Buddini Karawdeniya**, Lan Fu, Krishnan Murugappan and Antonio Tricoli
- 2024     US patent no: US-11981557-B2: Ohmic nanopore fabrication and real-time cleaning. YM Nuwan DY Bandara, **Buddini I Karawdeniya**, Jugal Saharia, Min Jun Kim, Jason Rodger Dwyer
- 2019     US Patent no: US-10519035-B1: Covalent chemical surface modification of surfaces with available silicon or nitrogen. Jason R Dwyer, YM Nuwan DY Bandara, **Buddini Iroshika Karawdeniya**, Julie C Whelan
- 2019     US Patent no: US-10351958-B2: Systems and methods for electroless plating of thin gold films directly onto silicon nitride and into pores in silicon nitride. Jason Rodger Dwyer, Julie C. Whelan, Y.M. Nuwan D.Y. Bandara, and **Buddini I. Karawdeniya**

### RESEARCH FUNDING

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- 2025     Principal Investigator: OSU Institute for Materials and Manufacturing Research (IMR) Kickstart Facility Grant
- 2024     Principal Investigator: ANU Impact Fund to drive the acetone breath sensing device commercialization (50k AUD)
- 2023     Principal Investigator: Physics Small Equipment Grant (~47k AUD) to establish a gas sensing facility.
- 2023     Principal Investigator: Australian Centre for Accelerating Diabetes Innovation (ACADI), Health Technology Innovation Challenge (30k AUD) for developing the breath acetone sensor to monitor diabetes.

- 2022 Chief Investigator: ANU Major Equipment Committee Grant (67k AUD + 14k AUD other support) to establish a Nanopore sensing facility.
- 2022 Chief Investigator: Research Translation and Engagement Primer Fund (24k AUD) for developing advanced nanopore biosensors.
- 2018-2020 Assisted in securing 2 NIH grants and 1 NSF grant for Prof. MinJun Kim (SMU) lead proposals (~750K USD).

## SELECTED AWARDS, SCHOLARSHIPS, AND ACHIEVEMENTS

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- 2023 Winner, Health Technology Innovation Challenge, Australian Centre for Accelerating Diabetes Innovation
- 2023 Carer Grant to attend TMOS Conference, ARC CoE TMOS
- 2022 Royal Melbourne Institute of Technology, Vice Chancellor's Research Fellowship Finalist
- 2022 Early Career Women Writing (ECWW) Workshop Alumni Gold Award
- 2021 Early Career Women Writing (ECWW) Workshop Alumni Silver Award
- 2021 2<sup>nd</sup> Prize for the Best Research Presentation in the ECR category at the Student and ECR Conference, ARC Centre of Excellence for Transformative Meta-Optical Systems (TMOS)
- 2020 ANU for Johnson and Johnson WiSTEM<sup>2</sup>D Award in the Technology category
- 2017 Eastern Analytical Symposium Graduate Student Research Award
- 2016 Graduate School Fellowship, University of Rhode Island (1-year full tuition and benefits, competitive)
- 2016 NSF EPSCoR Track II NEWNet travel award (Bioanalytical Sensors Gordon conference, 2016)
- 2015 FACSS Student Poster Award for *Electroless gold plating as an adaptable tool to fabricate custom surface enhanced Raman spectroscopic (SERS) substrates* at the SciX 2015 conference
- 2015 Outstanding Third Year Graduate Student Award, Department of Chemistry (U. Rhode Island)
- 2015 Phillis R. Brown Chemistry Scholarship (U. Rhode Island)
- 2015-18 URI Intellectual Property Awards (U. Rhode Island)
- 2014 R. Ken Force Graduate Fellowship for Analytical Chemistry (U. Rhode Island)
- 2010 Graduate Chemist Silver Jubilee Commemoration Award (I.Chem.C) for the Overall Third Best Performance

## PUBLICATIONS

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### Journal Publications

- Nature Communications (1), Chemical Reviews (1), ACS Nano (1), Advanced Functional Materials (2), Applied Physics Reviews (1), Analytical Chemistry (3), ACS Materials and Interfaces (4), Small (1), Small Methods (1)
1. Solid-state nanopore sensing reveals conformational changes induced by a mutation in a neuron-specific tRNA<sup>Arg</sup>. Shankar Dutt, Lien B. Lai, Buddini I. Karawdeniya, Y.M. Nuwan D.Y. Bandara, Venkat Gopalan, and Patrick Kluth. *Nucleic Acids Research* 54, no. 2 (2026): gkaf1411.
  2. III–V Compound Semiconductor Nanowire Arrays for Sensor Applications— A Review. Shiyu Wei, Zhe Li, Buddini I Karawdeniya, Chaohao Chen, Hark Hoe Tan, Chennupati Jagadish, Longzhen Qiu, Lan Fu. *ACS Sens.* 2025, 10, 5339–5362
  3. A Robust Parallel Computing Data Extraction Framework for Nanopore Experiments. YM Nuwan DY Bandara, Shankar Dutt, Buddini I Karawdeniya, Jugal Saharia, Patrick Kluth, Antonio Tricoli. *Small Methods* 2024, 8, 2400045
  4. Nanowire Array Breath Acetone Sensor for Diabetes Monitoring. Shiyu Wei, Zhe Li, Krishnan Murugappan, Ziyuan Li, Mykhaylo Lysevych, Kaushal Vora, Hark Hoe Tan, Chennupati Jagadish, Buddini I Karawdeniya, Christopher J Nolan, Antonio Tricoli, Lan Fu. *Adv. Sci.* 2024, 11, 2309481
  5. Nanopore Fabrication Made Easy: A Portable, Affordable Microcontroller-Assisted Approach for Tailored Pore Formation via Controlled Breakdown. Y. M. Nuwan. D. Y. Bandara\*, Buddini I. Karawdeniya, Shankar Dutt, Patrick Kluth\*, Antonio Tricoli\* *Anal.Chem.*, 2024, 96, 2124-2134
  6. Nano-structuring Metal Organic Frameworks on Semiconductor Nanowire Arrays for Highly Sensitive and Selective Chemical Sensing. Alishba T. John, Shiyu Wei, Jodie A. Yuwono, Priyank Kumar, David R. Nisbet, Buddini I. Karawdeniya, Lan Fu\*, Krishnan Murugappan\*, Antonio Tricoli\* *Appl. Phys. Rev.* 2023, 10, 031421
  7. High Accuracy Protein Identification: Fusion of Solid-State Nanopore Sensing and Machine Learning. Shankar Dutt, Hancheng Shao, Buddini Karawdeniya, Y. M. Nuwan D. Y. Bandara, Elena Daskalaki, Hanna Suominen, Patrick Kluth. *Small Methods* 2023, 2300676
  8. Over One Million DNA and Protein Events Through Ultra-Stable Chemically-Tuned Solid-State Nanopores. Jugal Saharia, Yapa Mudiyansele Nuwan Dhananjaya Yapa Bandara, Buddini Iroshika Karawdeniya, Jason Rodger Dwyer, Min Jun Kim. *Small*, 2023, 2300198
  9. Ultrathin, High-Lifetime Silicon Nitride Membranes for Nanopore Sensing. Shankar Dutt\*, Buddini I. Karawdeniya\*, Y. M. Nuwan D. Y. Bandara, Nahid Afrin, and Patrick Kluth. *Anal. Chem.* 2023, 95, 13, 5754–5763. \* corresponding authors
  10. (*arXiv preprint*) High Accuracy Protein Identification: Fusion of solid-state nanopore sensing and machine learning. Shankar Dutt, Hancheng Shao, Buddini Karawdeniya, Y. M. Bandara, Eleni Daskalaki, Hanna Suominen, Patrick Kluth. *arXiv:2302.12098*

11. (invited) Surface Functionalization and Texturing of Optical Metasurfaces for Sensing Applications. Buddini I Karawdeniya, Adam M Damry, Krishnan Murugappan, Shridhar Manjunath, YM Nuwan DY Bandara, Colin J Jackson, Antonio Tricoli, Dragomir Neshev, *Chemical Reviews*, 2022, 122, 19, 14990–15030
12. (arXiv preprint) Controlled Fabrication of Thin Silicon Nitride Membranes for Nanopore Sensing. Dutt, S., Karawdeniya, B.I.\*, Bandara, Y.M. and Kluth\*, P., 2022. arXiv:2201.09024. \* corresponding author
13. Semiconductor Nanowire Arrays for High-Performance Miniaturized Chemical Sensing. Shiyu Wei, Zhe Li, Alishba John, Buddini I. Karawdeniya, Ziyuan Li, Fanlu Zhang, Kaushal Vora, Hark Hoe Tan, Chennupati Jagadish, Krishnan Murugappan, Antonio Tricoli, and Lan Fu, *Adv. Funct. Mater.*, 2021, 2107596
14. Nanopore Data Analysis: Baseline Construction and Abrupt Change-Based Multilevel Fitting. Y. M. Nuwan D. Y. Bandara, Jugal Saharia, Buddini I. Karawdeniya, Patrick Kluth, and Min Jun Kim. *Anal. Chem.* 2021, 93, 34, 11710–11718
15. (invited) Resonant Dielectric Metagratings for Response Intensified Optical Sensing. Rifat Ahmmed Aoni, Shridhar Manjunath, Buddini I. Karawdeniya, Khosro Zangeneh Kamali, Lei Xu, Adam M. Damry, Colin J. Jackson, Antonio Tricoli, Andrey E. Miroshnichenko, Mohsen Rahmani, Dragomir N. Neshev. *Adv. Funct. Mater.* 2021, 2103143
16. Modulation of electrophoresis, electroosmosis and diffusion for electrical transport of proteins through a solid-state nanopore. Jugal Saharia, Y. M. Nuwan D. Y. Bandara, Buddini I. Karawdeniya, Cassandra Hammonda, George Alexandrakis and Min Jun Kim. *RSC Advances*, 2021, 11, 24398-24409
17. Targeting improved reproducibility in surface-enhanced Raman spectroscopy with planar substrates using 3D printed alignment holders. Buddini Iroshika Karawdeniya, Robert B. Chevalier, Y. M. Nuwan D. Y. Bandara, and Jason R. Dwyer. *Review of Scientific Instruments*, 2021, 92, 043102
18. Assessment of 1/f noise associated with nanopores fabricated through chemically tuned controlled dielectric breakdown. Jugal Saharia, Y. M. Nuwan D. Y. Bandara, Buddini I. Karawdeniya, George Alexandrakis, Min Jun Kim. *Electrophoresis*, 2020, 42, 7-8, 899-909
19. Adeno-Associated Virus Characterization for Cargo Discrimination through Nanopore Responsiveness. Buddini Iroshika Karawdeniya\*, Y. M. Nuwan D. Y. Bandara\*, Aminul Islam Khan\*, Jeron Chen, Adnan Morshed, Junghae Suh, Prashanta Dutta, and Min Jun Kim. \*authors contributed equally. *Nanoscale*, 2020, 12, 23721-23731
20. Chemically tailoring nanopores for single molecule sensing and glycomics. James T. Hagan, Brian S. Sheetz, Y.M. Nuwan D.Y. Bandara, Buddini I. Karawdeniya, Melissa A. Morris, Robert B. Chevalier & Jason R. Dwyer. *Analytical and Bioanalytical Chemistry, Perspectives*, 2020, 6, 10
21. Beyond nanopore sizing: improving solid-state single-molecule sensing performance, lifetime, and analyte scope for omics by targeting surface chemistry during fabrication. Y M Nuwan D. Y. Bandara, Jugal Saharia, Buddini I Karawdeniya, James T Hagan, Jason R Dwyer and Min Jun Kim. *Nanotechnology*, 2020, 31, 33
22. Mechanical characterization of vesicles and cells: A review. Adnan Morshed, Buddini Iroshika Karawdeniya, Y.M. Nuwan D.Y. Bandara, Min Jun Kim, and Prashanta Dutta. *Electrophoresis, Special Issue: Fundamentals* 2020, 41, 7-8, 449-470
23. Chemically Functionalizing Controlled Dielectric Breakdown Silicon Nitride Nanopores by Direct Photohydrosilylation. Bandara, Nuwan; Karawdeniya, Buddini; Hagan, James; Chevalier, Robert; Dwyer, Jason. *ACS Applied Materials and Interfaces*, 2019, 11, 30411-30420
24. Molecular Level Profiling of Human Serum Transferrin Protein through Assessment of Nanopore-Based Electrical and Chemical Responsiveness. Saharia, Jugal; D.Y. Bandara, Y.M. Nuwan; Goyal, Gaurav; Lee, Jung Soo; Karawdeniya, Buddini Iroshika; Kim, Min Jun. *ACS Nano*, 2019, 13, 4, 4246-4254
25. (Review) Challenging Nanopores with Analyte Scope and Environment. Buddini I. Karawdeniya, Y.M. Nuwan D.Y. Bandara, Jonathan W. Nichols, Robert B. Chevalier, James T. Hagan, and Jason R. Dwyer. *Journal of Analysis and Testing*, 2019, 3, 61-79
26. Mechanical measurement of shape deformation of liposome using solid-state nanopore sensor with automated recapturing platform. Jung Soo Lee, Jugal Saharia, Y. M. Nuwan D. Y. Bandara, Buddini Iroshika Karawdeniya, Gaurav Goyal, Armin Darvish, Qingxiao Wang, Moon J. Kim, and Min Jun Kim. *Electrophoresis*, 2019, 40, 1337-1344
27. A Push-Button Method to Create Nanopores Using a Tesla Coil Lighter. Y.M. Nuwan D.Y. Bandara, Buddini Iroshika Karawdeniya, and Jason R. Dwyer. *ACS Omega*, 2019, 4, 226–230
28. “Lights, Camera, Questions and Answers!”: Talking About Science on Camera. Buddini Karawdeniya, Y.M. Nuwan D.Y. Bandara, Julie Whelan, John Yacano, Marissa DeOliveira, Dana Neugent, Regina Bell, Jason Dwyer. *ChemRxiv*, 2018
29. Surveying Silicon Nitride Nanopores for Glycomics and Heparin Quality Assurance. Buddini Iroshika Karawdeniya, Y.M. Nuwan D.Y. Bandara, Jonathan W. Nichols, Robert B. Chevalier, and Jason R. Dwyer. *Nature Communications*, 2018, 9, 3278-3286

30. General Strategy to Make an On-Demand Library of Structurally and Functionally Diverse SERS Substrates. Buddini Iroshika Karawdeniya, Y. M. Nuwan D. Y. Bandara, Julie C. Whelan, and Jason R. Dwyer. *ACS Applied Nano Materials*, 2018, 1, 960–968
31. Conductance-Based Profiling of Nanopores: Accommodating Fabrication Irregularities. Y.M. Nuwan D.Y. Bandara, Jonathan W. Nichols, Buddini Iroshika Karawdeniya, and Jason R. Dwyer. *Electrophoresis*, 2018, 39, 626-634
32. A Comparison of SERS and MEF of Rhodamine 6G on a Gold Substrate. Elizabeth Kohr, Buddini I. Karawdeniya, Jason R. Dwyer, Anju Gupta, and William B. Euler. *Phys. Chem. Chem. Phys.* 2017, 19, 27074-27080
33. Real-time Profiling of Solid-State Nanopores During Solution-Phase Nanofabrication. Y. M. Nuwan D. Y. Bandara, Buddini Iroshika Karawdeniya, and Jason R. Dwyer. *ACS Appl. Mater. Interfaces* 2016, 8, 30583–30589
34. Solution-Based Photo-Patterned Gold Film Formation on Silicon Nitride. Y. M. Nuwan D. Y. Bandara, Buddini Iroshika Karawdeniya, Julie C. Whelan, Lucas D. S. Ginsberg, and Jason R. Dwyer. *ACS Appl. Mater. Interfaces* 2016, 8, 34964–34969
35. Electroless Plating of Ultrathin Gold Films Directly onto Silicon Nitride Thin Films. Julie Whelan, Buddini Iroshika Karawdeniya\*, Y. M. Nuwan D.Y. Bandara\*, Brian Velleco, Caitlin M. Masterson, and Jason R. Dwyer. \*authors contributed equally. *ACS Appl. Mater. Interfaces* 2014, 6, 10952–10957

### Book Chapters and Commercial User Guides

1. *(Invited)* Silicon Nitride Thin Films for Nanofluidic Device Fabrication. Dwyer, J.R., Bandara, Y.M.N.D.Y., Whelan, J.C., Karawdeniya, B.I., Nichols, J.W. *Royal Society of Chemistry: Nanofluidics*, 2<sup>nd</sup> Edition, Editors Joshua Edel & Min Jun Kim
2. *(invited)* Authored a chapter on Operational Principles of Solid-state Nanopores named ‘Recording from Solid-State Nanopores’ in the 5<sup>th</sup> edition of the user guide of Molecular Devices, 2021 (world leading manufacturer of patch clamp amplifiers)

### Popular Press Articles

1. Nextgen Voices: Ask A Peer Mentor: NextGen advises ‘Trying to Manage’. Douglas Steinhaff, Joel Henrique Ellwanger, Monika Lewinska, Edmond Sanganyado, Yongsheng Ji, Buddini Iroshika Karawdeniya *et al.* *Science* 04 Oct 2019, 366, Issue 6461, pp. 28-30
2. What not to do in graduate school in the Career Column of *Nature* 572, 553-554 (2019)
3. Contributing Editor, *Momentum: Research & Innovation for Fall 2019* (Research Magazine, URI)
4. *(invited)* Breath of open access—a life-line for scientific communities and challenges to overcome on a global scale in *Nature Chemistry Research Community* blog on open access week (2018)
5. *(invited)* Tasty, Therapeutic or Toxic? Silicon Nitride Nanopores as a Single Molecule Glycomics Sensor in *Nature Chemistry Research Community* blog: Behind the Paper (2018)

### SELECTED PRESENTATIONS (out of 20)

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| 2022 Dec | <i>(Invited)</i> Solid-state nanopore sensor: a nanoelectronics sensor for single-molecule diagnostics. Australian Institute of Physics Congress 2022  |
| 2022 Dec | <i>(Invited Speaker)</i> Metasurface optical sensors for bio and gas sensing. Pre-conference workshop on ‘Fabrication Photonic and Optical Components’ 2022  |
| 2022 Nov | <i>(invited)</i> Easy as breathing non-invasive detection of diabetes. Our Health in Our Hands, Diabetes Symposium 2022, Australian National University  |
| 2022 Jun | <i>(Invited Speaker)</i> Theme seminar on ‘Shaping Minds to Break Barriers of Chemical Research’ at the Annual Sessions of Institute of Chemistry Ceylon, Sri Lanka  |
| 2021 Aug | Dielectric metasurfaces as refractive index sensors: Towards high-sensitivity label-free optical sensing, ACS Fall Meeting, <i>Online Presentation</i>   |
| 2021 Jul | <i>(Award-winning)</i> Surface functionalisation of dielectric metasurfaces for highly selective and sensitive label-free refractive index sensing, TMOS Student and ECR Conference, <i>Oral Presentation</i>  |
| 2020 Nov | Future personalized biomedical sensors: Nanopore single molecule sensors, OHIOH Symposium 2020, ANU, <i>Online Oral presentation</i>   |
| 2018 Jun | Sweets to nutrients, we keep track of all: Single molecule sensing and molecular fingerprinting, Gordon Research Seminar and Conference on Bioanalytical Sensors 2018, Newport, RI. <i>Poster presentation</i> |
| 2018 Jun | Nanostructured interfaces for single molecule sensing and molecular fingerprinting, Department of Bioengineering, University of Texas, Dallas, invited by Prasad lab, <i>Oral presentation</i>                 |

- 2017 Nov *(Award presentation)* A sweet promise from solid-state nanopores: polysaccharide-sugar analysis challenge, Eastern Analytical Symposium 2017, Princeton, NJ, *Poster presentation*
- 2016 Apr Next-generation environmental sensing: From molecules to microbes, NSF EPSCoR National Meeting, Providence. *Poster presentation*
- 2015 Dec *(Invited)* Custom fabrication of surface enhanced Raman spectroscopic (SERS) substrates from silicon nitride to paper by electroless gold plating...and a taste of single molecule sensing, Program for “popular talks”, Institute of Chemistry Ceylon, Sri Lanka. *Oral presentation*
- 2015 Nov *(Invited)* Custom fabrication of surface enhanced Raman spectroscopic (SERS) substrates by electroless gold plating on a variety of substrate materials for the detection of trace levels of organic pollutants, NSF EPSCoR National Meeting, New Hampshire. *Poster presentation*
- 2015 Sep *(Award-winning)* Electroless gold plating as an adaptable tool to fabricate custom surface-enhanced Raman spectroscopic (SERS) substrates, FACSS SciX international conference, RI. *Poster presentation*

## **RESEARCH SUPERVISION, OUTREACH, MEDIA, EXTRA-CURRICULAR WORK and TRAINING**

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- 2024 up OSU Postdoctoral (1), Graduate (3) and Undergraduate (6) research supervision
- 2024 OSU BMES Resume review, resource person
- 2023 WIN News ‘[Researchers have developed a new whistle that could save lives](#)’
- 2023 ANU Reporter ‘[Breathhtaking: the whistle that might save lives](#)’
- 2023 Supervision of a postgraduate scholar from Indonesian through Future Research Talent (FRT) program of ANU
- 2022 Chairing and judging the student poster session, *Women in Physics* Gala
- 2022 Founder Day Talk representing Department of Electronic Materials Engineering
- 2022 Steering Committee of inSTEM Conference 2022 (July 20-21<sup>st</sup>) and design and maintenance of inSTEM official website <https://instem.io/>
- 2022 Mentoring a PhD student through the Mentoring Program of Network for Early Career Teachers, Academics and Researchers (NECTAR)
- 2022 Remote supervision of 4 postgraduate students from Indian and Indonesian institutes through Future Research Talent (FRT) program of ANU
- 2022 Part of the team selected to participate in D.Star Ignite program organized by DSTG and CSIRO
- 2020 Organizing Committee and a Session Chair of the OHIOH Symposium 2020
- 2020 Reviewing student abstracts and serving as a judge for ANU Student Research Conference (SRC)
- 2020/21 Early Career Women in STEMM Writing Workshop (ECWW)
- 2018-22 Peer-reviewing for Electrophoresis, Optics Express, Applied Optics, JOSA B, Materials Advances, and Nano Letters.
- 2018 Rhody Today “[URI chemistry professor develops new contaminant detection technique for blood thinner heparin](#)” article about Buddini Karawdeniya’s Ph.D. work
- 2018 Rhode Today “[Tiny nanostructures help URI doctoral candidate in chemistry detect chemicals in Narragansett Bay](#)”, article about Buddini Karawdeniya’s NSF EPSCoR work
- 2018 Creating the new Dwyer research group website <http://dwyergroup.wixsite.com/dwyerresearchgroup>
- 2017 Judge at Rhode Island Science and Engineering Fair
- 2016 Research supervision of a high school student for Rhode Island Science and Engineering Fair that was ranked one of top 10 research projects and awarded the Yale Science and Engineering Award, American Chemical Society Award and Ricoh Sustainable Development Award
- 2014 Science outreach video done on nanotechnology for National Science Foundation (NSF)
- 2014-18 Provided principal mentorship to 10 MSc, exchange, and BSc students on NSF CAREER and EPSCoR projects.