Soumya K. Srivastava, Ph.D., P.E.

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Assistant Professor, Department of Chemical and Biomedical Engineering,

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1. Education

Ph.D. in Chemical Engineering, Mississippi State University; Mississippi State, MS
Research focuses on Biomedical Engineering / Dielectrophoresis; Aug 2010
Dissertation Advisor: Dr. Adrienne R. Minerick
Dissertation Title: Dielectrophoretic characterization of particles and erythrocytes

M.S. in Chemical Engineering, Illinois Institute of Technology, Chicago, IL
Research focuses on Bioengineering / Biotechnology; May 2005
Advisor: Dr. Satish J. Parulekar
Project title: Growth Kinetics of Biofilm in a Mixed Flow Reactor

B.E. in Chemical Engineering, R.V. College of Engineering, Bangalore, India; Sep 2001

2. Research Interests

- Early point-of-care (POC) medical diagnostic platforms and environmental bio-separations using dielectrophoresis, transport phenomena, fluid dynamics, and dielectric spectroscopy
    - Medical Devices (Lab-on-a-chip for POC diagnostics)
    - Microfluidics (design and fabrication of micro- and nano-devices and biosensors)
    - Dielectric Spectroscopy (Single cell characterization and dielectric property measurement)
    - Electrokinetics (manipulation of bioparticles under electric fields in combination with electrophoresis, electroosmosis, and dielectrophoresis)
    - Finite element modeling via COMSOL and MATLAB using fundamental transport phenomenon, fluid dynamics, and heat & mass transfer
    - Bioseparations (particle sorting technology for environmental applications)
    - Cell biophysics & biosignals characterization
- Engineering education (developing microfluidic modules for enhancing undergraduate education)

3. Work Experience

- Assistant Professor, Department of Chemical & Biomedical Engineering, West Virginia University (WVU), Morgantown, WV (08/21 – Present)

- Assistant Professor, Department of Chemical and Biological Engineering, University of Idaho (UI), Moscow, ID (08/13 – 05/21)
    - Certificates and Licenses: Professional Engineer, Faculty Restricted, Idaho, License #18146, 2018

- Teaching Faculty, Department of Chemical and Materials Engineering, University of Idaho (UI), Moscow, ID (1/13 – 5/13)

- Assistant Research Professor and Instructor, Voiland School of Chemical Engineering and Bioengineering, Washington State University (WSU), Pullman, WA (08/2010 – 12/2012)
    - Modeling protein separation in a microfluidic device via dielectrophoresis.
    - Submitted several research proposals to NSF, NIH, American Cancer Society- Institutional research grant, and internal grants like SEED through OGRD.
    - Recipient of ACS-IRG grant for research on early detection of breast cancer via dielectrophoresis.
    - Developed course materials and taught senior-level process control courses (CHE 441).

  - Mentoring undergraduate students on microfluidic device design and fabrication via COMSOL modeling and soft photolithography.
  - Developed course materials and taught ENGR 320 (Engineering thermodynamics and heat transfer) for a diverse group of students from various engineering majors.

- Graduate Research Assistant, Mississippi State University, MS (08/2007 – 07/2010)
  - Developing microdevices for medical diagnostic applications.
  - Proficient in optical microscopy, image analysis via MATLAB and ZEISS AXIOVISION software, modeling via COMSOL.
  - Mentored and trained undergraduate students in the laboratory.
  - Literature Liaison in-group: Maintaining database of articles; trained and led group members on maintaining EndNOTE libraries and writing reports.
  - Certified in BSL2 lab handling, IRB (Institutional Review Board) for human subject protection, Hazardous Waste Material Handling, Fire Safety, harassment in the workplace, and workplace diversity workshops.
  - Attended a course on Professional Development for Women and Research Ethics.

- Teaching Assistant, Mississippi State University, MS (08/2009-12/2009)
  - Evaluate/grade assignments and quiz for Thermodynamics (CHE 3123)
  - Taught some chapters given by the instructor and conducted recitation classes

- Research Analyst, Warren Analytical Laboratory, Greeley, CO (04/2006 - 07/2007)
  - Involved in mineral nutritional labeling of food products using Flame Atomic Absorption (FAA)
  - Analysis of heavy metals in the food products using Graphite Furnace Atomic Absorption spectrophotometry (GFAAS) and Cold Vapor Atomic Absorption (CVAA)
  - Evaluating the number of pesticides present in some food products like meat, corn, lanolin, sugar, etc., using Gas chromatography (GC)/ Electron capture detector and Gel Permeation Chromatography (GPC) techniques.
  - Quantitative determination of Adrenaline, Noradrenaline, and Dopamine in plasma using ELISA.
  - Developed microbiological method to quantitate total vitamin content in food samples using ELISA.

- Co-op Research Chemist, Air Liquide, Chicago, IL, (08/2004 - 08/2005)
  - Worked on E-nose and Gas Chromatography /Mass Spectrometry (GC/MS) instruments to identify components in food products with a characteristic odor.
  - Enhanced the shelf life of some meat products by performing irradiation-mapping study.
  - Administrative tasks included inventory management, maintaining safety regulations, preparing technical reports and documentation.
  - Assessed the effects of inert gas purging on cooking oil by changing the physical conditions and evaluating the color change of oil using UV-Vis.

- Research Engineer Intern, Bayer, Clayton, NC (05/2004 - 08/2004)
  - Developed a pilot plant scale-up model of the ion-exchange chromatography column used in the purification of a protein and simulated it using UNICORN.
  - Hands-on experience with Gel Electrophoresis/ Sodium Dodecyl Sulphate Polyacrylamide Gel Electrophoresis (SDS-PAGE) in separation of proteins.
  - Evaluated the properties like ionic strength, pH, absorbance, conductivity, affecting the yield of the protein.

- Graduate Research Assistant, Department of Chemical & Biological Engineering, Illinois Institute of Technology, Chicago, IL (05/2003 - 12/2004)
  - Developed a model using MATHCAD for the growth of biofilm in a mixed flow reactor and evaluated the performance for the various parameters involved in the reaction kinetics.

  - Designed a research model on phytoremediation by studying mutations, phenotypes, and genotypes by performing crosses. A new concept of Recombinant DNA Technology was introduced.

- Technical Lab Assistant, Bio-gen Extracts Pvt. Ltd, Bangalore, India, (03/2002 - 06/2002)
  - Experience with UV glove box for maintenance of sterility.
  - Performed techniques like ELISA, gel electrophoresis, plating, streaking etc., for microbiological analysis of food and meat samples.

- Project Engineer Intern, Department of Aerospace Engineering, Indian Institute of Science, Bangalore, India (05/2001 - 11/2001)
  - Developed a pilot plant model for silica gel recovery with digesters and distillation columns.
  - Improved the recovery of silica gel by various purification techniques.
  - Enhanced the activation energy of charcoal used in gas engines where charcoal was obtained from burning coconut shells.

4. Awards / Honors

- Selected as the 'Featured Article' in *Biophysics Reviews* for "Dielectrophoresis as a tool for electrophysiological characterization of stem cells," **2020** (11/20)
- Nominee for Presidential Awards for Excellence in Science, Mathematics, and Engineering Mentoring (PAESMEM) (12/19)
- Nominee for University of Idaho Excellence in Advising Award (12/19)
- Selected as the 'Featured Article' in *Applied Physics Reviews* for "Dielectric characterization of bioparticles via electrokinetics: The past, present, and the future," *Applied Physics Reviews*, **2019**, 6(4)**,** 041313 **IF = 17.054* (10/19)
- NIH Mentee Award- GUMSHOE (01/19, 04/16)
- Faculty Award of Excellence, Alumni Association, University of Idaho, Moscow, ID (11/15)
- Innovative Engineering Educator- Frontiers of Engineering Education, National Academy of Engineering (10/15)
- Grant award Finalist, The Foundation for Women's Wellness (07/15)
- WEPAN (Women in Engineering Proactive Network) EIT Inclusive Educator Excellence Award (http://www.wskc.org/eitawards) (05/15)
- Selected to attend National Effective Teaching Institute workshop (06/15)
- No. 5 most cited article in 2011, "DC insulator dielectrophoretic applications in microdevice technology: a review; *Analytical and Bioanalytical Chemistry* **2011**, 399 (1), 301-321 (41 citations in 2012)" (10/12).
- Nominee for Best Graduate Research Assistant Award, Graduate Student Association, MSU, (04/10).
- Travel Assistance Grant for Graduate Students Award (TAGGS), Office of Graduate School, MSU, (09/09).
- Graduate Ambassador of Department of Chemical Engineering, MSU, (02/09).
- First prize, Outstanding Graduate Student Paper, Swalm School of Chemical Engineering, MSU, (01/09).
- Featured research cover photo, Dimensions- Annual Research Report 2007-2008, MSU, (01/09 and 06/08).
- Travel Grant Award by GE- American Electrophoresis Society (11/08).
- Graduate Student Travel Award, Graduate Student Association, MSU (06/08).
- Associate Member of Honor Society, Sigma-Xi (03/08)

- Certificate of Excellence, Bayer Healthcare, Clayton, NC (05/04).
- National Collegiate Engineering Award (NCEA), United States Achievement Academy (04/04).
- Best Project Award, Indian Institute of Chemical Engineers, Bangalore, India (07/00).
- Best Undergraduate Project Award, R.V. College of Engineering, Bangalore, India (08/00).
- National Talent Search Exam Scholarship for Academic Excellence, Bangalore, India (04/97).

Student Success

Awards won by my students/mentees

Ezekiel Adekanmbi (Graduate Student):

- 1st place: 3MT, Statewide Competition, Boise, ID Feb 2019
- GPSA Outstanding Graduate Student Award April 2019
- 1st Prize, University of Idaho Innovation Showcase, Apr 2018
- Prof. Aicha Elshabini Achievement Award, Mar 2017
- Advancing Science Grant, NOBCChE, Nov 2016
- 1st Prize, Technical Research Exhibition, NSBE Regional Conference, Denver, CO, Nov 2016
- 3rd Prize, Fast Pitch Science Award, INBRE Idaho Research Conference, Moscow, ID, Aug 2016
- 1st Prize, University of Idaho Innovation Showcase, Apr 2016
- Outstanding Master Student Research and Creativity Award, University of Idaho, Apr 2016
- University of Idaho Alumni Excellence Award, Dec 2015
- Honorable mention (Presenter), AIChE-AES Annual Meeting, Salt Lake City, UT, Nov 2015
- 2nd Prize, University of Idaho Innovation Showcase, Aug 2015

Courtney Molvig (Undergraduate Student): 1st place AIChE-PNW Regional Conference, Moscow, ID, April 2019

Jeremiah Dustin (Undergraduate Student): 3rd place Annual Innovation Showcase, University of Idaho, April 2015

5. Teaching Experience

Year	Semester	Course #	Course Name	Credit	# Students
2022 – 2023 @WVU	Fall 2022	BMRG 602	Interfacial Phenomena of Living & Nonliving systems	3	
	Spring 2022	BMEG 602	Interfacial Phenomena of Living & Nonliving systems	3	8
2021 – 2022 @WVU	Fall 2021	BMEG 350	Biomedical Engineering Laboratory	1	44
		BMEG 455	Biomedical Senior Design I	1	4
2020 – 2021	Spring 2021	ChE 330	Separation Processes	3	13
		ChE 434	Chemical Engineering Lab II *(*responsible for teaching two labs; coordinating lab schedule and grading for four labs)*	3	18

	Fall 2020	ChE 501	Graduate Seminar	1	5
		ChE 433	Chemical Engineering Lab I *(*responsible for teaching, coordinating lab schedule, and grading for four labs)*	3	19
		ENGR 320	Engineering Thermodynamics and Heat Transfer *(*required course for ChE junior certification taken during Fall of Sophomore year by chemical, civil, biological, and electrical engineering students)*	3	27
2019 – 2020	Spring 2020	ChE 330	Separation Processes	3	16
		ChE 502	Dielectric Characterization *(*research-related course developed for graduate students working in my lab)*	1	1
		ChE 434	Chemical Engineering Lab II *(*responsible for teaching, coordinating lab schedule, and grading for four labs)*	3	29
	Fall 2019	ChE 491	Senior Seminar	1	30
		ENGR 320	Engineering Thermodynamics and Heat Transfer *(*required course for ChE junior certification taken during Fall of Sophomore year by chemical, civil, biological, and electrical engineering students)*	3	28
		ChE 501	Graduate Seminar	1	6
2018 – 2019	Spring 2019	ChE 330	Separation Processes	3	29
		ChE 434	Chemical Engineering Lab II *(*responsible for teaching, coordinating lab schedule, and grading for four labs)*	3	21
	Fall 2018	ENGR 320	Engineering Thermodynamics and Heat Transfer *(*required course for ChE junior certification taken during Fall of Sophomore year by chemical, civil, biological, and electrical engineering students)*	3	37
		ChE 404/504	Microtech Medical Diagnostics *(*new course that I developed)*	3	4
2017 – 2018	Spring 2018	ChE 330	Separation Processes *(*developed lectures based on bioseparations for the 1st time in the department)*	3	21
		ENGR 320	Engineering Thermodynamics and Heat Transfer *(*required course for ChE junior certification taken during Spring of Sophomore year by chemical, civil, biological, and electrical engineering students)*	3	34

	Fall 2017	ENGR 320	Engineering Thermodynamics and Heat Transfer *(*required course for ChE junior certification taken during Fall of Sophomore year by chemical, civil, biological, and electrical engineering students)*	3	30
2016 – 2017	Spring 2017	ENGR 320	Engineering Thermodynamics and Heat Transfer *(*required course for ChE junior certification taken during Spring of Sophomore year by chemical, civil, biological, and electrical engineering students)*	3	35
		ChE 434	Chemical Engineering Lab II *(*responsible for teaching and grading Acetone Stripping Unit Ops Lab)*	1	32
	Fall 2016	ENGR 320	Engineering Thermodynamics and Heat Transfer *(*required course for ChE junior certification taken during Fall of Sophomore year by chemical, civil, biological, and electrical engineering students)*	3	15
		ChE 433	Chemical Engineering Lab I *(*responsible for teaching and grading Acetone Stripping Unit Ops Lab)*	1	31
2015 – 2016	Spring 2016	ChE 434	Chemical Engineering Lab II *(*responsible for teaching and grading Acetone Stripping Unit Ops Lab)*	1	21
		ChE 501	Graduate Seminar	1	4
		ENGR 320	Engineering Thermodynamics and Heat Transfer *(*required course for ChE junior certification taken during Spring of Sophomore year by chemical, civil, biological, and electrical engineering students)*	3	38
		ChE 499	Microtechnology *(*research related & new course that I developed for graduate students working in my lab)*	1	3
	Fall 2015	ChE 499	Microtechnology *(*research related & new course that I developed for graduate students working in my lab)*	1	5
		ChE 444	Process analysis & control	3	27
2014 – 2015	Spring 2015	ChE 404/504	Survey of Bioengineering *(*new course that I developed)*	3	8
		ENGR 320	Engineering Thermodynamics and Heat Transfer *(*required course for ChE junior certification taken during Spring of Sophomore year by chemical, civil, biological, and electrical engineering students)*	3	51

	Fall 2014	ChE 444	Process analysis & control	3	23
		ChE 433	Chemical Engineering Lab I *(*responsible for teaching and grading Acetone Stripping Unit Ops Lab)*	1	22
2013 – 2014	Summer 2014	ChE 499	Bioseparations on Microchip *(*research-related course developed for graduate students working in my lab)*	2	1
	Spring 2014	ENGR 320	Engineering Thermodynamics and Heat Transfer *(*required course for ChE junior certification taken during Spring of Sophomore year by chemical, civil, biological, and electrical engineering students)*	3	31
		ChE 434	Chemical Engineering Lab II *(*responsible for teaching and grading Acetone Stripping Unit Ops Lab)*	1	27
	Fall 2013	ChE 444	Process analysis & control	3	25
	Spring 2013	ENGR 320	Engineering Thermodynamics and Heat Transfer *(*required course for ChE junior certification taken during Spring of Sophomore year by chemical, civil, biological, and electrical engineering students)*	3	45

List of course taught at WSU:

- CHE 441: Process Control, Fall 2012

List of guest lectures for course at MSU:

- CHE 3123: Thermodynamics, Fall 2009 (as a Teaching Assistant)

6. Student Advising

Graduate Students:

1. Raphael Oladokun- Ph.D. Student @WVU (Spring'22 – Present)
2. Ernest Mokaya- M.S. Student @WVU (Spring'22 – Present)
3. Anthony Giduthuri- M.S. Student @ UI (Fall'18 – Summer'20) **Currently at WSU/PNNL for Ph.D.*
    - **Thesis:** *Electrophysiological Characterization of Mesenchymal Stem Cells Differentiating into Tenocytes via Dielectrophoresis*
4. Ezekiel Adekanmbi- Ph.D. Student @ UI (Summer'16 – Summer'19) **Currently at Intel.*
    - **Dissertation:** *Dielectrophoretic characterization of living cells in real-time on a point-and-planar microwell (PPM) platform*
5. Baishali Barua- M.S. Student (Fall'17) @ UI (Discontinued due to student's family commitment)
6. Ezekiel Adekanmbi- M.S. Student @ UI (Fall'14 – Spring'16)
    - **Thesis:** *Applications of electrokinetics for disease diagnostics*

7. Milad Nahavandi- Ph.D. Student @ UI (Summer'15 – Fall'15) (Discontinued due to student's commitment)

Doctoral and M.S. Committees served on:

1. Dhruvi Panchal- Ph.D. student at CBE WVU (Nov'21 – Present)
2. Qingyang Li- Ph.D. student at CBE WVU (Nov'21 – Present)
3. David Knoff- Ph.D. Student at UI Idaho Falls
4. Meng Shi- Ph.D. Student at UI Idaho Falls- Summer'20 Graduate
5. Todd Nichols- Ph.D. Student at UI Idaho Falls- Fall'17 Graduate
6. Bennett Carv- M.S. Student at UI Moscow- Summer'17 Graduate
7. Issac Skavdahl- M.S. Student at UI Moscow- Summer'16 Graduate

Undergraduate student researchers and high-school student advised:

Undergraduate students mentored at WVU:

1. Amna Haleem (Fall'21 – Spring'21 as Research Apprentice)

Undergraduate students mentored at UI:

2. John Sanchez (Fall'20-Spring'21 as INBRE Fellow)
3. Rebecca Kelley (Spring'20 as ChE 393 (2 Cr.); Fall'20 as ChE 393 (1 Cr.))
4. Sierra Knowles (Fall'19 as ChE 299; Spring'20 as ChE 393; Office of Undergraduate Research Grant Recipient- Spring'20; Fall'20 as ChE 393)
5. Kendall Reeder (Fall'19 as ChE 299; Office of Undergraduate Research Grant Recipient – Spring'20)
6. Natalie Buzolich (Spring'20 as INBRE STEM trainee Award)
7. Sahara Waymire (Spring'19 as ChE 299; Fall'19 as ChE 393; Spring'20 as ChE 393 (2 Cr.); Office of Undergraduate Research Grant Recipient – Spring'20)
8. Courtney Molvig (Fall'18 as ChE 299; Spring'19, Fall'19 as ChE 393; Spring'20 as ChE 393; Office of Undergraduate Research Grant Recipient – Fall'19)
9. Archana Dahal (Spring'18 – Spring'19; Spring'18 and Fall'18 as ChE 393 student; Office of Undergraduate Research Grant Recipient – Fall'18) **Currently at Utah State Univ. for Ph.D.*
10. Alexandria Schlotterbeck (Fall'17 – Summer'18; Spring'18 as ChE 393 student)
11. Abigeal Ilesanm (Spring'17 – Fall'17; Office of Undergraduate Research Grant Recipient- Fall'17)
12. Austin Porter (Fall'17)
13. Andrea Condie (Spring'17)
14. Mohammed Ataullah (Spring'17)
15. Trang (Amanda) Vu (Spring'15 – Summer'16; INBRE Fellow- Summer'16)
16. Sheila Briggs (Summer'15)
17. Brady Rinaldi (Summer'15- Spring'16; Office of Undergraduate Research Grant Recipient)
18. Felix Nwanne (Fall'15)
19. Jeremiah Seth Dustin (Spring'14 – Spring'15)

20. Adrian Alocer (Summer'14)
21. Mitchell Flynn (Spring'14)
22. Kirk Riedner (ChE 393 student in Spring'14)
23. Kiara Garcia (Summer'16- hosted through HOIST) **High-school student*

Undergraduate students mentored at WSU:

24. Yongjae Lee (Spring'13)
25. Vineet Kumar (Summer'13)

Undergraduate students mentored at MSU:

26. Amanda Mixon (Fall'09 – Spring'10)
27. Alex Beneke (Spring'09)
28. Alyssa Terry (summer'09)
29. Anell Pullen (Spring'09)

Mentored Undergraduate Senior Design Projects at WVU:

1. "Dielectric characterization of human red blood cells under microgravity"; CBE Department 2021-2022

Mentored Undergraduate Senior Design Projects at UI:

2. "NASA's Student Payload Opportunity with Citizen Science (SPOCS)" (Advised on BSL-2 bacteria culturing and safety protocol); UI CBE Department, 2020-2021
3. "Design for Accurate Measurement of Intestinal Transport" (Advised on COMSOL Modeling); UI CBE Department, 2019-2020
4. "Process Improvement of Industrial Heat Treatment of Ammunition Cases" (Advised on designing fixed bed reactor); UI CBE Department, 2019-2020
5. "Capacitive-Based Sensing in Microfluidic Devices"; UI CBE Department, 2018-2019
6. "Microfluidic UV-based 3D Printer" (Advised on COMSOL Modeling); UI CBE Department, 2018-2019
7. "Micro-CAP Sensors for Micro-Fluidic Devices (μCapSense)"; UI ECE Department, 2016-2017

Graduate thesis external examiner:

1. Indian Institute of Technology, Kanpur, India
2. Indian Institute of Technology (BHU), Varanasi, India

7. Research Grants

Summary: Total research expenditure of ~$360K over 6 years supported by NSF/ REU supplements, American Cancer Society (ACS), Office of Undergraduate Research (OUR) at UI, INBRE, start-up, and SEED grants at UI.

Funded / Completed Grants:

PI: Soumya K. Srivastava, Co-PI: James Moberly
Agency: NSF and REU Supplement ($12K- awarded 04/16)
Project: Rapid Screening and Identification of Organisms which Hyper-Accumulate Metals
Project Term: September 2015-August 2019
Awarded amount: $212,000

PI: Soumya K. Srivastava
Agency: NSF
Project: Conference Support for the 2017 American Electrophoresis Society Annual Meeting
Project Term: October 2017 - March 2018
Awarded amount: $6,000

PI: Soumya K. Srivastava
Agency: SEED Grant- University of Idaho
Project: Microfluidic detection tool via dielectrophoresis for bovine Babesiosis
Project Term: Jul 2014- Aug 2015
Awarded amount: $12,000

PI: Soumya K. Srivastava
Agency: American Cancer Society- Institutional Research Grant
Project: An early screening tool for breast cancer via dielectrophoresis from peripheral blood mononuclear cells
Project Term: Jan 2011- Dec 2013
Awarded amount: $ 30,000

Mentored (Undergraduate Student-Led) Grants:

PI: John Sanchez (Undergraduate Student), Mentor: Soumya K. Srivastava
Agency: INBRE Academic Fellow
Project Term: Aug 2020 – May 2021
Awarded amount: $1,000

PI: Sierra Knowles (Undergraduate Student), Mentor: Soumya K. Srivastava
Agency: Office of Undergraduate Research at UI
Project: Electrophysiological characterization of mesenchymal stem cells via dielectrophoresis
Project Term: Jan – May 2020
Awarded amount: $1,000

PI: Kendall Reeder (Undergraduate Student), Mentor: Soumya K. Srivastava
Agency: Office of Undergraduate Research at UI
Project: Effect of particles shape and size on dielectrophoretic crossover frequency
Project Term: Jan – May 2020
Awarded amount: $1,000

PI: Sahara Waymire (Undergraduate Student), Mentor: Soumya K. Srivastava
Agency: Office of Undergraduate Research at UI
Project: Developing a microfluidic diagnostic platform for tick-borne infections by dielectrophoretic trapping
Project Term: Jan – May 2020
Awarded amount: $1,000

PI: Courtney Molvig (Undergraduate Student), Mentor: Soumya K. Srivastava
Agency: Office of Undergraduate Research at UI

Project: Developing microfluidic platform for electrokinetics characterization: *C. Necator*, *Borrelia burgdorferi*, and stem cells
Project Term: August 2019 – May 2020
Awarded amount: $1,000

PI: Archana Dahal (Undergraduate Student), Mentor: Soumya K. Srivastava
Agency: Office of Undergraduate Research at UI
Project: Frequency response sweep to find dielectric properties
Project Term: August 2018 – May 2019
Awarded amount: $1,000

PI: Abigeal Odubiyi (Undergraduate Student), Mentor: Soumya K. Srivastava
Agency: Office of Undergraduate Research at UI
Project: Frequency response sweep to find dielectric properties
Project Term: August 2017 – May 2018
Awarded amount: $1,000

PI: Trang Vu (Undergraduate Student), Mentor: Soumya K. Srivastava
Agency: INBRE Fellow
Project: Breast cancer cell sorting via dielectrophoresis
Project Term: May 2016 – Aug 2016
Awarded amount: $1,000

PI: Brady Rinaldi (Undergraduate Student), Mentor: Soumya K. Srivastava
Agency: Office of Undergraduate Research at UI
Project: Frequency response sweep to find dielectric properties
Project Term: January 2016 – June 2016
Awarded amount: $1,000

8. Publications and Presentations

Summary: 2 Book Chapters, 21 journal publications, 7 peer-reviewed conference proceedings, 48 conference presentations, and 24 invited seminars

Publication Record: Google Scholar Lifetime citation counts – 908; h-index – 11
https://scholar.google.com/citations?hl=en&user=aqJC1qcAAAAJ

8.1. Book Chapters

1. **Srivastava S. K.#**, Giduthuri A. T.; "Chapter: Microfluidic-chip technology for disease diagnostic applications via dielectrophoresis" in "Nanosensors for Futuristic Smart and Intelligent Healthcare System," CRC Press **2020** *(Accepted- In Press).* **Invited*
2. Adekanmbi E. O., **Srivastava S. K.#**; "Chapter: Applications of electrokinetics and dielectrophoresis on designing chip-based disease diagnostic platforms" in "Bio-inspired Technology," *IntechOpen,* London, UK **2019**; DOI: 10.5772/intechopen.82637. **Invited*

8.2. Journal Publications

(Dotted Underlined – Undergraduate Authors; Underlined – Graduate Authors; # Corresponding Author)

1. Giduthuri A. T., Theodossiou S., Schiele N., **Srivastava S. K.#**; "Dielectrophoretic characterization of tenogenically differentiating mesenchymal stem cells," *Biosensors*, **2021**, 11(2), 50. **IF = 3.24*
2. Giduthuri A. T., Adekanmbi E. O., **Srivastava S. K.#**, Moberly J. G.; "Dielectrophoretic ultrahigh frequency characterization and *in-silico* sorting on uptake of rare earth elements by *Cupriavidus necator*," *Electrophoresis*, **2021**, 42(5), 656-666. **IF = 3.081*
3. Giduthuri A. T., Theodossiou S., Schiele N., **Srivastava S. K.#**; "Dielectrophoresis as a tool for electrophysiological characterization of stem cells," *Biophysics Reviews*, **2020**, 1(1), p011304.
4. Adekanmbi E. O., Carv B., Giduthuri A. T., Counts J., Moberly J. G., **Srivastava S. K.#**; **"**Application of dielectrophoresis towards characterization of rare-earth elements biosorption by Cupriavidus necator," *Analytica Chimica Acta*, **2020**, 1129, p150-157. **IF = 5.977*
5. Tarar A. A., Mohammad U., **Srivastava S. K.#**; "Wearable Skin Sensors and Their Challenges: A Review of Transdermal, Optical, and Mechanical Sensors," *Biosensors*, **2020**, 10(6), 56. **IF = 3.24*
6. Adekanmbi E. O., Giduthuri A. T., **Srivastava S. K.#**; "Dielectric characterization and separation optimization of infiltrating ductal adenocarcinoma via insulator-dielectrophoresis," *Micromachines*, **2020**, 11(4), 340. **IF = 2.523*
7. Adekanmbi E. O., **Srivastava S. K.#**; "Dielectric characterization of bioparticles via electrokinetics: The past, present, and the future," *Applied Physics Reviews*, **2019**, 6(4)**,** 041313. **IF = 17.054*
8. Adekanmbi E. O., Giduthuri A. T., Waymire S, **Srivastava S. K.#**; "Utilization of dielectrophoresis for the quantification of rare earth elements adsorbed on *Cupriavidus necator*," *Journal of ACS Sustainable Chemistry & Engineering*, **2019**, 8(3), 1353-61. **IF = 7.632*
9. Adekanmbi E. O., Dustin J., **Srivastava S. K.#**; "Electro-osmotic surface effects generation in an electrokinetic-based transport device: A comparison of RF and MW plasma generating sources**,"** *Electrophoresis* **2019**, 40(11), 1573-1579; Doi: 10.1002/elps.201800464. **IF=3.081*
10. Chiok K. L., Paul N. C., Adekanmbi E. O., **Srivastava S. K.**, Shah D. H.#; "Dimethyl adenosine transferase (KsgA) contributes to cell-envelope fitness in *Salmonella* Enteritidis," *Microbiological Research* **2018,** 216, 108-119. **IF=3.97*
11. Adekanmbi E. O., Ueti M., Rinaldi B., Suarez C. E., **Srivastava S. K.#**; "Insulator-based dielectrophoretic diagnostic tool for Babesiosis," *Biomicrofluidics* **2016**, 10(3), 033108. **IF=2.5*
12. Adekanmbi E. O., **Srivastava S. K.#**; "Dielectrophoretic applications for disease diagnostics using lab-on-a-chip platform," *Lab Chip* **2016**, 16(12), 2148-2167. **IF=6.774*
13. **Srivastava S. K.#**; "Recent trends in dielectrophoretic applications towards medical diagnostics," *Invited Editorial to Biosensors & Bioelectronics* **2015**, 6(2).
14. Jubery T., **Srivastava S. K.**, Dutta P.#; "Dielectrophoretic Separation of Bioparticles in Microdevices: A Review," *Invited review article to Electrophoresis* **2014**, 35, 691-713. **IF=3.081*
15. **Srivastava S. K.#,** Srivastava A. K., Adesope O., Minerick A. R., Schulz N. N.; "Analyzing self-reported challenges and preferences for enhancing recruitment of women graduate engineering students," *Journal of Women and Minorities in Science and Engineering* **2013**, 19(3), 185-208. **IF=0.905*
16. Ivory C. F., **Srivastava S. K.#**; "Direct current dielectrophoretic simulation of proteins using an array of circular insulating posts," *Invited article for special issue on Dielectrophoresis to Electrophoresis* **2011**, 32 (17), 2323-2330. **IF=3.081*
17. **Srivastava S. K.**, Artemiou A., Minerick A. R.#; "Direct current insulator-based dielectrophoretic characterization of erythrocytes: ABO-Rh human blood typing,**"** *Invited article for special issue on Dielectrophoresis to Electrophoresis* **2011**, 32, 2530-2540. **IF=3.081*

18. **Srivastava S. K.**, Baylon-Cardiel J. L., Lapizco-Encinas B. H., Minerick A. R.[#]; "A continuous DC-insulator dielectrophoretic sorter of microparticles," *Journal of Chromatography A* **2011**, 1218(13), 1780-1789, doi: 10.1016/j.chroma.2011.01.082. **IF=4.049*
19. **Srivastava S. K.**, Gencoglu A., Minerick A. R.[#]; "DC Dielectrophoretic Applications in Microdevice Technology: A Review," *Invited review article* to *Analytical and Bioanalytical Chemistry* **2011,** 399 (1), 301-321. ****listed no. 5 among the top 10 most-cited articles published 2011 in Analytical and Bioanalytical Chemistry. *IF=3.637*
20. **Srivastava S. K.[#]**, Srivastava A. K., Minerick A. R., Schulz N. N.; "Recruitment and Retention of International Graduate Students in U.S. Universities," *International Journal of Engineering Education* **2010,** *26* (6), 1561-1574
21. **Srivastava S. K.**, Daggolu P. R., Burgess S. C., Minerick A. R.[#]; "Dielectrophoretic characterization of erythrocytes: Positive ABO blood types," *Electrophoresis* **2008**, 29, 5033-5046. **Won outstanding graduate paper award. *IF=3.081*

8.3 Conference Proceedings

1. Srivastava A. K., **Srivastava S. K.[#]**, Minerick A. R., Schulz N. N.; "Survey-based comparison of perceptions among alumni and current engineering graduate students at US universities," **2011** *ASEE National Conference Proceedings*, Vancouver, BC, Jun 26-29.
2. Walters K. B.[#], Minerick A. R., **Srivastava S. K.**, Hall J. I., Parker A., Thomas H., Leonard K. M.; "Instructor and Student Perspectives on a Graduate Professional Development Course: Career Issues for Women in Engineering," **2010** *ASEE National Conference Proceedings*, Louisville, KY, Jun 20-23.
3. **Srivastava S. K.[#]**, Srivastava A. K., Minerick A. R., Schulz N. N.; "Preferences and challenges for female graduate engineering students: A survey-based study," **2010** *ASEE National Conference Proceedings*, Louisville, KY, Jun 20-23.
4. **Srivastava S. K.[#]**, Srivastava A. K., Minerick A. R., Schulz N. N.; "International Students' Challenges- A survey-based study," **2009** *ASEE Annual Conference Proceedings*, Austin, TX, Jun 14-17.
5. **Srivastava S. K.[#]**, Srivastava A. K., Minerick A. R., Schulz N. N.; "Challenges for International Students in a Globally Changing Environment," **2008** *ASEE Annual Conference Proceedings*, Pittsburgh, PA, Jun 22-25.
6. **Keshavamurthy S. S.**, Leonard K. M., Burgess S. C., Minerick A. R.[#]; "Direct current dielectrophoretic characterization of erythrocytes: Positive ABO blood types," *NSTI-nanotech* **2008**; 2, 401–404, Jun 1-5.
7. **Srivastava S. K.**, Pullen S. A., Minerick A. R.[#]; "Insulator-based Dielectrophoretic Lab-on-a-Chip System for Erythrocytes," *AIChE Annual Conference Proceedings* **2008**, Philadelphia, PA, Nov 16-21.

8.4 Conference Abstracts/ Presentations

(Dotted Underlined – Undergraduate Authors; Underlined – Graduate Authors; # Presenting author)

1. Haleem A.[#], **Srivastava S. K.**; "Electrokinetic device for early breast cancer detection from liquid biopsy," NCUR 2022 @Home, Apr 4-8, 2022 (Oral)
2. **Srivastava S. K.**; "Electrokinetic modeling and simulation of bioparticle separation," SIAM Conference on Mathematical Aspects of Materials Science (MS21), May 17–18 2021, Virtual Symposium (Oral). **Invited Speaker*
3. Giduthuri A.T.[#], Theodossiou S. K., Schiele N. R., **Srivastava S. K.**; "Electrophysiological characterization of murine mesenchymal stem cells," Department of Chemical and Materials Engineering, University of Idaho, Feb 2020, Moscow, ID (Oral).

4. Giduthuri A.T.[#], Theodossiou S. K., Schiele N. R., **Srivastava S. K.**; "Electrophysiological characterization of mesenchymal stem cells using non-uniform electric field gradient," 3-Minute Thesis (3MT), University of Idaho, Feb 7, 2020, Moscow, ID (Oral).
5. Knowles S.[#], Giduthuri A., **Srivastava S. K.**; "Electrophysiological characterization of Mesenchymal stem cells via Dielectrophoresis," Oregon Bioengineering Symposium, Corvallis, OR Nov 22, 2019 (Poster)
6. Reeder K.[#], Giduthuri A., **Srivastava S. K.**; "Dielectrophoretic characterization of biosorbent in metal adsorbed state," Oregon Bioengineering Symposium, Corvallis, OR Nov 22, 2019 (Poster)
7. Giduthuri A.[#], **Srivastava S. K.**; "Electrophysiology of Biosorbent: Cupriavidus Necator," Annual Meetings of AES Society @ SciX, Palm Springs, CA, Oct 13-18, 2019 (Oral)
8. Molvig C.[#], Adekanmbi, E. O., Dahal A., **Srivastava S. K.**; "Characterizing Red Blood Cells: Stress and Aging Tests," AIChE-PNW Student Regional Conference, Moscow, ID, Apr 26-28, 2019 (Poster) **Won first place*
9. Giduthuri A.[#], **Srivastava S. K.**; "Dielectric characterization of *Cupravidus necator* in its natural and metal-adsorbed states," University of Idaho, Annual Innovation Showcase, Moscow, ID, Apr 18, 2019 (Oral).
10. Waymire S. [#], Adekanmbi E. O., **Srivastava S. K.**; "Quantification of rare earth elements (REEs) using crossover frequency measurement," University of Idaho, Annual Innovation Showcase, Moscow, ID, Apr 2019 (Oral)
11. Giduthuri A.[#], **Srivastava S. K**.; "Utilization of Second Crossover frequency as a correlation factor for uptake of light rare earth elements (REEs) by *Cupriavidus necator*," 35th International Symposium on Microscale Separations and Bioanalysis, Corvallis, OR Mar 25-28, 2019 (Oral)
12. Dahal A.[#], Adekanmbi E. O., **Srivastava S. K.**; "Developing a lab-on-a-chip platform for detecting Lyme disease and Babesiosis via dielectrophoresis," 35th International Symposium on Microscale Separations and Bioanalysis, Corvallis, OR Mar 2019 (Poster)
13. Adekanmbi E. O.[#], **Srivastava S. K.**; "Dielectrophoresis: a potent technique for the isolation of *Borrelia* and *Babesia* cells," State-wide 3MT competition, Boise, ID, Feb 2019 (Oral) **Won first place*
14. Adekanmbi E. O.[#], **Srivastava S.K.**; "Lyme disease and piroplasmosis: The pernicious diseases that can be detected early and masked via electro biophysical phenomena," University of Idaho Innovation Showcase, Moscow, ID, Apr 2018 (Oral) **Won 1st place*
15. Adekanmbi E. O.[#], **Srivastava S. K**.; "Characterizing microwave plasma generator using suspended polystyrene microbeads," The National Society of Black Engineers 44th Annual Convention, Pittsburgh, PA, Mar 21-25, 2018 (Oral)
16. Adekanmbi E. O.[#], **Srivastava S. K.**; "Microscale Extraction of Rare Earth Elements Using Biosorption and Dielectrophoresis," AIChE-AES Annual Meeting, Minneapolis, MN, Oct 29-Nov 3, 2017 (Oral)
17. Adekanmbi E. O.[#], **Srivastava S. K.**; "Toward the design of a multi-module fluidic device for the simultaneous detection of Lyme disease and Babesiosis," AIChE-AES Annual Meeting, Minneapolis, MN, Oct 2017 (Poster)
18. Adekanmbi E. O.[#], **Srivastava S. K.**; "Extension of biology to the electronic dimension of diseased cells for micro manipulation," 43rd Annual Conference of NOBCChE, Raleigh, NC, Nov 8-11, 2016 (Oral)
19. Adekanmbi E. O. [#], **Srivastava S. K.**; "Characterization of breast cancer infected peripheral blood mononuclear cells using AC dielectrophoresis," Region VI Conference of NSBE, Denver, CO, Nov 4-6, 2016 (Oral) * *Won first place*
20. Adekanmbi E. O.[#], **Srivastava S. K.**; "Utilization of Direct Current Insulator-Based Dielectrophoresis in the Separation of Breast Cancer Infected Peripheral Blood Mononuclear Cells from their Mixture with Healthy Cells," AIChE-AES Annual Meeting, San Francisco, CA, Nov 14-16, 2016 (Oral)

21. Adekanmbi E. O.[#], **Srivastava S. K.**; "Cellular manipulation for point-of-care diagnostics," 15th Annual Idaho INBRE Statewide Research Conference, Moscow, ID, Aug 2016 (Oral)
22. Adekanmbi E. O.[#], **Srivastava S. K.**; "Determination of the electrophysiological properties of infected erythrocytes using pin-type electrode microwell," Dielectrophoresis 2016, MIT, MA July 2016 (Oral)
23. Adekanmbi E. O.[#], **Srivastava S. K.**; "Erythrocytic clarification for early disease detection," Annual Innovation Showcase, University of Idaho, Apr 2016 (Oral) **Won first place*
24. Rinaldi B.[#], **Srivastava S. K.**; "Frequency response sweep to obtain dielectric properties of infected cells," Undergraduate Symposium, University of Idaho, April 2016 (Poster)
25. Adekanmbi E. O.[#], **Srivastava S. K.**; "A new strategy for preventing blood-bank contaminations," NSBE National Convention, Boston, MA, Mar 2016 (Oral)
26. Adekanmbi E. O.[#], **Srivastava S. K.**; "Dielectrophoretic separation of Babesia-infected erythrocytes," AIChE-AES Annual Conference, Salt Lake City, UT, Nov 2015 (Oral)
27. Adekanmbi E. O.[#], **Srivastava S. K.**; "Novel Solution to Transfusion-Transmitted Diseases: Case study-Babesiosis, NSBE-Regional Conference, Riverside, CA, Nov 2015 (Oral)
28. Nahavandi M., Adekanmbi E. O.[#], **Srivastava S. K.**; "Dielectrophoretic Separation of Healthy and Infected Red Blood Cells through Electric Driven Flow: An Electrokinetic Modeling" AIChE-AES Annual Conference, Salt Lake City, UT, Nov 2015 (Poster) **Won honorable mention*
29. Dustin J.[#], **Srivastava S. K.**; "Low-cost microwave plasma generation for the irreversible sealing of PDMS microfluidic devices," Annual Innovation Showcase, University of Idaho, Apr 2015 (Poster) * *Won third place*
30. Adekanmbi E. O.[#], **Srivastava S. K**.; "Saving the blood bank: A quick detection technique for Babesiosis," Annual Innovation Showcase, University of Idaho, Apr 2015 (Oral) **Won second place.*
31. Dustin J., **Srivastava S. K**.[#]; "Low-cost microwave plasma generation for the irreversible sealing of PDMS microfluidic devices," AIChE Annual Conference, Atlanta, GA, Nov 2014 (Poster)
32. Flynn M.[#], Kumar V., **Srivastava S. K.**; "Dielectrophoretic modeling to detect breast cancer from peripheral blood," Annual Innovation Showcase, University of Idaho, Moscow, ID, Apr 2014 (Oral)
33. Srivastava A. K., **Srivastava S. K.,** Minerick A. R., Schulz N. N.; "Survey based comparison of perceptions among current international engineering graduate students and alumni at US universities," ASEE Annual Conference, Vancouver, BC, Jun 2011 (Oral)
34. **Srivastava S. K.**[#], Minerick A. R., Lapizco-Encinas B.H.; "Insulator based dielectrophoresis: dependence of erythrocyte ABO antigens," AIChE Annual Conference, Salt Lake City, UT, Nov 2010 (Oral)
35. **Srivastava S. K.**, Srivastava A. K., Minerick A. R., Schulz N. N.; "Preferences and Challenges for Female Graduate Engineering Students: A Survey based Study," ASEE Annual Conference, Louisville, KY, Jun 2010 (Oral).
36. **Srivastava S. K.**[#], Baylon-Cardiel J. L., Lapizco-Encinas B. H., Minerick A. R.; "Insulator-based dielectrophoretic characterization of polystyrene particles," AIChE Annual Conference, Nashville, TN, Nov 2009 (Oral). * *Won Travel Grant for Graduate Students award (TAGGS)*
37. Mixon A. L.[#], **Srivastava S. K.**, Minerick A. R.; "Quantifying Erythrocytes by Solution Resistance Measurement," AIChE Annual Conference, Nashville, TN, Nov 2009 (Poster)
38. **Srivastava S. K.**, Srivastava A. K., Minerick A. R., Schulz N. N.; "International Graduate Students' Challenges: A Survey-based Study," ASEE Annual Conference, Austin, TX, Jun 2009.
39. **Srivastava S. K.**[#], Minerick A. R.; "DC dielectrophoretic characterization of polystyrene particles," Society of Plastic Engineers, Mississippi State University, MS, March 2009 (Poster)

40. Invited Presenter and Panelist- **Srivastava S. K.**, Srivastava A. K., Minerick A. R., Schulz N. N.; "International students' challenges in U.S. graduate schools," MAIE Annual Conference, Mississippi State University, MS, Feb 2009 (Oral).
41. **Srivastava S. K.**#, Pullen S. A., Minerick A. R.; "Insulator-based Dielectrophoretic Lab-on-a-Chip System for Erythrocytes," AIChE Annual Conference, Philadelphia, PA, Nov 2008 (Oral). * *Won GE travel grant*
42. **Srivastava S. K.**#, Leonard K. M., Burgess S. C., Minerick A. R.; "Direct Current Dielectrophoretic Characterization of Erythrocytes: Positive ABO Blood Types," NSTI-Nanotech Conference, Boston, MA, Jun 2008 (Poster)
43. **Srivastava S. K.**, Srivastava A. K., Minerick A. R., Schulz N. N.; "Challenges for International Students in a Globally Changing Environment," ASEE Annual Conference, Pittsburgh, PA, Jun 2008 (Oral).
44. **Srivastava S. K.**#, Minerick A. R.; "Design of Lab-on-a-Chip System for characterization of Particles and Erythrocytes using DC electric field," Society of Plastic Engineers, Mississippi State University, MS, April 2008 (Poster)
45. **Srivastava S. K.**#, Minerick A. R.; "DC- Dielectrophoretic Characterization of Particles and Erythrocytes in a Lab-on-a-Chip System," Graduate Student Association Symposia, Mississippi State, MS, April 2008 (Oral)
46. **Srivastava S. K.**#, Daggolu, P. R., Burgess, S. C., Minerick, A. R.; "Spatial Quantification of ABO Blood Antigen Contributions to Field Modulated Dielectrophoresis," American Institute of Chemical Engineers Annual Meeting, Salt Lake City, UT, Nov 2007 (Oral)
47. **Srivastava S. K.**#; "Biosensors and its industrial applications," Illinois Institute of Technology, Chicago, April 2003 (Oral)
48. **Srivastava S. K.**#; "Saponification studies is a mixed flow reactor using simulation theory," Indian Institute of Chemical Engineers, Bangalore, India, Jul 2001 (Oral).

8.5. Invited Seminars / Talks

1. Srivastava S. K.; "Dielectric characterization and detection on a microchip", BMEG 501 class, West Virginia University, WV (11/21)
2. Srivastava S. K.; "Electrokinetic characterization and detection of vector-borne diseases", Microbiology Seminar Series, West Virginia University, WV (10/21)
3. Srivastava S. K.; "Designing lab-on-a-chip platform for applications in health", West Virginia University Cancer Cell Biology, WV (09/21)
4. Srivastava S. K.; "Electrokinetic lab-on-a-chip platform for applications in disease diagnostics and recovery of rare earth elements," Michigan Technological University, MI (03/21)
5. Srivastava S. K.; "Electrophysiological characterization and detection of diseases by dielectrophoresis," Oregon Health and Sciences University, OR (12/20)
6. Srivastava S. K.; Invited Panelist for Women in Engineering (WIE) Day, Society of Women in Engineering (SWE), University of Idaho, Moscow, ID (10/19)
7. Srivastava S. K.; "Motivating women in STEM," Women in Idaho Science and Engineering (WiISE), University of Idaho, Moscow, ID (09/19)
8. Adekanmbi E. O., Srivastava S. K.; "Detection of tick-borne diseases using non-uniform electric field," Short and Sweet Research Speaker Series (SAS Talks), University of Idaho, Moscow, ID (05/19)
9. Srivastava S. K.; "Designing microfluidic platforms via electrokinetics for medical diagnostics and environmental biotechnology applications," Ralph E. Martin Department of Chemical Engineering, University of Arkansas, Fayetteville, AR (05/19)

10. Srivastava S. K.: "Dielectrophoretic characterization of cells to achieve early disease detection," Department of Biological Engineering, University of Idaho, Moscow, ID (03/19)
11. Adekanmbi E. O., Srivastava S. K.; "Dielectrophoresis and its application," Corning Inc., NY (08/17).
12. Srivastava S. K.; "Developing low-cost diagnostic and analyses tools using electrokinetics," Environmental Molecular Sciences Laboratory, Pacific Northwest National Lab (PNNL), Richland, WA (02/17)
13. Srivastava S. K.; "On-chip disease detection through electrokinetics," Department of Chemical Engineering, Indian Institute of Technology-Kanpur, India (12/15)
14. Srivastava S. K.; "On-chip disease detection through electrokinetics," Department of Chemical & Materials Engineering, University of Idaho, Moscow, ID (9/15)
15. Srivastava S. K.; "On-chip disease detection via electrokinetics," Center for emerging and re-emerging infectious diseases, University of Washington School of Medicine, Seattle, WA (08/15)
16. Srivastava S. K.; High school & Middle school students outreach hosted as a part of the Engineering Design EXPO showcase at University of Idaho, Moscow, ID (5/15)
17. Srivastava S. K.; "Lab record maintenance and drafting an abstract," Graduate Seminar, Department of Chemical & Materials Engineering, University of Idaho, Moscow, ID (08/14)
18. Srivastava S. K.; "Chemical Engineering Profession: What you can do & What I did," Freshmen & Senior class seminar, Department of Chemical & Materials Engineering, University of Idaho, Moscow, ID (12/13)
19. Srivastava S. K.; "Designing micro- nano-devices for dielectrophoretic separation of bio-particles," Department of Chemical and Materials Engineering, University of Idaho, Moscow, ID (05/13)
20. Srivastava S. K.; "Human ABO-Rh blood typing on a lab-chip microdevice via dielectrophoresis," Department of Chemical Engineering, Indian Institute of Technology-Kanpur, India (05/11)
21. Srivastava S. K.; High school outreach "Dream your future: Be an Engineer and impact society," presented as a part of the Imagine U at WSU at Bridgeport High School, Bridgeport, WA (11/10)
22. Srivastava S. K.; "Insulator based dc-dielectrophoretic blood typing: human abo system," Cornelius Ivory's Group, Voiland School of Chemical Engineering, WSU (09/10)
23. Srivastava S. K.; Invited Panelist, Mississippi Association of International Educators (MAIE) conference, Mississippi State University (02/09)
24. Srivastava S. K.; Conducted AutoCAD workshop for M.D.-ERL, Mississippi State University (02/08)

9. Professional Development

- "Leadership Workshop for Rising Star Women," hosted by AIChE (03/21)
- NIH Grant writing workshop by NIH funded GUMSHOE under the National Research Mentoring Network (NRMN) (04/16; 01/19) (**All expenses covered by organizers*)
- "CBET CAREER Grant writing webinar," NSF – CBET (04/16)
- Frontiers of Engineering Education Symposium organized by NAE (10/15) (**All expenses covered by organizers*)
- National Effective Teaching Institute (NETI) workshop by Felder and Brent (06/15)
- WEPAN Annual meeting, Denver, CO (06/15) (**All expenses covered by organizers*)
- "Active learning by Felder and Brent" hosted by WEPAN- EIT (04/15)
- Promotion, tenure, 3rd-year review workshop, University of Idaho, Moscow, ID (3/15)

- "CAREER proposal writing webinar," CBET – NSF (10/14)
- "Writing winning grants seminar" by Dr. Stephen Russell (10/10)
- Women's Leadership Conference, University of Idaho (10/10)
- Workshop "COAChing Strong Women in the Art of Strategic Persuasion," sponsored by Women's Initiative Committee (WIC), AIChE Annual Meeting 2009, Nashville, TN (11/09) *(COACh Awarded travel grant to attend the workshop).*

10. Professional Service

10.1 Proposal Review Panelist and Reviewer

Proposal Review Panelist:

- NASA Proposal Review Panelist (2021, 2017, 2015)
- NSF- CBET Panelist (2017)
- NSF- GRFP Panelist (Graduate Research Fellowship Program) (2015)
- North Dakota EPSCOR's Doctoral Dissertation Assistantship Program Reviewer (2015)
- Department of Defense (DoD) - Army Research Office, Ad-hoc review (2014)

Journal Reviewer:

- Reviewer *Communications Biology:* A *Nature* research journal
- Reviewer *Chemical Engineering & Processing- Process Intensification*
- Reviewer *Nanoscale*
- Reviewer *Journal of Separation Science*
- Reviewer *Journal of Microbiological Methods*
- Reviewer *Scientific Reports:* A *Nature* research journal
- Reviewer *Computer Methods and Programs in Biomedicine*
- Reviewer, *Journal of Chromatography A*
- Reviewer, *Journal of Separation Science*
- Reviewer, *Journal of Optomechatronics*
- Reviewer, *Analyst*
- Reviewer, *Biomicrofluidics*
- Reviewer, *Electrophoresis*
- Reviewer, *Bioprocess and Biosystems Engineering*
- Reviewer, *Microfluidics and Nanofluidics*
- Reviewer, *Medical Devices: Evidence and Research*, Dove Medical Press
- Reviewer, *International Journal of Engineering Education*
- Reviewer, *European Journal of Engineering Education*

Conference Reviewer:

- Reviewer for The Novel Intelligent and Leading Emerging Sciences conference (NILES 2020- IEEE conference)
- Reviewer, Women in Engineering Division, ASEE

- Reviewer, New Engineering Educators Division, ASEE
- Reviewer, Chemical Engineering Division, ASEE
- Reviewer, Student Division, ASEE

10.2 Institutional Service Activities

- Biomedical Engineering Curriculum Committee, West Virginia University (8/21 – Present)
- NOBCChE UI Chapter Faculty Advisor, University of Idaho (10/17 – 5/21)
- Committee member, Academic Hearing Board (AHB), University of Idaho (8/18 – 5/21)
- Biosafety level (BSL) labs Chair, Department Safety Committee, University of Idaho (08/18 – 08/20)
- Committee member, 3rd Year Review Committee, Chemical & Materials Engineering Department, Moscow, ID (11/17)
- Committee member, 3rd Year Review Committee, Chemical & Materials Engineering Department, Idaho Falls, ID (08/16)
- Committee member, Evaluating ENGR courses, College of Engineering (01/16 – 08/16)
- Committee member, Chemical & Materials Engineering Department, Faculty Search Committee (8/15 – 03/16)
- Committee member, Temporary Instructor Search Committee (Moscow) (07/15)
- Committee member, Chemical & Materials Engineering Department Chair Search committee (11/14 – 05/15)
- Committee member, Temporary Instructor Search Committee (Moscow) (07/14)
- Committee member, Faculty search committee (Idaho Falls) (11/13 – 4/14)

10.3 Professional Service Activities

- Guest Editor, *Micromachines* (https://www.mdpi.com/journal/micromachines/special_issues/bioparticles_electrical_manipulation_microfluidics) Jan – Jun 2022
- Awards Chair, Women in Chemical Engineering (WIC) Committee at AIChE (1/21 – Present)
- Guest Editor, *Micromachines* (https://www.mdpi.com/si/62190) Nov 2020 – Dec 20, 2021
- Topical Advisory Panel, *Biosensors* (https://www.mdpi.com/journal/biosensors/topic_editors) Oct 2020 – Present
- Guest Editor, *Micromachines* (https://www.mdpi.com/journal/micromachines/special_issues/Microdevices_Electrokinetic), Jun 2019 – Feb 2020
- Organizing committee member, Dielectrophoresis 2016 and 2020 biennial meeting (11/15 – Present)
- Conference Organizer, American Electrophoresis Society (AES) 2017 at Minneapolis, MN (11/15 – 10/17)
- Councilor, American Electrophoresis Society (10/14 – 12/17)
- Editorial Board Member, Journal of Biosensors and Bioelectronics (http://www.omicsonline.org/jbsbehome.php) (01/11 – Present)
- Member, ASEE-Women In Engineering Division (WIED) Nominating Committee (02/11)
- Vice-Chair, Interactions with K-12, Education Division Session, AIChE Annual meeting 2009, Nashville, TN (11/09)

10.4 Other Service Activities

- Judge, AIChE K-12 STEM Showcase and Outreach Competition, Nov 15th, 2021
- Women in Engineering (WIE) Day lab activities demo for local high school students (2014 – 2020)
- Online science expert for Conrad Spirit of Innovations Award Competition (09/2009)
- Judge, Mississippi Region V Elementary and Secondary Science and Engineering Fair, Mississippi State University, Mississippi (03/09)
- Judge, Mississippi Region V Elementary and Secondary Science and Engineering Fair, Mississippi State University, Mississippi (02/08)

11. Association with Professional Organizations

- American Association of Blood Banks (AABB)
- American Society of Engineering Education (ASEE)
- Associate Member, Sigma Xi Honor Society
- American Electrophoresis Society (AES)
- American Institute of Chemical Engineers (AIChE)
- Women in Engineering ProActive Network (WEPAN)