Sumona Mondal

Associate Professor

smondal@clarkson.edu

sumona.mondal@gmail.com

8, Clarkson Avenue, Potsdam, NY-13699

(337)254-1370 (cell), (315)268-6415 (office)

Education

- Ph.D. in Mathematics (Statistics concentration) Department of Mathematics, University of Louisiana at Lafayette
  Dissertation Title: Constructions of Tolerance Regions for Some Multivariate Linear Models (Spring 2007)
- MS in Mathematics, University of Louisiana at Lafayette (Fall 2004)
- MSc in Statistics, University of Calcutta, India (2000)
- BSc in Statistics, University of Calcutta, India (1998)

Professional Record

- Associate Professor, Department of Mathematics, Clarkson University March 2013 - till date
- Associate Professor, Department of Computer Science (Courtesy Appointment), Clarkson University April 2021 - June 2023
- Assistant Professor, Department of Mathematics, Clarkson University July 2007 - February 2013
- Graduate Teaching Assistant, Department of Mathematics, University of Louisiana at Lafayette, January 2003 - May 2007
- Systems Engineer, ADA Software and Services Pvt. Ltd., Kolkata, India, August 2000 - December 2002
- Statistical Consultant (Part-Time) for Indian Statistical Institute, Kolkata, India, August 2002 - December 2002

Awards and Honors

- Recipient of Clarkson University's **Diversity and Inclusion Award**, Spring 2022
- Recipient of Clarkson University Students Association's **(CUSA) Outstanding Teaching Award**, Spring 2019
- Recipient of Clarkson University's **Respect Award** from The Office of Accommodative Services, Fall 2012
- Letters of recognition from the Dean of Arts and Sciences for **Outstanding Teaching** for several semesters
- **Rhodes Outstanding Teaching Assistant Award** from Mathematics Department, University of Louisiana at Lafayette (2005-2006)
- **Scholarship and certificate of Merit** in Science Talent Search Exam conducted by National Science Society affiliated to Indian Science Congress(1992)
- **National Scholarship** for the excellence in Secondary Examination, West Bengal, India in **West Bengal Board of Secondary Education**

Journal Articles (published or accepted)

Citations: **1166**, h-Index: **16**, i10-Index: **24**, Link: Google Scholar

50. Chaya Chaipitakporn*, Prashant Athavale, Thevasha Sathiyakumar*, Vijay Kumar*, Marko Budisic, Shantanu Sur, **Sumona Mondal** (2022):"COVID-19 in the United States during pre-vaccination period: Shifting impact of sociodemographic factors and air pollution", ***Frontiers in Epidemiology*** DOI
49. David P. Wick, Emmanuel Atindama*, Prashant Athavale, Michael Ramsdell, **Sumona Mondal**, Robert P. Jaspersohn (2022): "Measuring the Impact of Student Success Retention Initiatives for Engineering Students at a Private Research University", ***Frontiers in Education*** DOI
48. **Sumona Mondal**, Chaya Chaipitakporn*, Vijay Kumar*, Bridget Wangler**, Supraja Gurajala, Suresh Dhaniyala, Shantanu Sur (2022): "COVID-19 in New York state: Effects of demographics and air quality on infection and fatality", ***Science of the Total Environment*** DOI

47. Niklas J. McKone*, Joel R. Martin, **Sumona Mondal**, Shantanu Sur, Nelson Cortes, Shane V. Caswell, Ali Boolani (2022): "Factors influencing motivation to perform mental and physical tasks during the initial lockdown period of the COVID-19 pandemic", ***International Journal of Exercise Science*** DOI

46. Marzieh Babaeianjelodar*, Gurram Poorna Prudhvi, Stephen Lorenz, Keyu Chen, **Sumona Mondal**, Soumyabrata Dey, Navin Kumar (2022): ""Interpretable and High-Performance Hate and Offensive Speech Detection", ***24th International Conference on Human-Computer Interaction 2022*** DOI

45. Ali Boolani, Masoud Moghaddam, Daniel Fuller*, **Sumona Mondal**, Shantanu Sur, Rebecca Martin, Ahmed Tayee, Ahmed Ali Torad, Mostafa Ali Elwan, Rumit Singh Kakar (2022): "The Effects of Vision-Deprived Progressive Resistance Training on One-Repetition Maximum Bench Press Performance: An Exploratory Study", ***Journal of Vision*** DOI

44. Ali Boolani, Daniel Fuller*, **Sumona Mondal**, Eric Gumpricht (2022): "Trait Energy and Fatigue Modify Acute Ingestion of an Adaptogenic-rich Beverage on Neurocognitive Performance", ***Applied Biosciences and Bioengineering*** DOI

43. Tanvir Ahmed*, Mahendar Sing Rawat*, Andrea R. Ferro, Amir A. Mofakham*, Brian T. Helenbrook, Goodarz Ahmadi, Dinushani Senarathna*, **Sumona Mondal**, Deborah Brown, Byron D. Erath, (2022): "Characterizing respiratory droplet emissions during sustained phonation", ***Exposure Science and Environmental Epidemiology*** DOI

42. Prashant Athavale, Vijay Kumar*, Jeremy Clark**, Shantanu Sur, **Sumona Mondal** (2021): "Differential impact of COVID-19 risk factors on ethnicities in the United States", ***Frontiers in Public Health.*** DOI

41. Daniel Fuller*, Carly Lovelett, Eyal Kedar, **Sumona Mondal**, Shantanu Sur (2021): "Rheumatoid arthritis in rural New York: A comparative cross-sectional study of common comorbidities to national data", ***Cureus Journal of Medical Science*** DOI

40. Deepa Vasireddy, Thevasha Sathiyakumar*, **Sumona Mondal**, Shantanu sur (2021): "Socioeconomic Factors Associated with the Risk and Prevalence of Dental Caries and Dental Treatment Trends in Children: A Cross-Sectional Analysis of National Survey of Children's Health (NSCH) Data, 2016-2019", ***Cureus Journal of Medical Science*** DOI

39. Leon Lufkin**, Marko Budisic, **Sumona Mondal**, Shantanu Sur (2021): "A Bayesian Model for Prediction of Rheumatoid Arthritis from Risk Factors", ***Frontiers in Public Health*** DOI

38. Thevasha Sathiyakumar*, Deepa Vasireddy, **Sumona Mondal** (2021): "Impact of Sociodemographic Factors on Dental Caries in Children and Availing Fluoride Treatment: A Study Based on National Survey of Children's Health (NSCH) Data 2016 - 2019", ***Cureus Journal of Medical Science*** DOI

37. Prashant Athavale, **Sumona Mondal**, Seema Rivera (2021): "Factors Influencing Success in Advanced Engineering Mathematics Courses", ***Frontiers in Education*** DOI

36. Kevin Kirk*, Alina Vasilescu, Daniel Andreescu, Dinushani Senarathna*, **Sumona Mondal**, Silvana Andreescu (2021): "Collision-Based Electrochemical Detection of Lysozyme Aggregation", ***Analytical Chemistry*** DOI

35. Ali Boolani, Shantanu Sur, Da Yang*, Chris Towler, Abby Avolio**, Aurora Goodwin**, **Sumona Mondal** (2021): "Six minutes of physical activity improves moods in older adults", ***Journal of Geriatric Physical Therapy*** DOI

34. Jenna Neffe Matthews, Graham Northup**, Isabella Grasso**, Stephen Lorenz**, Marzieh Babaeianjelodar*, Hunter Bashaw**, **Sumona Mondal**, Abigail Matthews**, Mariama Njie, Jessica Goldthwaite (2020): "When Trusted Black Boxes Don't Agree: Incentivizing Iterative Improvement and Accountability in Critical Software Systems", ***Proceedings of the AAAI/ACM Conference on AI, Ethics, and Society*** DOI

33. Ali Boolani, Daniel Fuller*, **Sumona Mondal**, Tyler Wilkerson, Costel Darie, Eric Gumpricht (2020): "Caffeine-containing, adaptogenic-rich beverage modulates the effects of caffeine-only beverages", ***Nutrients*** DOI

32. Batsal Pudasaini*, Joseph Skufca, **Sumona Mondal**, Natasha Banerjee, Jan Scrimgeour, Mark Kanaparthi*, Suresh Dhaniyala (2020): "Estimating $PM_{2.5}$ from photographs", ***Atmospheric Environment*** DOI

31. Kangning Li*, Devin Kapper*, **Sumona Mondal**, Petra Kraus, Thomas Lufkin (2020): "Quantitative Single-Cell Transcript Assessment of Biomarkers Supports Cellular Heterogeneity in the Bovine IVD", ***Veterinary Sciences*** DOI

30. Han Deng*, **Sumona Mondal**, Shantanu Sur, Craig D. Woodworth (2019): "Establishment and Optimization of Epithelial Cell Cultures from Human Ectocervix, Transformation Zone and Endocervix", ***Journal of Cellular Physiology*** DOI

29. Ali Boolani, Patrick J. O'Connor, Jeri Reid, Sai Ma*, **Sumona Mondal** (2018): "Predictors of feelings of energy differ from predictors of fatigue among graduate health sciences students", ***Journal of Fatigue: Biomedicine, Health and Behavior*** DOI

28. Han Deng*, Eric Hillpot**, **Sumona Mondal**, Craig D. Woodworth (2018): "HPV16-Immortalized Cells from Human Transformation Zone and Endocervix Exhibit Rapid Dysplastic Differentiation and Invasion in Organotypic Culture", ***Nature Scientific Reports*** DOI

27. Nicole C. Gela*, Stacey L. Zeigler, Christopher Towler**, **Sumona Mondal**, Kathleen A. Issen, Arthur J. Michalek, Laurel Kuxhaus (2018): "Low-angle low-load cyclic flexion increases lumbar spinal column laxity", ***Journal of Orthopaedic Research Spine*** DOI

26. Han Deng*, Eric Hillpot**, Philomina Yeboah**, **Sumona Mondal**, Craig D. Woodworth (2018): "Susceptibility of epithelial cells from different cervix region to HPV-16 induced immortalization", ***PLOS One*** DOI

25. Kangning Li*, Devin Kapper*, Brittany Youngs**, Victoria Kocsis**, **Sumona Mondal**, Petra Kraus, Thomas Lufkin (2018): "Biomarkers of the Mature Intervertebral Disc Identified at the Single Cell Level", ***Journal of Anatomy*** DOI

24. Vineeta Chand, Devin Kapper*, **Sumona Mondal**, Shantanu Sur, Rana D. Parshad (2017): "Indian English evolution and focusing visible through power laws", ***Languages*** DOI

23. Emmanuel Quansah*, Rana D. Parshad, **Sumona Mondal** (2017): "Cold Induced Mortality of the Burmese Python: An Explanation VIA Stochastic Analysis", ***Physica A: Statistical Mechanics and its Applications***, Volume 467, Pages 356 - 364, February 2017 DOI

22. Emmanuel Quansah*, Rana D. Parshad, **Sumona Mondal**, Ranjit Kumar Upadhyay (2016): "Can the control of invasive species be left to chance?", ***Journal of the Natural Resources and Engineering***, Volume 1, Issue 1, pp. 13-25, 2016 DOI

21. Lisa D.A. Bramwell*, Jing Qian*, **Sumona Mondal**, Cynthia Howard-Reed, Andrea R. Ferro (2016): "An Evaluation of the Impact of Flooring Types on Exposures to Fine and Coarse Particles within the Residential Micro-Environment using CONTAM", ***Exposure Science And Environmental Epidemiology***, DOI

20. Jingkai Li*, **Sumona Mondal**, Hayley H. Shen (2015): "Sensitivity analysis of a viscoelastic parameterization for gravity wave dispersion in ice covered seas", *Cold Regions Science and Technology*, DOI

19. Yilin Tian*, Kyung Sul, Jing Qian, **Sumona Mondal**, Andrea R. Ferro (2014): "A Comparative Study of Walking-induced Dust Resuspension using a Consistent Test Mechanism", ***Indoor Air***, Volume 24, Issue 6, 592-603, December 2014 DOI

18. Alexander K Landauer**, Philip A Yuya, **Sumona Mondal**, Laurel Kuxhaus (2014): "Cyclic Cryopreservation Affects the Nanoscale Material Properties of Trabecular Bone", ***Biomechanics***, Volume 47, Issue 14, pp. 3584–3589, 2014 DOI

17. Marta Kinnunen*, Daniel H. Hilderbrandt**, Stefan J. Grimberg, Shane Rogers, **Sumona Mondal** (2014): "Comparative study of methanogens in one- and two-stage anaerobic digester treating food waste", ***Renewable Agriculture and Food Systems***, Published online: 30 September 2014, Volume 17, Issue 1, 2014 DOI

16. Andreas Wilke, Amanda Sherman**, Bonnie Curdt, **Sumona Mondal**, Daniel J. Kruger, Carey Fitzgerald (2014): "An evolutionary domain-specific risk scale", ***Evolutionary Behavioral Sciences***, Vol 8(3), 123-141, July 2014 DOI

15. Leslie Russek, Sarah Gardner**, Kelly Maguire**, Caitlin Stevens, Erica Zaluski-Brown, Veroni Jayawardana*, **Sumona Mondal** (2014): "A cross-sectional survey assessing sources of movement-related fear among community-based people with fibromyalgia syndrome", ***Clinical Rheumatology***, Volume 34, Issue 6, pp. 1109–1119, January 2014 DOI

14. J. Alexander Maxwell*, Thomas M. Holsen, **Sumona Mondal** (2013): "Gaseous Elemental Mercury Emissions From Snow Surfaces In Northern New York", ***PLoS One***, July 2013, Volume 8, Issue 7, 1-11 DOI

13. Kathleen Fowler, Aaron Luttman, **Sumona Mondal** (2013): "Interdisciplinary Biomathematics: Engaging Undergraduates In Research On The Fringe Of Mathematical Biology", ***PRIMUS: Problems, Resources, and Issues in Mathematics Undergraduate Studies***, Volume 23, Number 9, 1 August 2013 ,815-828 DOI

12. Hyun-Deok Choi, Jiaoyan Huang, **Sumona Mondal**, Thomas M. Holsen (2013): "Variation in Concentrations of Three Mercury (Hg) Species at a Rural and Suburban Site in New York State", ***Science of the Total Environment***, 448: 96-106 DOI

11. Erik R. Vandermark**, Krysta A. Deluca**, Courtney R. Gardner, Daniel F. Marker**, Cynthia N. Schreiner**, David A. Strickland, Katelynn M. Wilton, **Sumona Mondal**, Craig D. Woodworth (2012): "Human Papillomavirus type 16 E6 and E7 proteins alter NF-kB in cultured cervical epithelial cells and inhibition of NF-kB promotes cell growth and immortalization", ***Virology***, 425: 53-60 DOI

10. Kathryn Lozo*, **S. Mondal**, K.R. Fowler, B. Brydges (2011): "A Mathematical Modeling Approach to Understanding the Impact of Stem Institutes on Building Teachers Leaders", ***International Journal of Arts and Sciences'***, 4(11):11–34

9. R. Narula*, S. Grimberg, S. Rogers, **Sumona Mondal** (2011): "Pathogen Reduction and Factors Responsible for Pathogen Reduction in Dairy Farm Operations Treating Agricultural Waste ", ***Biological Engineers***, DOI
8. Craig D. Woodworth, David Jette, Abdulmajid Mohammed**, Michael Moses, Sylvia Searleman**, Laura Smith**, Dan Stevens, Katelynn Wilton**, **Sumona Mondal** (2011): "Inhibition of the Epidermal Growth Factor Receptor by Erlotinib Prevents Immortalization of Human Cervical Cells by Human Papillomavirus Type 16",***Virology***, 421:19-27 DOI
7. N. Brackett-Rozinsky**, **S. Mondal**, K.R. Fowler, E.W. Jenkins (2011): "Analysis of Model Parameters for a Polymer Filtration Simulator", ***Modelling and Simulation in Engineering*** DOI
6. Shane W. Rogers, Matthew Donnelly**, Lindsay Peed, **Sumona Mondal**, Zirong Zhang, Orin Shanks (2011): "Decay of bacterial pathogens, fecal indicators, and real time qPCR biomarkers in manure amended soils", ***Applied and Environmental Microbiology***, Vol. 77, No. 14, Pg 4839-4848 DOI
5. K. Krishnamoorthy, X. Lian*, **S. Mondal** (2011): "Tolerance Intervals for the Distribution of the Difference Between Two Independent Normal Random Variables", ***Communications in Statistics – Theory and Methods***, 40, 117-129 DOI
4. Fulk. G., Reynolds. C.**, **Sumona Mondal**, Deutsch. J. (2010): "Predicting Home and Community Walking Activity in People with Stroke", ***Archives of Physical Medicine and Rehabilitation***, 91(10):1582-1586 DOI
3. Fulk. G., Robinson. C., **Sumona Mondal**, Storey. C., Hollister. A. (2010): "The effects of diabetes and/or peripheral neuropathy in detecting small postural perturbations in mature adults", ***Journal of NeuroEngineering and Rehabilitation***, 2010;7:44 DOI
2. Kalimuthu Krishnamoorthy, **Sumona Mondal** (2008): "Tolerance Factors in Multiple and Multivariate Linear Regressions", ***Communications in Statistics — Simulation and Computation***, 37, 546-559 DOI
1. Kalimuthu Krishnamoorthy, **Sumona Mondal** (2006): "Improved Tolerance Factors for Multivariate Normal Distributions", ***Communications in Statistics – Simulation and Computation***, 35, 461-478 DOI

Journal Articles (submitted or preprints)

2. Grayden Shand*, Daniel Fuller*, Leon Lufkin**, Nabendu Pal, Carly Lovelett, **Sumona Mondal**, Shantanu Sur (2022): "A stronger association of depression with rheumatoid arthritis in presence of obesity and hypertriglyceridemia", submitted to ***medRxiv*** DOI
1. Deepa Vasireddy, Thevasha Sathiyakumar*, Shantanu Sur, **Sumona Mondal** (2022): "Factors affecting Human Papillomavirus vaccine trends in the United States of America", submitted to ***Pediatrics***

Journal Articles (in preparation)

9. Dinushani Senarathna*, Vijay Kumar*, Supraja Gurajala, Suresh Dhaniyala, Shantanu Sur, **Sumona Mondal**: "Effects of distance and sensor numbers in correction models for accurate $PM_{2.5}$ estimation from low-cost sensors"
8. Thevasha Sathiyakumar*, Shantanu Sur, **Sumona Mondal**, Marko Budisic: "Identifying transitions between collective motion regimes using statistical significance tests of the time-varying persistent homology"
7. Vijay Kumar*, Dinushani Senarathna*, Supraja Gurajala, William Olsen, Shantanu Sur, **Sumona Mondal**, Suresh Dhaniyala: "Frequency based filtration methods to analyze $PM_{2.5}$ measurements from low-cost sensor networks"
6. Mahendar Sing Rawat*, Mehtap Agirsoy*, Tanvir Ahmed*, Byron D. Erath, Goodarz Ahmadi, Dinushani Senarathna*, **Sumona Mondal**, Andrea R. Ferro: "Comparing respiratory aerosol emissions between children and adults during sustained phonation"
5. Mohammed Meysami, Vijay Kumar*, Samuel Thomas Lowery**, McKayah Pugh**, Shantanu Sur, **Sumona Mondal**, James Greene: "A statistical analysis of the effect of vitamin D on cancer incidence and mortality"
4. Dinushani Senarathna*, Sucharitha Dodamgodage*, Thevasha Sathiyakumar*, Stephanie Andreescu**, James Greene, Shantanu Sur, **Sumona Mondal**: "COVID-19 in the United States during the pre-vaccination phase: Empirical evidence from Poisson and Negative-Binomial regression models"
3. **Sumona Mondal**, Nathalie Barrios**, Sucharitha Dodamgodage*, Madhushi Wickramasinghe*, Olaoluwa Ogunleye*, Shantanu Sur, Andreas Statmatis, Ali Boolani: "Mood Responses to Various Exercise Types Using the Ontological Definitions of Exercise"
2. Junda Ren*, Chaya Chaipitakporn*, Daniel Fuller*, Shantanu Sur, **Sumona Mondal**: "The impact of sex on Rheumatoid Arthritis conditions"
1. Thevasha Sathiyakumar*, Vijay Kumar*, Chaya Chaipitakporn, Marko Budisic, Shantanu Sur, **Sumona Mondal**: "Inequalities in infection and fatality rates by COVID-19 pandemic due to demographic factors and air pollutants in New York State: Two waves, two patterns"

Conference Proceedings

9. Mst Jannatul Ferdausi*, Cole Cappon*, Craig Merrett, **Sumona Mondal**, Marcias Martinez (2022): "Development of a viscoelastic life prediction model for adhesively bonded single lap shear joints", 13th International Conference on Sandwich Structures (ICSS-13), Knoxville, USA, October 2022
8. Niklas J. McKone*, Joel R. Martin, **Sumona Mondal**, Shantanu Sur, Nelson Cortes, Shane V. Caswell, Ali Boolani (2022): "Factors influencing motivation to perform mental and physical tasks during the initial lockdown period of the COVID-19 pandemic", ***International Journal of Exercise Science*** DOI
7. Stacey Zeigler, **Sumona Mondal**, Devin Kapper* (2016): "DPT student autonomy related attitudes and behaviors: the effects of intention, instructor, and instrumental method"
6. Veroni Jayawardana*, Adom Giffin, **Sumona Mondal**, Leslie Russek (2015): "Bayesian Analysis of Factors Associated with Fibromyalgia Syndrome Subjects", American Institute of Physics, December 2014
5. Keegan Lowenstein*, Brian Leventhal, Kylie Drouin, Robert Dowman, Katie Fowler, **Sumona Mondal** (2011): "Simulation And Model Calibration With Sensitivity Analysis For Threat Detection In Brain", *23rd European Modeling and Simulation Symposium*, Rome, Italy, September 2011
4. B. Zhang, K.R. Fowler, **S. Mondal**, S.J. Grimberg (2010): "Model Calibration and Sensitivity Analysis of ADM1 Simulating Non-Steady State Anaerobic Digestion of Dairy Manure ", *Proceedings of the International Water Association*
3. R. Narula*, S. Grimberg, S. Rogers, **S. Mondal** (2010): "Quantification of Selected Pathogens in Agricultural and Municipal Wastes", *Proceedings of the 83rd Annual Water Environment Federation Technical Exhibition and Conference (WEFTEC)*, New Orleans, Louisiana, October 4-6, 2010
2. R. Narula*, S. Grimberg, S. Rogers, **S. Mondal** (2010): "Pathogen Reduction and Correlation to Factors Responsible for Pathogen Reduction in Dairy Farm Operations Treating Agricultural Waste", *Proceedings of the American Society of Agricultural and Biological Engineers (ASABE) Annual International Meeting*, Pittsburgh, PA, June 20-23, 2010
1. B. Zhang*, K.R. Fowler, M. Grace, **S. Mondal**, S.J. Grimberg (2009): "Optimization of Anaerobic Digestion Model No. 1 (ADM1): Simulation of Dairy Manure Digestion ", *Proceedings of the American Society of Agricultural and Biological Engineers Annual International Meeting, Reno, Nevada, June 2009*

** represents the undergraduate student, * represents the graduate student.

Grants and Funding: Current

7. National Institutes of Health (NIH): **Co-PI**, (PI: Costel Daire, Chemistry and Bio-molecular Science), R15, "Identifying a proteomic signature for breast cancer detection in breast milk and serum", $\$445K$, 2022-2025
6. Office of Naval Research (ONR): **Co-PI**, (PI: Marcias Martinez, Mechanical Engineering), "A Viscoelastic-Plastic Approach to Static Strength Prediction of Bonded Joints", $\$803K$, 2021-2025
5. National Science Foundation (NSF): **Senior Personnel**, (PI: James Greene, Mathematics Department), "Mathematical Biology Team Science (MBioTS) Research Experience for Undergraduates (REU)", $\$400K$, 2022-2025
4. Echo360 Impact grant: **Senior Personnel**, (PI: Erin Blauvelt, Managing Instructional Designer), "Student Video Views Through Echo360", $\$2K$, 2022-2023
3. National Security Agency (NSA): **Senior Personnel**, (PI: Guangming Yao, Mathematics Department), "Summer Research Experience for Undergraduates in Mathematics", $\$94K$, 2022
2. Clarkson University Ignite Program (Internal): **PI**, [Co-PI Shantanu Sur, Department of Biology], "Rheumatoid Arthritis in the Rural Setting: Elucidating the Impact of Comorbid Conditions, Socioeconomic Factors, and Access to Health Care on Disease Outcome". Clarkson Ignite Research Collaboration Pilot Grant Program, award amount $\$250K$ (Full support for one graduate research fellow for 2019–2024)
1. National Science Foundation (NSF): **Senior Personnel**, (PI: Marc P. Christensen, President, Clarkson University), "STEM Leadership, Equity, and Advancement for Faculty", $\$1M$, 2019-2023

Grants and Funding: Completed

14. David A Walsh's 67 Arts&Sciences Mini-Conference Grant ($\$2K$): **Co-PI** (Co-PI: Shantanu Sur, Department of Biology), "Data Science Meets Healthcare, Bio and Environmental Sciences", December 2017
13. David A Walsh's 67 Arts&Sciences Mini-Conference Grant ($\$2K$): **Committed Participant** (PI: Seema Rivera), "Teaching and Learning Outside the Box", March 2017

12. National Science Foundation (NSF): **Senior Personnel**, (PI: Dianna Spence, North Georgia College & State University), DUE-1021584, "Discovery Learning Projects in Introductory Statistics", $\$397K$, 2010-2014
11. **Travel grant** ($750) to attend "BioQUEST" workshop for faculty at the University of Delaware from June 6 - 10, 2014, sponsored by the SCALE-IT Graduate Program at the UTK and NSF
10. David A Walsh's 67 Arts&Sciences Mini-Conference Grant ($\$2K$): **PI** (with Guangming Yao), "A Mini-Conference on Applied Statistics and Computational Mathematics", 2013
9. Institute for a Sustainable Environment Seed Grant (ASPIRE) ($\$5.7K$): **PI** (with Jie Sun), "Information-based Model-free Approach for Complex System Analysis", 2013
8. **Travel grant** ($1500) to attend "BioQUEST, SCALE-IT" workshop for faculty at the University of Tennessee in Knoxville from January 6 - 10, 2013, sponsored by the SCALE-IT Graduate Program at the UTK and National Science Foundation (NSF)
7. National Science Foundation (NSF): **Co-PI**, (PI: James A. Schulte), DBI-0926568, "ITiMBReaC: Interdisciplinary Training in Mathematical and Biological Research at Clarkson", $\$239K$, 2009-2014
6. Saint Lawrence Valley Associated Colleges Seed Grant: **PI**, "Bio-Math Program in the St. Lawrence Valley: Building Collaborative Opportunities in Teaching and Research among the Associated Colleges", $\$1K$, 2011-2012
5. **Travel grant**($1250) to attend "BioQUEST, SCALE-IT" workshop for faculty at the University of Tennessee in Knoxville from January 12-15, 2012, sponsored by the SCALE-IT Graduate Program at the UTK and National Science Foundation (NSF)
4. Department of Housing and Urban Development (HUD) : **Statistical Consultant**, (PI: Andrea R. Ferro), NYLHH0168-08, "Evaluation of resuspended particles from carpeted versus uncarpeted flooring for dust control and improved indoor air quality", $\$500K$, 2009-2011
3. National Institutes of Health (NIH): **Statistician**, (PI: Charles Robinson), R01 AG026553-01A2, "Phase-Locked Postural Perturbation Psychophysical Models", $\$1.59M$, 2007-2011
2. The University of Louisiana at Lafayette **travel grant** of, $400 to attend a Joint Mathematical Meetings (JMM), New Orleans, LA, January 2007
1. University of Louisiana at Lafayette **travel grant** of, $500 to present at Joint Statistical Meetings(JSM), Seattle, WA, August, 2006

Unfunded Proposals

35. National Security Agency (NSA): **Senior Personnel**, (PI: Guangming Yao, Mathematics Department), "Summer Research Experience for Undergraduates in Mathematics", $\$187K$, 2023-2024
34. Saint Lawrence Health Systems (SLHS) (2021): **Co-PI**, (PI: Shantanu Sur, Department of Biology), "Assessment of rural rheumatoid arthritis referral and management trends (and impact of local rheumatology access on those trends)". award amount $\$10K$ per year, for 5 years
33. New York State Energy Research and Development Authority (NYSERDA) (2020): **Co-PI**, (PI: Suresh Dhaniyala, Mechanical and Aeronautical Engineering, Clarkson University), "Air quality sensor network for exposure assessment in Environmental Justice area"
32. National Institutes of Health (NIH) (2020): **Co-PI**, (PI: Costel C. Darie, Laboratory for Biochemistry and Proteomics, Clarkson University), "Assessing the biochemical effects of persistent environmental pollutants in a highly exposed population using a combined proteomics and metabolomics approach"
31. Clarkson University Ignite Program (Internal) (2018): **Co-PI**, [PI Jeanna Matthews, Department of Computer Science], "Decoding Differences in Forensic Software and Systems: Algorithmic Accountability for the Criminal Justice System", Clarkson Ignite Research Collaboration Pilot Grant Program, award amount $\$250K$
30. Clarkson University Ignite Program (Internal) (2018): **Co-PI**, [PI Ali Boolani, Department of Physiotherapy], "Prediction of trait depression from gait, posture and facial features using machine learning techniques", Clarkson Ignite Research Collaboration Pilot Grant Program, award amount $\$250K$
29. Clarkson University Ignite Program (Internal) (2017): **Co-PI**, [PI Suresh Dhaniyala, Department of Mechanical Engineering], "Determining Particulate Matter (PM) concentrations from Analysis of Photographs", Clarkson Ignite Research Collaboration Pilot Grant Program, award amount $\$250K$
28. Clarkson University Ignite Program (Internal) (2017): **Co-PI**, [PI Shantanu Sur, Department of Biology], "A cell assay platform using predictive motion analysis", Clarkson Ignite Research Collaboration Pilot Grant Program, award amount $\$250K$
27. Clarkson University Ignite Program (Internal) (2017): **Co-PI**, [PI Ali Boolani, Department of Physiotherapy], "Development of a wearable monitor that tracks changes in postural control and gait to determine fall risks in older adults", Clarkson Ignite Research Collaboration Pilot Grant Program, award amount $\$250K$

26. National Science Foundation (NSF) (2016): **Co-PI**, (PI: Lisa Legault, Institute for a Sustainable Environment, Clarkson University), "Designing a Personalized Energy Service to Foster Environmentally Sustainable Energy and Water Use"

25. HEI Walter A. Rosenblith New Investigator Award (HEI) (2016): **Co-PI**, (PI: Shunsuke Nakao, Department of Chemical and Biomolecular Engineering, Clarkson University), "Analysis of biomarkers in exhaled breath particle"

24. Arnold And Mabel Beckman Foundation (2016): **Co-PI**, (PI: Shunsuke Nakao, Department of Chemical and Biomolecular Engineering, Clarkson University), "Particle breathomics: A new frontier in non-invasive diagnosis of lung disease"

23. National Institutes of Health (NIH) (2015): **Bio-statistician**, (PI: Laurel Kuxhaus, Mechanical and Aeronautical Engineering, Clarkson University), "Synergistic effects of bone and intervertebral disc pathologies on vertebral compression fractures during routine activities of daily living"

22. HEI Walter A. Rosenblith New Investigator Award (HEI) (2015): **Co-PI**, (PI: Shunsuke Nakao, Department of Chemical and Biomolecular Engineering, Clarkson University), "Assessing inflammatory response of sensitive populations to ambient level ozone and PM by analysis of biomarkers in exhaled breath particles"

21. National Science Foundation (NSF) (2015): **Senior Personnel**, (PI: Steve Wojtkiewicz, Department of Civil and Environmental Engineering, Clarkson University), "Hydrologic Change – Mitigation, Adaptation, and Resilience (HYDRO-MAR)".

20. National Science Foundation (NSF) (2015): **Senior Personnel**, (PI: Daqing Hou, Institute for a Sustainable Environment, Clarkson University), "Learning Dynamic Human Behavior and Adaptive Control in Smart Buildings"

19. National Institutes of Health (NIH) (2015): **Bio-statistician**, (PI: Laurel Kuxhaus, Mechanical and Aeronautical Engineering, Clarkson University), "Influence of trabecular properties on vertebral fracture development during low-angle repetitive lateral bending"

18. National Science Foundation (NSF) (2015): **Senior Personnel**, (PI: Susan E. Powers, Institute for a Sustainable Environment, Clarkson University), "An Integrated Approach to Smart Housing: Using Smart Buildings to Create Smarter Residents".

17. U.S. Department of the Army (USAMRAA) (2014) : **Co-PI**, (PI: Kevin Fite, Department of Mechanical and Aeronautical Engineering, Clarkson University), "Kinesthetic Sensory Substitution for Improved EMG-Control of Lower-Extremity Prosthetic Limb Systems"

16. National Institutes of Health (NIH) (2014): **Bio-statistician**, (PI: Laurel Kuxhaus, Mechanical and Aeronautical Engineering, Clarkson University), "Forecasting vertebral microarchitectural failure from the cyclic loads of daily life"

15. National Institutes of Health (NIH) (2014): **Co-PI**, (PI: Costel C. Darie, Laboratory for Biochemistry and Proteomics, Clarkson University), "Establishing a biomarker signature for fragile X syndrome"

14. W. M. Keck Foundation Pre-proposal (2014): **Co-PI**, (PI: Ronald LaFleur, Department of Mechanical Engineering, Clarkson University), "Simultaneous Error Geometry Arithmetic for Ensembles, Networks and Fields"

13. U.S. Environmental Protection Agency (EPA) : **Co-PI**, (PI: Andrea R. Ferro, Department of Civil and Environmental Engineering, Clarkson University), "Quantitative Assessment of Individual Mitigation Strategies for Improving IAQ in Tribal Homes, Schools and Community Buildings", 2013

12. National Institutes of Health (NIH): **Bio-statistician**, (PI: Costel C. Darie, Laboratory for Biochemistry and Proteomics, Clarkson University), "Proteomic Analysis of Biomarkers in Smith-Lemli-Opitz Syndrome", 2013

11. National Institutes of Health (NIH): **Statistician**, (PI: Charles Robinson, Department of Electrical Engineering, Clarkson University), "Using Psychophysical Methods to Determine Vestibular, Visual and Somatic Contributions to, and Cardiac Influence on, Postural Control", 2013

10. Department of Housing and Urban Development (HUD): **Co-PI**, (PI: Andrea R. Ferro), "Creating Healthy Homes through the Innovative CleanAir Home Program", 2013

9. Smith-Lemli-Opitz Syndrome (SLOS) Foundations: **Bio-statistician**, (PI: Costel C. Darie, Laboratory for Biochemistry and Proteomics, Clarkson University), "Proteomic analysis of potential biomarkers in Smith-Lemli-Opitz Syndrome", 2013

8. National Science Foundation (NSF): **Co-PI**, (PI: Michelle Crimi, Institute for a Sustainable Environment, Clarkson University), "Site-Specific Design of a Coupled In Situ Chemical Oxidation (ISCO) and Natural Attenuation Remediation Approach", 2013

7. National Science Foundation (NSF): **Co-PI**, (PI: Ronald LaFleur, Department of Mechanical Engineering, Clarkson University), "Duals and Geometric Methods for Uncertainty Calculations", 2013

6. Hudson River Foundation (2012): **PI** (with Jie Sun), "Data-driven Statistical Approach for the Construction of Hudson River Functional Network"
5. National Science Foundation (NSF) (2012): **Co-PI**, (PI: Michelle Crimi, Institute for a Sustainable Environment, Clarkson University), "Byproducts of Permanganate In Situ Chemical Oxidation for Enhanced Natural Attenuation of Chlorinated Solvents"
4. National Institutes of Health (NIH) (2012): **Co-PI**, (PI: George Fulk, Department of Physical Therapy, Clarkson University), "Development of an Intervention that Provides Active Feedback to Increase Activity in People with Stroke"
3. Institute for a Sustainable Environment Seed Grant (2012): **PI**, "Understanding the Algorithm Interactions for Hybrid Optimization Approaches to Water Resources Management"
2. Department of Housing and Urban Develpment (HUD) (2012): **Co-PI**, (PI: Alan Rossner, Civil and Environmental Engineering, Clarkson University), "Multi-Agent Indoor Air Quality (IAQ) Exposure Assessment in rural communities"
1. National Science Foundation (NSF) (2008): **Co-PI**, (PI: Yongming Liu, Civil and Environmental Engineering, Clarkson University), "Probabilistic Fatigue Life Prediction and Risk Mitigation of Aging Bridges"

Ph.D. Students Graduated

3. Marzieh Babaeianjelodar, Computer Science Department, Clarkson University, (Co-advisor Prof. Soumyabrata Dey), Dissertation Title: "Towards Fair and Transparent Decision Making and Machine Learning Systems", November 2021, (**Post-doctoral researcher, Yale School of Medicine**, New Haven, Connecticut)
2. Devin A. Kapper, Mathematics Department, Clarkson University, (Co-advisor Prof. Shantanu Sur), Dissertation Title: "Clustering Approaches to Biological Data and Modeling Cellular Dynamics for Classification and Inference", May 2018 (**Senior Data Analyst, IXIS Digital, LLC**, Burlington, Vermont)
1. Veroni Nadeesha Jayawardana, Mathematics Department, Clarkson University, Dissertation Title: "Inferences on Fibromyalgia Regression Models and Multiple Imputation on Missing Values", April 2016 (**Senior Scientist, Merck and Company**, West Point, Pennsylvania)

Ph.D. Students Advising

5. Vijay Kumar (Co-advisor: Prof. Suresh Dhaniyala), Mathematics Department, Clarkson University, Expected Spring 2023. (Defended his proposal, "Application of time series and spatial analysis for accurate prediction of air quality from low-cost sensor data", July 2022)
4. Thevasha Sathiyakumar (Co-advisors: Prof. Marko Budisic, Prof. Shantanu Sur), Mathematics Department, Clarkson University, Expected Fall 2023. (Defended her proposal, "Identifying transitions between collective motion regimes using statistical significance tests of the time-varying persistent homology", September 2022)
3. Dinushani Senarathna (Co-advisor: Prof. Suresh Dhaniyala), Mathematics Department, Clarkson University, Expected Fall 2023. (Defended her proposal, "Order restricted inference to optimize the sample size and power in ANOVA and regression", November 2022)
2. Daniel Fuller (Co-advisor: Prof. Shantanu Sur), Mathematics Department, Clarkson University, (Ignite Graduate Fellow 2019 - 2022) Expected Spring 2024
1. Sucharitha Dodamgodage, Mathematics Department (Ignite Graduate Fellow 2022 - 2024), Clarkson University, Expected Spring 2026

MS Students Advised

6. Sudhanshu Pandey, Clarkson University, David D. Reh School of Business, (MSDA Capstone Project), December 2022
5. Chaya Chaipitakporn, Clarkson University, David D. Reh School of Business, (MSDA Capstone Project), May 2020
4. Grayden Shand, Clarkson University, David D. Reh School of Business, (MSDA Capstone Project), May 2019
3. Bing Wang, Clarkson University, Mathematics and Computer Science Department, December 2013
2. Xu Yan, Clarkson University, Mathematics and Computer Science Department, May 2011
1. Lauren Sampson, "Predicting the Mean Steps Per Day Taken By Post Stroke Patients", Clarkson University, Masters Thesis in Mathematics and Computer Science Department, December 2008

Ph.D. Students Advisory Committee

29. Abdullah Alshamsan, "A GDPR Compliant Approach to Assign Risk Levels to Data Practices from Privacy Policies", (Advisor: Shafique Chaudhry), Clarkson University, Department of Computer Science, November 2022
28. Chutitep Woralert, 'Low-Level Hardware Assisted Malware Detection", (Advisor: Chen Liu), Clarkson University, Department of Electrical and Computer Engineering, November 2022 (Ph.D. proposal)
27. Mahender Singh Rawat, "Presented his oral examination", (Advisor: Andrea Ferro), Clarkson University, Civil and Environmental Engineering Department, November 2022 (Ph.D. oral)
26. Robert Miller, "Behavior-Based Biometrics for Virtual Reality", (Advisor: Sean Banerjee), Clarkson University, Department of Computer Science, July 2022
25. Lukas Reynolds," Embeddings of the Ergodic Quotient", (Advisor: Marko Budisic), Clarkson University, Department of Mathematics, Summer, 2022 (Ph.D. proposal)
24. Roshan Muththa Arachchige, "Nontraditional Aluminosilicate Based Alkali-activated Mortars", (Advisor: Sulapha Peethamparan), Clarkson University, Department of Civil Engineering, Spring, 2022 (Ph.D. proposal)
23. Aishah Albarakati, "Order Reduction Techniques for Data Assimilation", (Advisor: Marko Budisic), Clarkson University, Department of Mathematics, Summer, 2022
22. Yijun Jiang, "Towards Future Smart Kitchen using AI-driven Approaches with Multimodal Data", (Advisor: Natasha Banerjee), Clarkson University, Department of Computer Science, Summer, 2021
21. Mohammed Mahfuz Hossain, "Design and development of an integrated human-centered smart service using visualization assisted by machine learning tools", (Advisor: Thomas Ortmeyer), Clarkson University, Department of Engineering Science, Spring, 2021
20. Kevin A. Kirk, "Electrochemical Study of Nanoparticles and their Interactions: From Fundamental Study to Novel Sensing Devices", (Advisor: Silvana Andreescu), Clarkson University, Department of Chemistry and Bio-molecular Science, Spring, 2020
19. Vicki LaFay, "Influence of clinical instructor and physical therapist student characteristics on the use of standardized tests and measures in clinical practice", (Advisor: Cheryl Hill, PT, Ph. D.), College of Health Care Sciences Department of Physical Therapy, Nova Southeastern University, Spring, 2019
18. Congzhi Xia, "From non-uniform Fourier data: edge detection, function reconstruction and applications", (Advisor: Guohui Song), Clarkson University, Department of Mathematics, Summer, 2019
17. Soumen Kundu, "Dynamical Behaviour of Some Ecological and Epidemiological models in Deterministic and Stochastic Environment", (Advisor: Subhankar Roy-Barman, Associate Dean (Academic and Examination)), Department of Biotechnology, National Institute of Technology, Durgapur, India, Summer, 2019
16. Kangning Li, "Transcriptome and Proteome Analysis of Intervertebral Disc (IVD) Cells", (Advisor: Thomas Lufkin), Clarkson University, Department of Biology, Spring, 2019
15. Guido Torres, "Towards Runtime Monitoring and Early Detection of Data-only Manipulation Attacks Using Low-level Hardware Information", (Advisor: Chen Liu), Clarkson University, Department of Electrical and Computer Engineering, Fall, 2018
14. Supraja Gurajala, "Social Media Sensing: Towards Accurate Prediction and Analysis of Events", (Advisor: Jeanna Matthews), Clarkson University, Department of Computer Science, Fall, 2018
13. Han Deng, "Susceptibility of Human Cells from the Cervical Transformation Zone to Human Papillomavirus Type 16 (HPV16)-Induced Immortalization and Dysplastic Differentiation ", (Advisor: Craig D. Woodworth), Clarkson University, Department of Biology, Spring, 2018
12. Indika Gayani Kumari Udagedara, "Reduced Order Modeling for Monte Carlo Simulations in Radiation Transport", (Advisor: Brian Helenbrook), Clarkson University, Department of Mathematics, Fall, 2017
11. Natalie Kurgan Canino, "Calculating Pulse Transit Times and Pulse Wave Velocities using Novel Processing of Surface Peri-Arterial Accelerometric Data ", (Advisor: Charles Robinson), Clarkson University, Department of Electrical and Computer Engineering, Summer, 2017
10. Benjamin Ritz, "Hybrid Optimization for Mixed-Integer Nonlinear Problems via a Genetic Algorithm and Implicit Filtering ", (Advisor: Kathleen Kavanagh), Clarkson University, Department of Mathematics, Spring, 2017
9. Kushani Priyangika De Silva, "Bayesian Particle Tracking Velocimetry using Exponential Cubic Splines", (Advisor: Adom Giffin), Clarkson University, Department of Mathematics, Fall, 2016
8. Kehinde Samuel Dunsin, "Algorithm-Independent Pattern Classification Techniques for Improved Broadband Chemometrics for Laser-Induced Breakdown Spectroscopy", (Advisor: Charles Robinson), Clarkson University, Department of Electrical and Computer Engineering, Summer, 2013

7. Na Li, "Variants of ALS on Tensor Decompositions and Applications", (Advisor: Carmeliza Navasca), Clarkson University, Department of Mathematics, Spring, 2013
6. Xiaoxi Dong, "Determining Psychophysical Detection Thresholds and Lower Limb EMG Activation during Seated VS Standing Subtle Anterior Translations of Blindfolded or Eyes Restricted Subjects", (Advisor: Charles Robinson), Clarkson University, Department of Electrical Engineering, Spring, 2013
5. Yilin Tian, "Characterize Walking-induced Particle Resuspension Using a Consistent Test Mechanism", (Advisor: Andrea Ferro), Clarkson University, Institute for a Sustainable Environment, Spring, 2013
4. Xuefei Guan, "A General Probabilistic Inference Framework for Prognostics and Health Management under Uncertainty", (Advisor: Ratan Jha), Clarkson University, Department of Mechanical Engineering, Fall, 2011
3. Praney Dubey, "Fast Scanning Electrical Mobility Spectrometry: Theory, Experiments, and Inversion Methodologies", (Advisor: Suresh Dhaniyala), Clarkson University, Department of Mechanical and Aeronautical Engineering, Fall, 2010
2. Mufutau Akinwande, "Homomorphisms of Nonbinary de Bruijn Graphs: Construction and Application to Parallel Random Number Generators", (Advisor: Abbas Alhakim), Clarkson, University, Department of Mathematics and Computer Engineering, August 2010
1. Viprali V. Bhatkar, "Determination Of the Biopsychophysical Detection Threshold to Short Postural Perturbations and Envelope Detection and Phase Analysis Of The Biomechanical Responses to Sinusoidal Perturbations", (Advisor: Charles Robinson), Clarkson University, Department of Electrical and Computer Engineering, Spring, 2010

Master Students Advisory Committee

19. James Michael Ballow, "Real-Time Static Hand Gesture Recognition: Using a Novel Automatic Bubble Standardization Process to Prepare Monochromatic Thermal Hand Images for Gesture Classification", (Advisor: Soumyabrata Dey), Clarkson University, Department of Computer Science, Spring, 2022
18. Surya Raja Monalisa Achalla, "COVID-19 hotspot detection and Clustering using Distributed Consensus algorithms", (Advisor: Mahesh Banavar), Clarkson University, Department of Electrical Engineering, Summer, 2021
17. Niklas James McKone, "The influence of non-modifiable vs modifiable factors on your motivation to perform physical and mental tasks", (Advisor: Ali Boolani), Clarkson University, Department of Biology, Spring, 2021
16. Casey Corrigan, "Transport of Nutrients and Fecal Indicator Bacteria from Artificially Drained Fields in Northern NY", (Advisor: Stefan Grimberg), Clarkson University, Masters Thesis in Department of Environment and Civil Engineering, April 2019
15. Kevin Mack, "Bluetooth Localization in Indoor Environments ", (Advisor: Mahesh Banavar), Clarkson University, Masters Thesis in Department of Electrical and Computer Engineering, Summer, 2018
14. Batsal Pudasaini, "Understanding the Prediction Capabilities for Estimating $PM_{2.5}$ from Photographs using Physics-based Modeling and Machine Learning", (Advisor: Suresh Dhaniyala), Clarkson University, Masters Thesis in Department of Mechanical and Aeronautical Engineering, Spring, 2018
13. Boyang Li, "One-class Classification for Detecting Malicious Data Manipulation", (Advisor: Chen Liu), Clarkson University, Department of Electrical and Computer Engineering, graduated Fall 2016
12. Xie Cai, "Comparing Psychophysical Detection Thresholds during Short Horizontal Translations in Blindfolded or Visually Restricted Young Adults while Supine or Seated", (Advisor: Charles Robinson), Clarkson University, Department of Electrical and Computer Engineering, Summer, 2014
11. Marta Kinnunen, "Comparative study of methanogens in one-and two-stage anaerobic digester treating food waste", (Advisor: Stefan Grimberg), Clarkson University, Masters Thesis in Department of Environment and Civil Engineering, October 2013
10. Yuanyuan Ye, "Runoff of Microorganisms over Vegetative Filter Strips and Unmanured Setbacks following Surface Application of Animal Manure to Frozen Ground", (Advisor: Shane Rogers), Clarkson University, Department of Environment and Civil Engineering, August 2012
9. Madhuri Grandhi, "Effect of Micro-aeration on Enhancing the Methane Production during Anaerobic Digestion of Dairy Cow Manure", (Advisor: Stefan Grimberg), Clarkson University, Department of Environment and Civil Engineering, April 2011
8. Andrew F. Brouwer, "The Dynamic Anaerobic Reactor and Integrated Energy System (DARIES) Model", (Advisor: Susan Powers), Clarkson University, Department of Environment and Civil Engineering, December 2010

7. Bo Zang, "Sensitivity Analysis and Optimization of Anaerobic Model No.1 (ADM1): A Case Study in Treating Dairy manure", (Advisor: Stefan Grimberg), Clarkson University, Department of Environment and Civil Engineering, August 2010
6. Dan Liu, "Evaluation of Waterborne Pathogens Associated with a Concentrated Swine Feeding Operation in North Carolina", (Advisor: Shane Rogers), Clarkson University, Department of Environment and Civil Engineering, August 2010
5. Kathryn Lozo, "A Mathematical Modeling Approach to Assessing Teacher Leaders", (Advisor: Kathleen Fowler), Clarkson University, Masters Thesis in Department of Mathematics and Computer Science, May 2010
4. Ying Zang, "Feasibility to reuse separated bedding sand from dairy manure", (Advisor: Stefan Grimberg), Clarkson University, Department of Civil and Environmental Engineering, January 2010
3. Rhoda Deng, "Laboratory-Scale Separation of Sand from Dairy Manure as a Pretreatment before Anaerobic Digestion", (Advisor: Susan Powers), Clarkson University, Department of Civil and Environmental Engineering, December 2009
2. Subash Reddy Challa, "Image Enhancement and Segmentation of Hippocampal Slices", (Advisor: Charles Robinson), Clarkson University, Department of Electrical and Computer Engineering, graduated May 2009
1. Xiaoxi Dong, "Analysis of standing human subjects' psychophysics and physiological correlates of short anterior perturbations", (Advisor: Charles Robinson), Clarkson University, Masters Thesis in Department of Electrical and Computer Engineering, graduated December 2008

Honors Students Advised

4. Bridget Wangler, "Testing the robustness of math modeling techniques in multiple cohort studies in environmental epidemiology across the United States", Clarkson University, Honor's Thesis in Mathematics Department, April 2021
3. Andrew Cook, " Characterizing Cancerous and Non-Cancerous Cells Through Movement Analysis Using the Kalman Filter", Clarkson University, Honor's Thesis in David D. Reh School of Business, April 2019
2. Steven Foti, Sarah Andres and Hosana Mamata, "Behavioral & Psychosocial Effects of Caffeine in College Students", Clarkson University, UBM Research Project, summer 2011.
   Work presented at the SURE conference, 2011
1. Michael Davis, "An Econometric Analysis of Statistics in EURO 2008", Clarkson University, Honor's Thesis in Mathematics and Computer Science Department, April 2009

Undergraduate Students Advised

On various initiatives, I have collaborated with a number of undergraduate students from different schools. NSF REUs, McNair Programs, Clarkson's Honors Program, and other funding organizations provided assistance to more than **30** undergraduate students who worked in my group over the last 13 years.

High School Students Mentored

2. Stephanie Andreescu, "COVID-19 in the United States during pre-vaccination period: Impact of sociodemographic and socioeconomic factors", Postdam High School, 2022 - 2023 (Current Position, **Junior**, Potsdam High School)
1. Leon Lufkin, "A Bayesian Model for Prediction of Rheumatoid Arthritis from Risk Factors", Clarkson School, 2018 - 2020 (Current Position, (Current Position, Undergraduate, **Statistics and Data Science**, Yale University)

Under Graduate Students Advisory Committee

2. Nevin Brackett-Rozinsky, "Sensitivity Analysis for a Polymer Extrusion Filter Computational Simulator", (Advisor: Kathleen Fowler), Clarkson, University, Department of Mathematics and Computer Engineering, Spring, 2010
1. Chelsea Reynolds, (Advisor: George Fulk), Clarkson University, Department of Physical Therapy, Spring, 2009

Reviewer for Journals

- Frontiers in Epidemiology
- Frontiers in Public Health
- Nutrients
- Journal of Statistical Theory and Practice
- PRIMUS
- Journal of Atmosphere
- IIE Transactions
- AIMS' Journals
- Journal of Rehabilitation Research and Development
- International Journal of Environmental Research and Public Health
- Journal of Chemometrics and Intelligent Laboratory Systems
- SIAM Undergraduate Research Online (SIURO)

Research Interests

- Constrained statistical inference
- Public health and epidemiology
- Disease modeling
- Multivariate analysis and constructions of tolerance intervals
- Statistical models for environmental data including air quality
- Longitudinal data analysis methods
- Bio-informatics and microbiome data analysis

Data Literacy: Programs, Workshops, and Talks Initiated/Organized at Clarkson

14. Founder and primary instructor of Clarkson's Master of Science in **Applied Data Science** (MSDA) which equips students with the knowledge and abilities to work successfully with data in a rapidly expanding sector, Fall 2014 - till date
13. Core member and developer of Clarkson's **Undergraduate Data Science** program, which offers students the chance to build an interdisciplinary skill set focused on data and then apply that skill set to real-world problems, Fall 2018 - till date
12. One-day workshop at Clarkson University (co-organizer Shantanu Sur, Department of Biology) on "**Workshop on Regression: From Basics to Somewhat Advanced Level**" on June 16th, 2022. More than 30 people from the School of Arts and Sciences, School of Engineering, and School of Business attended this workshop due to the high level of interest it generated.
11. Invited Dr. Nabendu Pal to give a talk on "**Regression Under Skew-Normal Error Model, and Predicting Arsenic from Geographic Characteristics in the Mekong Delta Regions**", on June 17th, 2022. This was sponsored by the NSF and NSA and co-organized with the Mathematics REU summer team.
10. Invited Dr. Devin Kapper to give a talk on "**Modeling and Statistics in Digital Marketing and Business Strategies**", on June 10th, 2022. This was sponsored by the NSF and NSA and co-organized with the Mathematics REU summer team.
9. Invited Dr. Veroni Jayawardana to give a talk on "**Statistics in Pharmaceutical Development and Manufacturing**", on May 27th, 2022. This was sponsored by the NSF and NSA and co-organized with the Mathematics REU summer team.
8. One-day workshop at Clarkson University (co-organizer Shantanu Sur, Department of Biology) on "**Statistical Meta-Analysis**" on September 6th, 2019.
7. Two-days workshop at Clarkson University (co-organizer Shantanu Sur, Department of Biology) on "**Bayesian Decision-making and Applications**", on May 9th and 10th, 2019. This workshop drew significant interest and was attended by more than 40 participants across the School of Arts and Sciences, School of Engineering, School of Business, and School of Health Sciences.

6. Invited Dr. Barry D. Nussbaum (112th President of American Statistical Association) to give a talk on "**It's not what we said, it's not what they heard, its' what they say they heard**", on October 25th, 2019. This talk drew significant interest and was attended by more than 120 participants across the School of Arts and Sciences, School of Engineering, School of Business, and School of Health Sciences.
5. Participated and trained over 12 participants (USA and India) through a five-day long workshop "**Training workshop of low-cost air quality sensors and related data analytics**", from August 5th-9th, 2019 funded by Indo-US Knowledge Initiative Project Grant (PI: Suresh Dhaniyala).
4. Organized David A. Walsh's 67 Arts & Sciences Mini-Conference on August 31, 2018; (co-organizer Shantanu Sur, Department of Biology) on "**Data Science meets Healthcare, Bio and Environmental Sciences**". The conference was associated with a workshop and attracted over 50 attendees from Clarkson, Associated Colleges, and Canton Potsdam Hospital.
3. Invited Dr. Dulal Bhaumik (Director, Biostatistical Research Center, University of Illinois at Chicago) to give a talk on "**Neuro-Connectivity Analysis for Autistic Subjects Utilizing fMRI Data**", September 2nd, 2016. This was sponsored by David A. Walsh '67 Arts and Sciences Seminar Series.
2. Invited Dr. Nabendu Pal (Professor of Statistics, the University of Louisiana at Lafayette) to give a talk on "**Statistics for Applied Researchers: Bootstrap to the Rescue**", 14th October 2016. This was sponsored by David A. Walsh '67 Arts and Sciences Seminar Series.
1. Organized David A. Walsh's 67 Arts & Sciences Mini-Conference on October 18, 2013; "**Statistics and Computational Mathematics**". The conference was associated with a workshop and attracted over 50 attendees from Clarkson.

Courses Developed at Clarkson University

8. **Data Mining and Statistical Decisions Making, IA650** (Spring 2015 - till date):
   In the quickly expanding field of data mining, methods are being developed to help data analysts use these sources wisely. The fields of statistics, statistical inference, and artificial intelligence have all influenced the development of data mining. In this course, the fundamental ideas of estimation, testing of hypotheses, regression, and experimental design are reviewed. This course covers Factor Analysis, Clustering (K-means Algorithm, Hierarchical Clustering), Categorical Data Analysis, Association Rules, Data Preprocessing, Multivariate Statistical Analysis, High Dimensional Data, and Dimensionality Reduction utilizing the PCA approach. Applications on the aforementioned subjects will be demonstrated, and the user-friendly programs SPSS and R are used to do hands-on experiments with data mining algorithms.
7. **Probability and Statistics for Data Analytics, IA530** (Fall 2014 - till date):
   As a mathematical underpinning for statistical inference, probability theory is taught. Axiomatic probability is introduced, standard discrete and continuous probability distributions are presented. Simple linear regression, testing, and estimation's foundational ideas are reviewed. Principal component analysis, non-linear regressions, experimental design, multiple regression, and analysis of variance are all covered. The key objectives of this course are to (1) Formulate statistical models and find optimal solutions for statistical problems in economics, business, engineering, and science. (2) Have a global overview of the interplay between probability and statistics. (3) Enhance the skill of writing statistical proofs well and communicating statistical ideas effectively. (4) Basic Parametric statistical methods were reviewed, with emphasis on their strengths and limits using the statistical software R and SPSS.
6. **Actuary Seminar** (STAT409, Spring 2012, Spring 2014):
   This one-credit seminar course introduces students to the actuarial profession by covering a variety of actuarial science-related topics. It equips students for entry-level careers as Actuaries. Additionally, we include background information for tests that are created by the Casualty Actuarial Society and the Society of Actuaries. We talk about the pertinent classes that Clarkson offers and that should be taken to prepare for an entry-level position. On the Statistics and Mathematics portion of the Actuary exams, we primarily concentrate and work through issues. Meetings for the course will consist of a variety of small-group discussions, presentations by visitors who are already employed by Actuary, and readings from a number of statistics and mathematics-related works.
5. **Biostatistics, Stat318** (Spring 2010 - till date): This course introduces students to descriptive statistics, fundamentals of probability, probability distributions, and methods of statistical inference. Topics include correlation, regression, Bayes theorem, estimation, hypothesis testing, nonparametric methods, and categorical data analysis. A required two-hour lab will enable students to apply statistical concepts and analytical methods to data from a wide range of biology-related fields, such as ecology, evolution, environmental science, psychology, biotechnology, and biomedical sciences. The use of statistical software is required and data interpretation is emphasized.

4. **Introduction to Data Science, DS241** (Fall 2018 - till date): This course introduces the basics of data manipulation and pre-processing to analyze data for statistical decision-making, building the skills required to organize, visualize, and communicate using data. The course seeks to help students address this question: given data from the world of science, engineering, medicine, etc., collected from a multitude of sensors and sources, how do you begin to make sense of that data – and how do you use it? The primary tool for coding will be R/RStudio, but supporting Python syntax and libraries may also be introduced. The course emphasizes not only the low-level coding skills but also the higher-level critical and quantitative reasoning skills required to analyze real-world datasets. Topics introduce key concepts such as descriptive statistics and sampling distribution (as a means to view large and very large data sets) and the basic analysis tools of Linear Regression and Data Mining. Additional topics may include social network data, unstructured data, and natural language text processing.
3. **Seminar for Undergraduate Bio-Math** (BY400, Spring 2010, Spring 2011, Spring 2012): This new one-credit spring semester course, cross-listed in biology and math, provides introductory training in biological and mathematical research as part of the activities associated with the NSF funded ITiMBReaC Program. The topics introduced in the fall course, enhancing interdisciplinary communication, understanding research principles, and ethics, and developing student knowledge interests, will continue and be further developed in this course. Course meetings will include a variety of small-group discussions, student oral presentations, lectures, and readings of selected literature in mathematics and biology.
2. **Graduate Seminar** (MA725, Fall 2009): In this one credit-hour fall semester course the graduate students in Math Department were introduced to Basic Statistical Tools and learned Latex to develop their cover letters, CVs, and presentations using Beamer class. At the end of the seminar course, some of them presented their research to the whole class. We had some invited speakers from other departments who presented their research to the Math graduate students.
1. **Short Course in Basic Statistics** at RIKEN, BSI, Japan (May - June 2008): While proper statistical analysis is an integral part of any data analysis (and often a point of contention with manuscript reviewers), choosing the proper analysis strategy can be a difficult task, often leaving one with a limited selection of "classical tests". This series of short talks were intended as a refresher course for both students and scientists, confronted with the analysis of experimental data. Basic Parametric statistical methods were reviewed, with emphasis on their strengths and limits. Non-parametric equivalents for each test were then presented with a discussion of the trade-off between statistical power and violation of normality assumption. Finally, modern re-sampling techniques (bootstrap method) were presented as an answer to small sample / non-normal data set analysis. The course was abundantly illustrated with real-life experimental data.

Courses Taught (number of times)

- Mathematics Department, **Clarkson University**, Associate Professor of Statistics
  - Mathematical Statistics (Stat582/382, cross-listed) [**5** times]
  - Probability and Statistics (Stat383) [**18** times]
  - Applied Statistics 2 (Stat 384/584, cross-listed) [**6** times]
  - Advanced Applied Statistics (Stat584) [**1** time]
  - Probability (Stat 581/381, cross-listed) [**2** times]
  - Introductory Bio-statistics (Stat318) [**13** times]
  - General Statistics (Stat282) [**7** times]
  - Statistical Projects (Stat488) [$\geq$ **15**]
  - Seminar In Actuary Studies (Stat409) [**1** time]
  - Seminar in Applied Mathematics (MA725) [**1** time]
  - Introduction to Data Science (DS241) [**1** time]
  - Probability and Statistics for Analytics (IA530) [**7** times]
  - Data Mining and Statistical Decisions Making (IA650) [**8** times]
- Mathematics Department, University of Louisiana at Lafayette
  - Graduate Teaching Assistant, Full-time instructor for Freshmen, Sophomores, and Juniors
    1. Elementary Statistics (Stat214) [**8** times]
    2. College Algebra (MA205) [**3** times]
    3. Elementary and Intermediate Algebra [**1** time]

Teaching Evaluations at Clarkson: Graduate Courses

- Advanced Applied Statistics (Stat 584)
  - Spring 2020 (Overall Rating – 4.8/5.0)
  - Spring 2018 (Overall Rating – 4.8/5.0)
  - Spring 2016 (Overall Rating – 5.0/5.0)
  - Spring 2014 (Overall Rating – 5.0/5.0)
  - Spring 2012 (Overall Rating – 5.0/5.0)
  - Spring 2010 (Overall Rating – 4.7/5.0)
  - Spring 2008 (Overall Rating – 4.7/5.0)
- Mathematical Statistics (Stat 582)
  - Spring 2021 (Overall Rating – 5.0/5.0)
  - Spring 2017 (Overall Rating – 4.8/5.0)
  - Spring 2015 (Overall Rating – 5.0/5.0)
  - Spring 2013 (Overall Rating – 5.0/5.0)
  - Spring 2011 (Overall Rating – 4.2/5.0)
- Mathematical Statistics (MA 582)
  - Spring 2013 (Overall Rating – 5.0/5.0)
- Data Mining and Statistical Decisions Making (IA 650)
  - Summer 2022 (Overall Rating – 4.6/5.0) (Distance Course)
  - Summer 2021 (Overall Rating – 4.5/5.0) (Distance Course)
  - Spring 2020 (Overall Rating – 4.8/5.0)
  - Summer 2019 (Overall Rating – 4.8/5.0) (Distance Course)
  - Spring 2019 (Overall Rating – 4.9/5.0)
  - Spring 2018 (Overall Rating – 4.9/5.0)
  - Spring 2017 (Overall Rating – 4.8/5.0)
  - Spring 2016 (Overall Rating – 4.8/5.0)
- Probability and Statistics for Data Analytics (IA 530)
  - Fall 2022 (Overall Rating – 5.0/5.0) (Distance Course)
  - Fall 2022 (Overall Rating – 4.8/5.0)
  - Fall 2021 (Overall Rating – 4.8/5.0)
  - Fall 2019 (Overall Rating – 4.8/5.0)
  - Fall 2018 (Overall Rating – 4.8/5.0)
  - Fall 2017 (Overall Rating – 5.0/5.0)
  - Fall 2014 (Overall Rating – 4.8/5.0)
- Probability (Stat 581)
  - Fall 2010 (Overall Rating – 4.0/5.0)
- Seminar in Applied Mathematics (MA 725)
  - Fall 2009 (Overall Rating – 4.2/5.0)

Teaching Evaluations at Clarkson: Undergraduate Courses

- Stat 384 (Applied Statistics 2)
  - Spring 2020 (Overall Rating – 4.7/5.0)
  - Spring 2018 (Overall Rating – 4.8/5.0)
  - Spring 2016 (Overall Rating – 4.8/5.0)
  - Summer 2014 (Overall Rating – 5.0/5.0) (Distance Course)
  - Spring 2014 (Overall Rating – 4.8/5.0)
  - Summer 2012 (Overall Rating – 5.0/5.0) (Distance Course)
  - Spring 2012 (Overall Rating – 4.9/5.0)
  - Spring 2010 (Overall Rating – 4.4/5.0)
  - Spring 2008 (Overall Rating – 4.4/5.0)
- DS 241 (Introduction to Data Science)
  - Fall 2019 (Overall Rating – 4.7/5.0)
- Stat 389 (Multivariate Statistics)
  - Fall 2022 (Overall Rating – 5.0/5.0)
  - Fall 2021 (Overall Rating – 4.7/5.0)
  - Fall 2020 (Overall Rating – 4.9/5.0)
  - Fall 2019 (Overall Rating – 5.0/5.0)
- Stat 409 (Seminar In Actuarial Studies)
  - Spring 2012 (Overall Rating – 4.9/5.0)
- Stat 318 (Introductory Bio-statistics)
  - Spring 2020 (Overall Rating – 4.8/5.0)
  - Spring 2019 (Overall Rating – 4.1/5.0)
  - Spring 2019 (Overall Rating – 4.6/5.0)
  - Spring 2018 (Overall Rating – 4.4/5.0)
  - Spring 2017 (Overall Rating – 4.7/5.0)
  - Spring 2017 (Overall Rating – 4.6/5.0)
  - Spring 2016 (Overall Rating – 4.4/5.0)
  - Spring 2015 (Overall Rating – 4.7/5.0)
  - Spring 2014 (Overall Rating – 4.7/5.0)
  - Spring 2013 (Overall Rating – 4.6/5.0)
  - Spring 2012 (Overall Rating – 4.4/5.0)
  - Spring 2011 (Overall Rating – 4.4/5.0)
  - Spring 2010 (Overall Rating – 3.9/5.0)
- Stat 382 (Mathematical Statistics)
  - Spring 2021 (Overall Rating – 5.0/5.0)
  - Spring 2015 (Overall Rating – 4.7/5.0)
  - Spring 2013 (Overall Rating – 4.6/5.0)
  - Spring 2011 (Overall Rating – 5.0/5.0)
- MA 382 (Mathematical Statistics)
  - Spring 2013 (Overall Rating – 4.7/5.0)
  - Spring 2011 (Overall Rating – 4.7/5.0)
- Stat 381 (Probability)
  - Fall 2020 (Overall Rating – 4.8/5.0)

  - Fall 2010 (Overall Rating – 3.8/5.0)
- MA 381 (Probability)
  - Fall 2010 (Overall Rating – 3.3/5.0)
- Stat 488 (Statistical Projects)
  - Fall 2012 (Overall Rating – 5.0/5.0)
  - Fall 2008 (Overall Rating – 4.7/5.0)
- Stat 383 (Probability and Statistics)
  - Fall 2018 Section 1 (Overall Rating – 4.5/5.0)
  - Fall 2018 Section (Overall Rating – 4.5/5.0)
  - Fall 2017 (Overall Rating – 4.4/5.0)
  - Summer 2017 (Overall Rating – 5.0/5.0)(Distance Course)
  - Fall 2016 (Overall Rating – 4.5/5.0)
  - Fall 2014 (Overall Rating – 4.5/5.0)
  - Fall 2014 (Overall Rating – 4.2/5.0)
  - Summer 2014 (Overall Rating – 4.3/5.0)(Distance Course)
  - Fall 2013 (Overall Rating – 4.8/5.0)
  - Fall 2013 (Overall Rating – 4.6/5.0)
  - Fall 2012 (Overall Rating – 4.5/5.0)
  - Summer 2012 (Overall Rating – 4.3/5.0)(Distance Course)
  - Fall 2011 (Overall Rating – 4.3/5.0)
  - Fall 2010 (Overall Rating – 3.6/5.0)
  - Fall 2009 (Overall Rating – 3.9/5.0)
  - Spring 2009 (Overall Rating – 4.0/5.0)
  - Fall 2008 (Overall Rating – 3.8/5.0)
  - Fall 2007 (Overall Rating – 3.7/5.0)
- Stat 282 (General Statistics)
  - Fall 2016 (Overall Rating – 4.4/5.0)
  - Fall 2012 (Overall Rating – 4.5/5.0)
  - Fall 2011 (Overall Rating – 4.1/5.0)
  - Fall 2010 (Overall Rating – 3.9/5.0)
  - Spring 2009 (Overall Rating – 4.2/5.0)
  - Fall 2008 (Overall Rating – 3.7/5.0)
  - Spring 2008 (Overall Rating – 4.0/5.0)

Professional Memberships

- American Statistical Association
- Indian International Statistical Association
- Institute of Mathematical Statistics
- American Mathematical Society

Services

Clarkson University

10. Clarkson University's South Asian Student Intercultural Association's (S-ASIA) faculty advisor, 2022-till date
9. Clarkson University's Climate and Engagement Committee's (South Asia) faculty representative, 2021-till date
8. Clarkson University's Friends of India's (FIA) faculty advisor, 2017-till date
7. COVID-19 Sampling Strategy Committee, Clarkson University, 2020-2021
6. Clarkson University's SASE faculty advisor, 2022-till date
5. McNair Program Selection Committee, Clarkson University, 2017, 2019
4. Clarkson University Campus Safety Committee Member, 2013-2018
3. Panel Discussion Participant "Campus Leaders Tell Your Story", Clarkson University New Hire Orientation, 2012, 2019
2. Affiliation to the Clarkson University's Institute for a Sustainable Environment, 2009-till date
1. Faculty advisor for the Clarkson Women in Science and Engineering (WISE), Spring 2008-2016

School of Arts and Sciences

11. Invited speaker at Chemistry568 (Instructor: Prof. Silvana Andreescu) course for basic Statistical Approaches, March 4, 2021
10. Participated in a panel discussion with junior faculty at the School of Arts and Sciences, on March 4, 2021
9. School of Arts and Sciences Dean Search Committee, Clarkson University, 2020-2021
8. Clarkson University's Tenure Committee member from the School of Arts and Sciences, 2017-2020
7. Clarkson University's Data Science BS committee member from the School of Arts and Sciences, 2017-till date
6. Bioinformatics Hiring Committee, Department of Biology, Clarkson University, 2015-2016
5. Participated in the Round Table Panel Discussion in CSTEP (Collegiate Science and Technology Entry Program) career symposium (2015, January)
4. Clarkson University's Data Analytics MS committee member from School of Arts and Sciences, 2013-till date
3. Co-chair (with Stephen Casper and Damien Samways) School of Arts and Sciences Seminar Organizing Committee, 2012-2014
2. School of Arts and Sciences New Graduate Students Orientation participant, 2010-till date
1. School of Arts and Sciences Seminar Organizing Committee, 2010-2012

Mathematics Department

14. Mathematics Department Graduate Student Recruitment Committee Chair, Clarkson University, 2022-till date
13. Mathematics Hiring Committee, Mathematics Department, Clarkson University, 2018-2019
12. Data Science Hiring Committee, Mathematics Department, Clarkson University, 2017-2018
11. Data Science Major and Math-Econ Major Development Committee, Mathematics Department, Clarkson University, 2017-2019
10. Mathematics Department Graduate Committee, Clarkson University, 2017-till date
9. Statistics Hiring Committee, Mathematics Department, Clarkson University, 2014-2015
8. Statistics Hiring Committee, Mathematics Dept., Clarkson University, 2010-2011
7. Moody's Mega Mathematics Challenge Solution Reader (Organized by SIAM), 2010-2017
6. Statistics Hiring Committee, Mathematics Dept., Clarkson University, 2009-2010
5. Mathematics Dept. Undergraduate Committee, Clarkson University, 2009-till date
4. Mathematics Hiring Committee, Mathematics Dept., Clarkson University, 2008-2009
3. Mathematics Hiring Committee, Mathematics Dept., Clarkson University, 2007-2008
2. Open House participant for Mathematics Dept., Fall 2007-2019
1. Co-organized π-day Celebration (March 14th) with Lauren Sampson for several middle and high school students and teachers in 2008.

Presented and Conference Attended

58. Presented at "Two Weeks International Student Development Programme on Advanced Learning and Career Guidance", organized by the Department of Biology, Bijoy Krishna College Howrah, India and Cytogenetics and Genomics Research Unit, University of Calcutta, India, 14th August 2020 **(Invited)**
57. Attended "Probability and Statistics Day" at the University of Maryland, Baltimore County (UMBC) from April 22 to April 23, 2019, and judged the oral presentations by graduate students
56. Attended "NIH Regional Seminar Program Funding And Grants Administration" at Washinton DC, USA from May 3 to May 4, 2018
55. Attended "Probability and Statistics Day" at the University of Maryland, Baltimore County (UMBC) from April 20 to April 21, 2018, and judged the oral presentations by graduate students
54. "Analysis of Cell Dynamics to Assess Hypoxic Damage and Recovery", presented at Indian Statistical Institute, Kolkata, India, January 2018 **(Invited)**
53. Attended "Probability and Statistics Meet" at the University of Calcutta, Kolkata, India, 10th January 2018.
52. "Analysis of Cell Dynamics to Assess Hypoxic Damage and Recovery", presented at International Conference in Statistics, Colombo, Sri Lanka, December 2017. **(Invited)**
51. "What is Big Data? and why you should care", presented at SUNY Potsdam, Potsdam (17th November), NY, USA 2017 **(Invited)**
50. Attended "Probability and Statistics Day" at the University of Maryland, Baltimore County (UMBC) from April 21 to April 22, 2017
49. "Statistics and Data Analysis? Ignore Us No More", presented at Science Cafe, Potsdam (1st November), Canton (2nd November), NY, USA 2016
48. "Sample Size Calculation for Power Analysis Using Longitudinal Designs", presented at Statistics Department, University of Connecticut, CT, USA, October 28th, 2016 **(Invited)**
47. "Sample Size Determination for Power Analysis Using Hierarchical Designs", presented at Biostatistics Department, the University of Illinois at Chicago, IL, USA, October 16th, 2015 **(Invited)**
46. Attended the workshop on "Agriculture Management", at " American Institute of Mathematics (AIM)", in San Jose, California from May 4th to May 8th, 2015
45. "An evolutionary domain specific risk scale", Lindsey Schlaeg*, Sherman, A., Curdt, B., Fitzgerald, C., Kruger D. J., Sumona Mondal, Wilke, A, presented at NorthEastern Evolutionary Psychology Society, Suffolk University, Boston, MA from April 9 to April 11, 2015
44. Attended and presented at "HHMI Quantitative Reasoning Workshop", and "BioQUEST Curriculum Consortium", at the University of Delaware, Delaware from June 21st to June 28th, 2014
43. Attended and chaired the session "Graphics in Oncology Drug Development", at " American Statistical Association Conference on Statistical Practice", in Tampa Bay, Florida from February 20th to February 21st, 2014
42. Attended "10th International Conference on Health Policy Statistics", Organized by American Statistical Association (ASA) in Chicago, IL from October 9th to October 11th, 2013
41. Attended the " American Statistical Association Conference on Statistical Practice", in New Orleans, LA from February 21st to February 23rd, 2013.
40. "Evaluating the Impact of Flooring Types on Exposure to Fine ($PM_{2.5}$) and Coarse $PM_{2.5_10}$ particles within the Residential Micro-Environment", Lisa Bramwell, Jing Qian, Sumona Monda, Andrea R. Ferro*, presented at Granada European Aerosol Conference, Spain, 2-7 September 2012
39. "Simulation And Model Calibration With Sensitivity Analysis For Threat Detection In Brain", poster presented at Joint Statistical Meetings (JSM), San Diego, California, July, 2012
38. Attended "Service-Learning and Sustainability: Avenues for Collaboration", workshop at Hobart and William Smith Colleges in Geneva, NY on July 20th, 2012
37. Attended "Discovery Learning Projects in Introductory Statistics", workshop (fully funded) at North Georgia College and State University on May 7th, 2012 conducted by Dianna Spence (PI of the NSF-funded project)
36. Attended "Probability and Statistics Day" at University of Maryland, Baltimore County (UMBC) from April 20 to April 21, 2012, and judged the oral presentations by graduate students
35. Attended the "BioQUEST" workshop (fully funded) at the University of Tennessee in Knoxville from January 12-15, 2012 which is sponsored by the SCALE-IT Graduate Program at the University and National Science Foundation (NSF)

34. Attended National Institute of Mathematical and Biological Synthesis (NIMBioS) conference at Knoxville, Tennessee, October 2011

33. "Simulation And Model Calibration With Sensitivity Analysis For Threat Detection In Brain", presented at The 23rd European Modeling & Simulation Symposium - Rome, Italy, September 2011

32. "Tolerance Intervals for the Distribution of the Difference Between Two Independent Normal Random Variables", presented at Indian Institutes of Science Education and Research (IISER), Kolkata, India, 27th July 2011 **(Invited)**

31. Attended "Probability and Statistics Day" at University of Maryland, Baltimore County (UMBC) from April 22 to April 23, 2011, and judged the poster presentations by graduate students

30. "Effect of Micro-aeration on Enhancing the Methane Production during Anaerobic Digestion of Dairy Cow Manure", Madhuri Grandhi*, Stefan J. Grimberg, Susan E. Powers, Sumona Mondal, presented at Clarkson University, Institute for a Sustainable Environment poster presentation, Potsdam, New York, February 2011

29. "Using human activity patterns to estimate The Impact of Flooring Types On Exposures to PM 2.5 Resuspended During Walking", Lisa D Bramwell*, Steven Foti, Sumona Mondal, Andrea R Ferro, presented at Clarkson University, Institute for a Sustainable Environment poster presentation, Potsdam, New York, February 2011

28. "Statistics: A scientific tool, discipline or just a good career option?", presented at Clarkson University Arts and Science Seminar, Potsdam, New York, February 2011 **(Invited)**

27. "Biology and Mathematics: The Exciting Nexus for the Advancement of Sciences", presented at Joint Mathematical Meetings (JMM), New Orleans, Louisiana, January 2011

26. "Sensitivity Analysis of Anaerobic Digestion Model No.1 (ADM1) Using Latin Hypercube Sampling: A case study in dairy manure digestion", presented at Joint Mathematical Meetings (JMM), New Orleans, Louisiana, January 2011

25. "Tolerance Factors in Multiple and Multivariate Linear Regressions", presented at Joint Statistical Meetings (JSM), Vancouver, Canada, August 2010

24. Attended "WNAR, The Western North American Region", University of Washington - Seattle, Washington, June 20 - 23, 2010.

23. Attended "Twenty-second International Conference on Technology in Collegiate Mathematics", Chicago, March 11-14, 2010

22. "Predicting home and community ambulatory activity after stroke" Fulk. G,*, Reynolds C, Mondal. S, presented at APTA CSM, February 2010

21. Attended Joint Mathematical Meetings at San Francisco, in January 2010 and judged the poster presentations by undergraduate students

20. "Sensitivity Analysis of ADM1 Simulating Dairy Manure Digestion using Latin Hypercube Sampling" Sumona Mondal, attended and presented at 1000 Islands Energy Forum, October 2009

19. "Tolerance Intervals for the Distribution of the Difference Between Two Independent Normal Random Variables", presented at Indian Statistical Institute, Kolkata, India, 31st July 2009 **(Invited)**

18. Attended "Probability and Statistics Day" at University of Maryland, Baltimore County (UMBC) from April 24 to April 25, 2009, and judged the poster presentations by graduate students

17. Presented at WISE (Women in Science and Engineering) meeting at Clarkson University, 7th April 2009 **(Invited)**

16. Attended "Seminar on Stochastic Processes 2009" at Stanford University from March 26-28, 2009

15. "The effect of diabetes and peripheral neuropathy in detecting whole body movements during small postural perturbations." George Fulk*, Sumona Mondal, C. Storey, Charles Robinson, presented at Society for Neuroscience Annual Conference (SFN), November 2008

14. Visited UCLA Nursing and Biostatistics Department from 23rd November to 26th November 2008

13. "Tolerance Limits for the Distribution of the Difference Between Two Independent Normal Random Variables", presented at Joint Statistical Meetings (JSM), Denver, August, 2008

12. "Bootstrap method and its application", presented at BSI Forum, RIKEN, Japan, June 20th, 2008 **(Invited)**

11. "Nonparametric Statistics: methods and domain of applicability", presented at BSI Forum, RIKEN, Japan, June 6th, 2008 **(Invited)**

10. "Factorial Design (Emphasis on Two-factor ANOVA)", presented at BSI Forum, RIKEN, Japan, May 30th, 2008 **(Invited)**

9. "One way ANOVA with multiple comparisons", presented at BSI Forum, RIKEN, Japan, May 23rd, 2008 **(Invited)**
8. "Strength and Limits of Parametric Statistics", presented at BSI Forum, RIKEN, Japan, May 16th, 2008 **(Invited)**
7. "Basic Statistical Tools for Engineers", presented at Clarkson University, Potsdam, February 2008
6. "Tolerance Factors in Multiple and Multivariate Linear Regressions", presented at the University of Illinois at Chicago, Chicago, September, 2007 **(Invited)**
5. Math Colloquium, Clarkson University, Potsdam, New York, January 2007.
4. Attended Joint Mathematical Meetings, New Orleans, December 2006.
3. "Tolerance Regions for Multivariate Linear Regressions", presented at the Louisiana Chapter of the American Statistical Association Meetings LSU, Baton Rouge, November 2006
2. "Improved Tolerance Factors for Multivariate Normal Distributions", presented at Joint Statistical Meetings (JSM), Seattle, August 2006
1. "Approach towards Statistical Analysis of Data Derived From Biological Experiments", presented at RIKEN, Brain Science Institute, Japan, May 2006 **(Invited)**

* represents the graduate student presenter.

Undergraduate/Graduate Students Presentations

86. "Data-centric approach to Rheumatoid Arthritis (RA): Exploring the association with socioeconomic and dietary risk factors", Irini Konstantinou, Christian Bernal, Thevasha Sathiyakumar‡, Vijay Kumar, Dinushani Senarathna, Shantanu Sur, James Greene, Sumona Mondal, poster presentation at the Summer Research and Project Showcase (RAPS) at Clarkson University, NY, USA, July 2022
85. "Order restricted inference to identify the trend of aerosol emission from respiratory tract", Dinushani Senarathna‡, Mahender Singh Rawat, Mehtap Agirsoy, Byron D. Erath, Andrea R. Ferro, Sumona Mondal, oral presentation at the Summer Research and Project Showcase (RAPS) at Clarkson University, NY, USA, July 2022
84. "COVID-19 in the United States during pre-vaccination period: Impact of sociodemographic and socioeconomic factors", Sucharita Dodamgodage‡, Stephanie Andreescu, Dinushani Senarathna1, James Greene, Shantanu Sur, Sumona Mondal, oral presentation at the Summer Research and Project Showcase (RAPS) at Clarkson University, NY, USA, July 2022 (**winner of best oral presentation award** in its category)
83. "Identifying transitions between collective motion regimes using statistical significance tests of the time-varying persistence homology", Thevasha Sathiyakumar‡, Marko Budisic, Sumona Mondal, Shantanu Sur, oral presentation at the Summer Research and Project Showcase (RAPS) at Clarkson University, NY, USA, July 2022
82. "Respiratory aerosol emission as a function of frequency and loudness during sustained phonation of the vowel /a/", Mahender Singh Rawat‡, Tanvir Ahmed, Dinushani Senarathna,Byron D. Erath, Goodarz Ahmadi, Sumona Mondal, Andrea R. Ferro, oral presentation at the 17th International Conference on Indoor Air Quality and Climate, Kuopio, Finland, June 2022 (**winner of Sisu Award** at Indoor Air Conference 2022)
81. "Spatiotemporal analysis of $PM_{2.5}$ using data from Environmental Protection Agency (EPA) and low-cost sensor networks", Vijay Kumar‡, Dinushani Senarathna, Supraja Gurajala, Willson Olsen, Shantanu Sur, Sumona Mondal, Suresh Dhaniyala, poster presentation at the Air Sensors International Conference, UC Davis Air Quality Research Center, USA, June 2022
80. "Evaluation and modeling of data from low-cost air quality sensors for accurate $PM_{2.5}$ estimation", Dinushani Senarathna‡, Vijay Kumar, Supraja Gurajala, Suresh Dhaniyala, Shantanu Sur, Sumona Mondal, poster presentation at the Air Sensors International Conference, UC Davis Air Quality Research Center, USA, June 2022
79. "Comparing respiratory aerosol emission for children and adults during sustained phonation", Mahender Singh Rawat‡, Mehtap Agirsoy, Dinushani Senarathna, Tanvir Ahmed, Byron D. Erath, Goodarz Ahmadi, Sumona Mondal, Andrea R. Ferro, oral presentation at the Research and Project Showcase (RAPS) at Clarkson University, NY, USA, Spring, 2022 (**winner of best oral presentation award** in its category)
78. Nathalie Barrios‡, Sucharita Dodamgodage, Olaoluwa Ogunleye, Madushi Wickramasinghe, Sumona Mondal, Andreas Stamatis, Ali Boolani (2022): "Mood Responses to Various Exercise Types Using the Ontological Definitions of Exercise", poster presentation at the Greater New York American College of Sports Medicine (GNY ACSM) Conference, April 2022
77. "Differential Impact of COVID-19 Risk Factors on Ethnicities in the United States", Vijay Kumar‡, Prashant Athavale, Shantanu Sur, Sumona Mondal, oral presentation at the Mathematics Conference and Competition of Northern New York (MCCNNY-2022), March 2022

76. "Ethnic Differences in COVID-19 infection and mortality rates during the second wave in the United States", Dawit Gebremichael[‡], Vijay Kumar, Prashant Athavale, Shantanu Sur, Sumona Mondal, oral presentation at the Mathematics Conference and Competition of Northern New York (MCCNNY-2022), March 2022, (**winner of best oral presentation award** in its category)

75. "Statistical inference on time-varying persistence landscape surface for analyzing coherent behavior of cancerous cells", Thevasha Sathiyakumar[‡], Marko Budisic, Shantanu Sur, Sumona Mondal, oral presentation at the Mathematics Conference and Competition of Northern New York (MCCNNY-2022), March 2022

74. "Spatiotemporal analysis of $PM_{2.5}$ in Chicago using data from Environmental Protection Agency (EPA) and low-cost sensor network", Vijay Kumar[‡], Dinushani Senarathna, Supraja Gurajala, Suresh Dhaniyala, Shantanu Sur, Sumona Mondal, oral presentation at the American Association for Aerosol Research, New Mexico, USA, October 2021

73. "Performance of correction models for accurate $PM_{2.5}$ estimation from low-cost air quality sensor data", Dinushani Senarathna[‡], Vijay Kumar, Shantanu Sur, Supraja Gurajala, Suresh Dhaniyala, Sumona Mondal, poster presentation at the American Association for Aerosol Research, New Mexico, USA, October 2021

72. "Ethnic differences in COVID-19 infections and mortality during two waves in the United States: Differential impact of risk factors", Dawit Gebremichael[‡], Thevasha Sathiyakumar, Dinushani Senarathna, Prashant Athavale, Shantanu Sur, Sumona Mondal, oral presentation at the Research and Project Showcase (RAPS) at Clarkson University, NY, USA, Summer, 2021 (**winner of best oral presentation award** in its category)

71. "COVID-19 among various ethnic groups in the United States: Differential impact of risk factors", Isaac Kiiza[‡], Dawit Gebremichael, Vijay Kumar, Prashant Athavale, Shantanu Sur, Sumona Mondal, oral presentation at the Research and Project Showcase (RAPS) at Clarkson University, NY, USA, Summer, 2021.

70. "Correction models for accurate $PM_{2.5}$ estimation from low-cost air quality sensor data", Dinushani Senarathna[‡], Vijay Kumar, Shantanu Sur, Supraja Gurajala, Suresh Dhaniyala, Sumona Mondal, presenting at the International Conference on Mathematics and Mathematics Education 2021 at Postgraduate Institute of Science University of Peradeniya, Sri Lanka, June, 2021

69. "Use of statistical methods with persistent homology for analyzing collective behavior of cells", Thevasha Sathiyakumar[‡], Marko Budisic, Shantanu Sur, Sumona Mondal, oral presentation at the SIAM Virtual Conference, May, 2021

68. "COVID-19: Highlighting the disproportionate effect on certain ethnic groups in the United States", Jeremy Clark[‡], Vijay Kumar, Shantanu Sur, Sumona Mondal, oral presentation at the Research and Project Showcase (eRAPS) at Clarkson University, NY, USA, April, 2021

67. "Analyzing Collective Motion of Cells through Topological Data Analysis and Machine Learning ", Connor Buxton[‡], Shantanu Sur, Sumona Mondal, Marko Budisic, oral presentation at the Research and Project Showcase (eRAPS) at Clarkson University, NY, USA, April, 2021

66. "COVID-19 in New York state: Effects of demographics and air quality on infection and fatality", Bridget Wangler[‡], Vijay Kumar, Chaya Chaipitakporn, Shantanu Sur, Supraja Gurajala, Suresh Dhaniyala, Sumona Mondal, oral presentation at the Research and Project Showcase (eRAPS) at Clarkson University, NY, USA, April, 2021

65. Vijay Kumar[‡], Bridget Wangler, Chaya Chaipitakporn, Supraja Gurajala, Suresh Dhaniyala, Shantanu Sur, Sumona Mondal, "Infection vs fatality of COVID-19 in New York State: Effects of demographics and poor air quality", poster presentation at the American Association for Aerosol Research (Virtual Conference), October 2020

64. Benjamin Bomze[‡], Sumona Mondal, Shantanu Sur, Marko Budisic, "Comparative analysis of cell tracking algorithms", oral presentation at the Summer Research and Project Showcase (eRAPS) at Clarkson University, NY, USA, July 2020

63. Connor Buxton[‡], Alfred Worrad, Sumona Mondal, Shantanu Sur, Marko Budisic, "Analyzing Cervical Cancer Cells through Topological Data Analysis and Machine Learning", oral presentation at the Summer Research and Project Showcase (eRAPS) at Clarkson University, NY, USA, July 2020

62. Leon Lufkin[‡], Sumona Mondal, Shantanu Sur, "A Bayesian Analysis of Rheumatoid Arthritis Risk Factors for Disease Prediction", oral presentation at the Summer Research and Project Showcase (eRAPS) at Clarkson University, NY, USA, July 2020 (**winner of best oral presentation award** in its category)

61. David Moody[‡], Thevasha Sathiyakumar, Sumona Mondal, Shantanu Sur, Marko Budisic, "Network analysis of collective cell behavior of cancer cells", oral presentation at the Summer Research and Project Showcase (eRAPS) at Clarkson University, NY, USA, July 2020

60. Paul Dougall[‡], Nipuni De Silva, Izzi Grasso, Leon Lufkin, Sumona Mondal, Shantanu Sur, "Parkinson's Disease Patient Profiles in Different Healthcare Set-ups: A Comparative Analysis", oral presentation at the Summer Research and Project Showcase (eRAPS) at Clarkson University, NY, USA, July 2020

59. Vijay Kumar[‡], Bridget Wangler, Chaya Chaipitakporn, Supraja Gurajala, Suresh Dhaniyala, Shantanu Sur, Sumona Mondal, "Infection vs fatality of COVID-19 in New York State: Effects of demographics and poor air quality", oral presentation at the Summer Research and Project Showcase (eRAPS) at Clarkson University, NY, USA, July 2020

58. S. Dinushani Senarathna[‡], Vijay Kumar, Shantanu Sur, Supraja Gurajala, Suresh Dhaniyala, Sumona Mondal, "Towards Building an Optimal LUR Model for Air Quality Prediction Using Machine Learning Approach", oral presentation at the Summer Research and Project Showcase (eRAPS) at Clarkson University, NY, USA, July 2020

57. Thevasha Sathiyakumar[‡], Alfred Worrad, Morgan Reynolds, Sumona Mondal, Shantanu Sur, Marko Budisic, "Analysis of collective cell behavior of cancerous cells with persistent homology", oral presentation at the Summer Research and Project Showcase (eRAPS) at Clarkson University, NY, USA, July 2020

56. Bridget Wangler[‡], Dinushani Senarathna, Vijay Kumar, Supraja Gurajala, Suresh Dhaniyala, Shantanu Sur, Sumona Mondal, "Land use regression models based on AoT nodes in metropolitan areas of Chicago", oral presentation at the Summer Research and Project Showcase (eRAPS) at Clarkson University, NY, USA, April 2020 (**winner of best oral presentation award** in its category)

55. Morgan Reynolds[‡], Alfred Worrad, Marko Budisic, Sumona Mondal, Shantanu Sur, "Tracking of Cancer Cell Movements to Study Collective Behavior", oral presentation at the Summer Research and Project Showcase (eRAPS) at Clarkson University, NY, USA, April 2020(**winner of best oral presentation award** in its category)

54. Alfred Worrad[‡], Morgan Reynolds, Sumona Mondal, Shantanu Sur, Marko Budisic, "Characterizing Clustering of Random Walkers Using Persistent Homology", oral presentation at the Summer Research and Project Showcase (eRAPS) at Clarkson University, NY, USA, April 2020

53. Gabrielle F. Taylor[‡], Daniel T. Fuller, Sumona Mondal, Shantanu Sur, "Impacts on patient's Income-Poverty Ratio in relations to Rheumatoid Arthritis with Behavioral and Socioeconomic Factors", oral presentation at the Summer Research and Project Showcase (eRAPS) at Clarkson University, NY, USA, April 2020

52. Daniel T. Fuller[‡], Shantanu Sur, Sumona Mondal, "Quantification of Independence in Informative Sampling Scenarios Under the Bayesian Paradigm", oral presentation at the Summer Research and Project Showcase (eRAPS) at Clarkson University, NY, USA, April 2020 (**winner of best oral presentation award** in its category)

51. Vijay Kumar[‡], Supraja Gurajala, Shantanu Sur, Suresh Dhaniyala, Sumona Mondal , "Evaluating spatiotemporal accuracy of LUR models using low-cost sensor network data", oral presentation at the Summer Research and Project Showcase (eRAPS) at Clarkson University, NY, USA, April 2020

50. Thevasha Sathiyakumar[‡], Alfred Worrad, Morgan Reynolds, Sumona Mondal, Shantanu Sur, Marko Budisic, "Statistical analysis of collective cell behavior of cancerous cells with persistent homology", oral presentation at the Summer Research and Project Showcase (eRAPS) at Clarkson University, NY, USA, April 2020

49. Leon Lufkin[‡], Sumona Mondal, Shantanu Sur, "Bayesian Analysis of Rheumatoid Arthritis Comorbidities for Disease Prediction", oral presentation at the Summer Research and Project Showcase (eRAPS) at Clarkson University, NY, USA, April 2020

48. Sumona Mondal[‡], "Data-Centric Approach to Rheumatoid Arthritis (RA): How Interactions Between Comorbidities Influence RA Incidence", presented at 36th Annual Quality and Productivity Research Conference, American University in Washington, DC, June 2019

47. Daniel T. Fuller[‡], Chris Carter, Sumona Mondal, Shantanu Sur. "Bayesian Modeling of Rheumatoid Arthritis Comorbidity Interacting Risk Factors with Complex Survey Data", oral presentation at the 13th Probability and Statistics Day at UMBC, Baltimore, USA, April 2019

46. Grayden Shand[‡], Daniel Fuller, Carly Lovelett, Maren Wolf, Eyal Kedar, Sumona Mondal, Shantanu Sur. "Data-Centric Approach to Rheumatoid Arthritis (RA): How Interactions Between Comorbidities Influence RA Incidence" oral presentation at the 13th Probability and Statistics Day at UMBC, Baltimore, USA, April 2019 (**winner of second-best oral presentation award**)

45. Vijay Kumar[‡], Vitt Patel[‡], Shantanu Sur, Suresh Dhaniyala, Supraja Gurajala, Sumona Mondal. "Air Quality Prediction using LUR Model: Parameter Reduction and Optimization", poster presented at the 13th Probability and Statistics Day at UMBC, Baltimore, USA, April 2019

44. Daniel T. Fuller[‡], Shantanu Sur, Sumona Mondal, "Optimizing Parameters for Bayesian Model of RA Prediction Using Information Theory", oral presentation at the Summer Research and Project Showcase (RAPS) at Clarkson University, NY, USA, August, 2019 (**winner of best oral presentation award** in its category)

43. Daniel T. Fuller[‡], Chris Carter, Sumona Mondal, Shantanu Sur, "Bayesian Modeling of Rheumatoid Arthritis Comorbidly Interacting Risk Factors with Complex Survey Data", oral presentation at the 13th Probability and Statistics Day at UMBC, Baltimore, USA, April 2019

42. Brandon Robertson[‡], Stephen Lewis[‡], Aiswarya Vashishtha, Chelsea Yager, Sumona Mondal, Ali Boolani, "Gait and Posture Association with Trait Moods: Energy and Fatigue", poster presented at the 3rd Annual Spring Research and Project Showcase (RAPS) at Clarkson University, NY, USA, April 2019

41. Dinushani Senarathna[‡], Thevasha Sathiyakumar[‡], Chelsea Yager, Phylicia Taladay, Runye Li, Shantanu Sur, Sumona Mondal, Ali Boolani. "Multivariate study to determine the postural correlates of trait mental and physical energy and fatigue", poster presented at the 3rd Annual Spring Research and Project Showcase (RAPS) at Clarkson University, NY, USA, April 2019

40. Wei-Cheng Lin[‡], Sumona Mondal, "Financial Mining and Stock Price Prediction", poster presented at the 3rd Annual Spring Research and Project Showcase (RAPS) at Clarkson University, NY, USA, April 2019

39. Zheng Yang[‡], Sumona Mondal, "Multivariate Experimental Design for Google App Rating", poster presented at the 3rd Annual Spring Research and Project Showcase (RAPS) at Clarkson University, NY, USA, April 2019

38. Vijay Kumar[‡], Vitt Patel[‡], Shantanu Sur, Suresh Dhaniyala, Supraja Gurajala, Sumona Mondal. "Air Quality Prediction using LUR Model: Parameter Reduction and Optimization", poster presented at the 3rd Annual Spring Research and Project Showcase (RAPS) at Clarkson University, NY, USA, April 2019

37. Paola Girotto[‡], Jelena Hadina[‡], Sean Relyea, Grayden Shand, Sumona Mondal, Shantanu Sur, "Data-Centric Approach to Rheumatoid Arthritis (RA): Exploring the Infectious Origin of RA", poster presented at the 3rd Annual Spring Research and Project Showcase (RAPS) at Clarkson University, NY, USA, April 2019

36. Grayden Shand[‡], Daniel Fuller, Carly Lovelett, Maren Wolf, Eyal Kedar, Sumona Mondal, Shantanu Sur, "Data-Centric Approach to Rheumatoid Arthritis (RA): How Interactions Between Comorbidities Influence RA Incidence", oral presentation at the 3rd Annual Spring Research and Project Showcase (RAPS) at Clarkson University, NY, USA, April 2019

35. Daniel T. item Fuller[‡], Chris Carter, Shantanu Sur, Sumona Mondal, "Bayesian Modeling of Rheumatoid Arthritis Comorbidly Interacting Risk Factors with Complex Survey Data", oral presentation at the 3rd Annual Spring Research and Project Showcase (RAPS) at Clarkson University, NY, USA, April 2019 (**winner of best oral presentation award** in its category)

34. Friska Elizabeth[‡], Sam Trombly[‡], Sumona Mondal, Shantanu Sur, "Data-Centric Approach to Rheumatoid Arthritis (RA): Revisiting the Connection between RA and Diabetes", poster presented at the 3rd Annual Spring Research and Project Showcase (RAPS) at Clarkson University, NY, USA, April 2019

33. Zhen Cao[‡], Daniel T. Fuller[‡], Shantanu Sur, Sumona Mondal, "Rheumatoid Arthritis Associations with Income, Disability, and Access to Care on a National Scale", poster presented at the 3rd Annual Spring Research and Project Showcase (RAPS) at Clarkson University, NY, USA, April 2019 (**winner of best oral presentation award** in its category)

32. "Acute effects of synthetic and adpatogenic-rich, naturally sourced caffeine on cognitive function, mood, heart rate, and fine motor skills", Daniel Fuller[‡], Eric Gumpricht, Costel Darie, Sumona Mondal, Ali Boolani, presented at the Research and Project Showcase (RAPS) at Clarkson University, NY, USA, July 2018 (**winner of best oral presentation award** in its category)

31. "Characterizing cancerous and non-cancerous cells through movement analysis using the Kalman filter", Andrew Cook[‡], Morgan Reynolds, Devin Kapper, Mahesh Banavar, Sumona Mondal, Shantanu Sur, presented at the Research and Project Showcase (RAPS) at Clarkson University, NY, USA, July 2018. **honorable mention** for the undergraduate Health category)

30. "Estimating $PM_{2.5}$ From Photographs Using Physics-Based Modeling and Machine Learning", Batsal Pudasaini[‡], Mark Kanaparthi, Joseph Skufca, Jan Scrimgeour, Natasha Banerjee, Sumona Mondal, presented at the Probability and Statistics Day, UMBC, USA, April 2018

29. "Developing a Kalman Filter Model to Characterize Tracked Two-Dimensional Motion of Cells", Devin Kapper[‡], Mahesh Banavar, Sumona Mondal, Shantanu Sur, presented at the Research and Project Showcase (RAPS) at Clarkson University, NY, USA, April 2018 (**winner of best oral presentation award for the Biology and Biochemistry Graduate category**)

28. "Predictors of Energy and Fatigue in Graduate Health Science Students", Sai Ma[‡], Ali Boolani, Sumona Mondal, presented at the Research and Project Showcase (RAPS) at Clarkson University, NY, USA, April 2018

27. "Acute Effects of Caffeine-containing, Adaptogeic-Rich Natural Beverages on Sustained Attention, Mood, Heart Rate, Blood Pressure, and Fine Motor Skills", David Josephs[‡], Ali Boolani, Sumona Mondal, presented at the Research and Project Showcase (RAPS) at Clarkson University, NY, USA, April 2018

26. "Estimating $PM_{2.5}$ From Photographs Using Physics-Based Modeling and Machine Learning", Batsal Pudasaini[‡], Mark Kanaparthi, Joseph Skufca, Jan Scrimgeour, Natasha Banerjee, Sumona Mondal, presented at the Research and Project Showcase (RAPS) at Clarkson University, NY, USA, April 2018

25. "Statistical Methods for Low-N Non-Normal Intergroup Strength Data", Daniel Fuller[‡], Masoud Moghaddam, Ali Boolani, Sumona Mondal, presented at the Research and Project Showcase (RAPS) at Clarkson University, NY, USA, July 2018

24. "Developing a Kalman Filter Model to Characterize Tracked Two-Dimensional Motion of Cells", Devin Kapper[‡], Mahesh Banavar, Sumona Mondal, Shantanu Sur, presented at the Probability and Statistics Day, UMBC, USA, April 2018 (**second best oral presentation award in the graduate student category**)

23. "Six-Minutes of Physical Activity Improves Moods in Older Adults", Da yang[‡], Shantanu Sur, Ali Boolani, Sumona Mondal, presented at the Research and Project Showcase (RAPS) at Clarkson University, NY, USA, July 2018

22. "A Statistical Approach to Analyze Temporal Changes in the Spatial Distribution of Cells In Vitro", Nicholas McDonald[‡], Kaleb Loar, Marko Budisic, Sumona Mondal, Shantanu Sur, presented at the Research and Project Showcase (RAPS) at Clarkson University, NY, USA, July 2018 (**winner of best audience award)**

21. "Influence of Physiological Fatigue on Gait Cycle Variance in Athletes", Daniel Fuller[‡], Sai Ma, Sumona Mondal, Shantanu Sur, Ali Boolani, presented at the Research and Project Showcase (RAPS) at Clarkson University, NY, USA, April 2018 (**winner of best poster award for the Health category**)

20. "HPV16-Immortalized Cells from Human Transformation Zone and Endocervix are More Susceptible to Dysplastic Differentiation and Invasion in Organotypic Culture", Eric Hillpot[‡], Han Deng, Sumona Mondal, Craig D. Woodworth, presented at the Research and Project Showcase (RAPS) at Clarkson University, NY, USA, April 2018

19. "Analyzing Altered Cell Dynamics to Assess Hypoxic Damage and Recovery", Devin Kapper[‡], Darren Sipes, Joseph Skufca, Shantanu Sur, Sumona Mondal, presented at the 11th Probability and Statistics Day at UMBC, Baltimore, USA, April 2017 **(winner of the third best oral presentation award)**

18. "Understanding Cell-Matrix Interaction from Nuclear Characterization", Andrew Cook[‡], Devin Kapper, Lindsay Avolio, Sumona Mondal, Samuel Stupp, Shantanu Sur, presented at the Undergraduate Research Symposium at Clarkson University, NY, USA, July 2017

17. "Influence of Spatial Location on Cell Movement in Culture", Jonathan Le [‡], Devin Kapper, Sumona Mondal, Shantanu Sur, presented at the Undergraduate Research Symposium at Clarkson University, NY, USA, July 2017

16. "Analysis of Lamin-a expression and Nuclear Morphology of Cervical Cancer Cells on Tunable Nanofiber Scaffolds", Rachel Timm[‡], Devin Kapper, Lindsay Avolio, Samuel Stupp, Shantanu Sur, Sumona Mondal, presented at the at Undergraduate Research Conference at the Interface of Mathematics and Biology, University of Tennessee Conference Center in Knoxville, TN, USA, October 2016

15. "Implementing a Neural Network Framework to Classify the Effect of Music on Bioelectrical Signals", Lauren McKeen[‡], Jonathan Le, Sam Heater, Ajay Sonar, Sumona Mondal, Shantanu Sur, poster presented at Undergraduate Research Symposium at Clarkson University, NY, USA, July 2016

14. "EEG Feature Extraction and Classification Methods for Analysis of Emotional Response to Music", Lauren McKeen[‡], Jonathan Le, Sam Heater, Ajay Sonar, Sumona Mondal, Shantanu Sur, poster presented at Undergraduate Research Symposium at Clarkson University, NY, USA, July 2016

13. "Doctor of Physical Therapy Student Autonomy Related Attitudes and Behaviors: The Effect of Intention, Instructor, and Instructional Method", Stacey Zeigler[‡], Sumona Mondal, Devin Kapper, presented at Combined Sections Meeting of the American Physical Therapy Association, San Antonio, TX, USA, February 17, 2017

12. "Analyzing Altered Cell Dynamics to Assess Hypoxic Damage and Recovery ", Devin Kapper[‡], Darren Sipes, Joseph Skufca, Shantanu Sur, Sumona Mondal, presented at Graduate Student Symposium, School of Arts and Sciences, Clarkson Univeristy, Potsdam, NY, USA, November 2016

11. "Heart Rate Variability Analysis", Lauren McKeen[‡], Sam Heater, Sumona Mondal, Shantanu Sur, poster presented at Undergraduate Research Symposium at Clarkson University, NY, USA, July 2015 (**winner of audience award for the best poster in all categories**)

10. "Sensitivity analysis of the viscoelastic wave-in-ice Model", Jingkai Li[‡], Sumona Mondal, Hayley H. Shen, presented at American Geophysical Union Joint Assembly Meetings, Montreal, QC, Canada from May 3 to May 7, 2015

9. Veroni Jayawardana[‡], Adom Giffin, Sumona Mondal, Leslie Russek (2014): "Bayesian Analysis of Factors Associated with Fibromyalgia Syndrome Subjects", American Institute of Physics, presented on September 2014

8. "Factors Associated with Function Among Individuals with Fibromyalgia Syndrome", Veroni Jayawardana[‡], Leslie Russek and Sumona Mondal, poster presented at Probability and Statistics Day at the University of Maryland, Baltimore County (UMBC) from April 26 to April 27, 2013 **(winner of the second best poster presentation award)**

7. "Experimental Investigation of Dust Resuspension from Different Flooring Materials", Yilin Tian[‡], Kyung Sul, Jing Qian, Sumona Mondal and Andrea R. Ferro, poster presented at Institute for a Sustainable Environment Poster Session, Clarkson University, February 8, 2013
6. "An evolutionary domain specific risk scale", Wilke, A., Sherman, A.[‡], Curdt, B., Fitzgerald, C., Kruger D. J., Sumona Mondal, presented at 54th Annual Meeting of the Psychonomic Society, Toronto, Canada, November 2013
5. "Evaluating the Impact of Flooring Types on Exposure to Fine ($PM_{2.5}$) particles within the Residential Micro Environment", Lisa D Bramwell[‡], Steven Foti, Sumona Mondal, Jing Qian, Andrea R Ferro, presented at the Twelfth International Indoor Air Conference, Austin, Texas, June 2011
4. "Pathogen Reduction and Correlation to Factors Responsible for Pathogen Reduction in Dairy Farm Operations Treating Agricultural Waste" Rajiv Narula[‡], Sumona Mondal, presented at NYWEA conference (82nd Annual Meeting), NYC, New York, 2nd February, 2010
3. "Converting Human Activity Patterns into Resuspension Schedules in CONTAM", Lisa D Bramwell[‡], Steven Foti, Sumona Mondal, Andrea R Ferro, presented at The American Association for Aerosol Research (AAAR), Portland, Oregon, October 2010
2. "Quantification of Selected Pathogens in Agricultural and Municipal Wastes", Rajiv Narula[‡], Stefan Grimberg, Shane Rogers, Sumona Mondal, presented at Water Environment Federation, New Orleans, Louisiana, October 2010
1. Fulk GD, Mondal S, Storey C [‡], Robinson C. (2008): "The Effect of Diabetes and Peripheral Neuropathy in Detecting Whole Body Movements During Small Postural Perturbations". Society For Neuroscience Abstract 181.13, Washington, DC. November 16, 2008

[‡] represents the presenter.