Srujana Samhita Yadavalli

Waksman Institute of Microbiology
Rutgers University
New Brunswick, NJ 08854

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EDUCATION

2012 **Ph. D. Microbiology**
The Ohio State University, Columbus OH

2006 **B. Tech. Biotechnology**
Anna University, Chennai, India

PROFESSIONAL APPOINTMENTS

Sep 2019– **Assistant Professor of Genetics**
Waksman Institute of Microbiology
Rutgers University, New Brunswick NJ

2017–19 **Research Associate**
Rutgers University, New Brunswick NJ

2012–17 **Postdoctoral Researcher**
University of Pennsylvania, Philadelphia PA

2006-12 **Graduate Assistant**
Department of Microbiology
The Ohio State University, Columbus OH

PUBLICATIONS

Google scholar: https://scholar.google.com/citations?user=cw43C1cAAAAJhl=en

BOLD : Members of Yadavalli Lab

21. Favate JS, **Skalenko K**, Chiles E, Su X, **Yadavalli SS**, Shah P. (2023)
Linking genotypic and phenotypic changes in the LTEE using metabolomics.
eLife In Review; bioRxiv doi: 10.1101/2023.02.15.528756

20. **Yadavalli SS*** and Yuan J*. (2022)
Bacterial small membrane proteins: the Swiss army knife of regulators at the lipid bilayer.
Journal of Bacteriology 204 (1): e0034421. *Corresponding author
Featured in the special section on *Small Proteins*.

19. Favate JS, Liang S, Cope AL, **Yadavalli SS**, Shah P. (2022)
The landscape of transcriptional and translational changes over 22 years of bacterial adaptation.
eLife 11:e81979.

18. Cope AL*, **Vellappan S***, Favate JS, **Skalenko K**, **Yadavalli SS**, Shah P. (2021)
Exploring ribosome-positioning on translating transcripts with ribosome profiling. In: Dassi E. (eds) Post-Transcriptional Gene Regulation.
Methods in Molecular Biology 2404: 83-110. *Equal contribution

17. **Yadavalli SS***, Goh T, Carey JN, Malengo G, **Vellappan S**, Nickels BE, Sourjik V, Goulian M*, Yuan J*. (2020)
Functional determinants of a small protein repressor controlling a broadly conserved bacterial sensor kinase.
Journal of Bacteriology 202 (16) *Corresponding author *Spotlight selection*

16. Masuda I, Matsubara R, Christian T, Rojas E, **Yadavalli SS**, Huang KC, Goulian M, and Hou YM. (2019)
tRNA Methylation Is a Global Determinant of Bacterial Multi-drug Resistance.
Cell Systems 8 (4):302-314

15. **Yadavalli SS**, Xiao Q, Sherman SE, Klein ML, Goulian M, and Percec V. (2019)
Bioactive cell-like hybrids from dendrimersomes with a human cell membrane and its components.
Proc. Natl. Acad. Sci. USA. 116 (3): 744-752

14. Roggiani M, **Yadavalli SS**, Goulian M. (2017)
Natural variation of a sensor kinase controlling a conserved stress response pathway in Escherichia coli.
PLoS Genetics 13 (11): e1007101

13. Jishkariani D, MacDermaid CM, Timsina YN, Grama S, Gillani SS, Divar M, **Yadavalli SS**, Moussodia R-O, Leowanawat P, Berrios Camacho AM, Walter R, Goulian M, Klein ML, Percec V. (2017)
Self-interrupted synthesis of sterically hindered aliphatic polyamide dendrimers.
Proc. Natl. Acad. Sci. USA. 114 (12): E2275 – 84

12. **Yadavalli SS***, Carey JN, Chen AI, Leibman R, Stern A, Roggiani M, Lippa A and Goulian M*. (2016)
Antimicrobial peptides trigger a division block in Escherichia coli through stimulation of a signaling system.
Nature Communications 7: 12340 *Corresponding author *F1000Prime* recommended

11. Xiao Q, Rubien JD, Wang Z, Reed EH, Hammer DA, Sahoo D, Heiney PA, **Yadavalli SS**, Goulian M, Wilner SE, Baumgart T, Vinogradov SA, Klein ML, and Percec V. (2016)
Self-sorting and co-assembly of fluorinated, hydrogenated, and hybrid Janus dendrimers into dendrimersomes.
Journal of American Chemical Society 138 (38): 12655–63

10. Xiao Q*, **Yadavalli SS***, Zhang S, Sherman SE, Fiorin E, da Silva L, Wilson DA, Hammer DA, Andre S, Gabius HJ, Klein ML, Goulian M, Percec V. (2016)
Bioactive cell-like hybrids co-assembled from (glyco)dendrimersomes with bacterial membranes.
Proc. Natl. Acad. Sci. USA. 113 (9): E1134–41 *Equal contribution

9. **Yadavalli SS** and Ibba M. (2013)
Selection of tRNA charging quality control mechanisms that increase mistranslation of the genetic code.
Nucleic Acids Research 41 (2): 1104–12

8. Elo, JM*, **Yadavalli SS***, Euro L, Isohanni P, Gatz A, Carroll C, Valanne L, Alkuraya FS, Uusimaa J, Paetau A, Caruso EM, Pihko H, Ibba M, Tyynismaa H, Suomalainen A. (2012)
Mitochondrial phenylalanyl-tRNA synthetase mutations underlie fatal infantile Alpers encephalopathy.
Human Molecular Genetics 21 (20): 4521–9 *Equal contribution

7. **Yadavalli SS** and Ibba M. (2012)
Quality control in aminoacyl-tRNA synthesis: its role in translational fidelity.
Adv. Prot. Chem. Struct. Biol. 86: 1–43

6. Banerjee R, Reynolds NM, **Yadavalli SS**, Rice C, Roy H, Banerjee P, Alexander RW, Ibba M. (2011)
Human mitochondrial aminoacyl-tRNA synthetase single nucleotide polymorphisms that lead to defects in refolding but not aminoacylation.
Journal of Molecular Biology 410 (2): 280–93

5. Banerjee R, Chen S, Dare K, Gilreath M, Praetorius-Ibba M, Raina M, Reynolds NM, Rogers T, Roy H, **Yadavalli SS**, Ibba M. (2010)
tRNAs: cellular barcodes for amino acids.
FEBS Letters 584 (2): 387–95

4. **Yadavalli SS**, Klipcan L, Zozulya A, Banerjee R, Svergun D, Safro M, Ibba M. (2009)
Large-scale movement of functional domains facilitates aminoacylation by human mitochondrial phenylalanyl-tRNA synthetase.
FEBS Letters 583 (19): 3204–8

3. Ling J, So BR, **Yadavalli SS**, Roy H, Shoji S, Fredrick K, Musier-Forsyth K, Ibba M. (2009)
Resampling and editing of mischarged tRNA prior to translation elongation.
Molecular Cell 33 (5): 654–60

2. **Yadavalli SS**, Musier-Forsyth K, Ibba M. (2008)
The return of pretransfer editing in protein synthesis.
Proc. Natl. Acad. Sci. USA. 105 (49): 19031–2

1. Ling J, **Yadavalli SS**, Ibba M. (2007)
Phenylalanyl-tRNA synthetase editing defects result in efficient mistranslation of phenylalanine codons as tyrosine.
RNA 13 (11): 1881–6

FUNDING

Current

2022-27 NIGMS R35 (ESI - MIRA) GM147566
Small Proteins and Epitranscriptomic Factors: Emerging Mechanisms in Bacterial Gene Regulation
Role: PI

2022-24 NIAID R21 AI170977
The temporal dynamics of translation efficiency during an innate immune response.
PI: Ann Tate (Vanderbilt University)
Role: Co-I

2019- Institutional start-up funds
Waksman Institute of Microbiology, Department of Genetics, and the School of Arts and Sciences
Role: PI

Completed

2021-22 Rutgers-New Brunswick COVID Impact on Scholarly Productivity Faculty Grant
Role: PI

2020-22 Busch Biomedical Grant
Role: PI

TRAINEE AWARDS

2023 Sangeevan Vellappan (graduate student) - RNA Society Research Presentation Fellowship.

2022-23 Sangeevan Vellappan (graduate student) - Charles and Johanna Busch Pre-doctoral Fellowship.

2022 Hifsa Abbasi (undergrad, Microbiology major) - Waksman Summer Undergraduate Research Fellowship.

2021-22 Samuel Adeleye (graduate student) - Benedict Michael Pre-doctoral Fellowship for the top-ranked applicant at the Waksman Institute of Microbiology.

2021 Hifsa Abbasi (undergrad, Microbiology major) - Rutgers University Pipeline - Initiative for Maximizing Student Development - Summer Undergraduate Research Fellowship.

2021-22 Hannah Lake (undergrad, Genetics major) - Division of Life Sciences Summer Undergraduate Research Fellowships.

2021-23 McKenzie Burge (graduate student) - Rutgers-NIH Biotech Training Fellowship.

2020-21 Samuel Adeleye (graduate student) - Charles and Johanna Busch Pre-doctoral Fellowship.

2020 Debbie Cerda (undergrad) - Division of Life Sciences Summer Undergraduate Research Fellowship.

INVITED TALKS

2023 *Epitranscriptomic enzymes and small proteins: Emerging regulators of stress response.*

18. Genetics, Cell Biology and Anatomy seminar series, University of Nebraska, Omaha NE (Virtual)
17. Biological sciences seminar series, Vanderbilt University, Nashville TN
16. Microbiology seminar series, The Ohio State University, Columbus OH

2022 *Dual Functions of a Biosynthetic Enzyme (QueE) in tRNA Modification and Bacterial Stress Response.*

15. Biology seminar series, La Salle University, Philadelphia PA

Small Proteins and Epitranscriptomic Factors: Emerging mechanisms in bacterial gene regulation.

14. Biology seminar series, Rutgers-Camden NJ
13. Institute for infectious and inflammatory Diseases (i3D) 2022 Faculty Retreat, Rutgers University, Piscataway NJ (Virtual)

Development of an in vivo photo-cross-linking method to identify small protein targets.

12. Small, small protein meeting, National Institutes of Health (NIH), Bethesda MD (Virtual)

2021 *Small but mighty regulators of bacterial gene expression and stress response.*

11. Biology seminar series, University of Delaware, Newark DE (Virtual)

Small Proteins and Epitranscriptomic Factors: Emerging mechanisms in bacterial gene regulation.

10. Lambda lunch seminar series, National Institutes of Health (NIH), Bethesda MD (Virtual)

An epitranscriptomic enzyme moonlights in bacterial stress response.

9. Evelyn M. Witkin 100th birthday symposium, Waksman Institute of Microbiology, Rutgers University, Piscataway NJ (Virtual)

Small proteins and epitranscriptomic factors: Emerging regulators of bacterial gene expression.

8. Division of Life Sciences – New faculty symposium, Rutgers University, Piscataway NJ (Virtual)

2020 *Bacterial stress response to antimicrobial peptides.*

7. Annual microbiology symposium, Rutgers University, Piscataway NJ

2018 *Bacterial stress response to antimicrobial peptides.*

6. Genetics seminar series, Rutgers University, Piscataway NJ

Antimicrobial peptide stress response in E. coli.

5. Institute of Marine and Environmental Technology, Baltimore MD

2017 *Navigating an academic career: PhD to postdoc (Interdisciplinary Graduate Programs Career Day).*

4. The Ohio State University, Columbus OH

Antimicrobial peptide stress response in E. coli.

3. University of Oklahoma, Oklahoma City OK
2. University of Toronto, Toronto Canada

Antimicrobial stress response in bacteria.

1. University of California at Riverside, Riverside CA

CONFERENCE AND OTHER PRESENTATIONS

2022 Adeleye SA and **Yadavalli SS**
Moonlighting function of a biosynthetic enzyme links RNA metabolism and cell division during stress response in E. coli.

19. Molecular Genetics of Bacteria and Phages Meeting, University of Wisconsin, Madison WI

Adeleye SA and **Yadavalli SS**
Dual Functions of a Biosynthetic Enzyme (QueE) in tRNA Modification and Bacterial Stress Response.

18. Microbial Stress Response Gordon Research Conference (GRC), Mount Holyoke College, South Hadley MA (Talk)

2017 **Yadavalli SS**, Carey J, Leibman R, Stern A, Roggiani M, Lippa A and Goulian M
Antimicrobial peptides trigger a division block in E. coli through PhoQ signaling.

17. Waksman Annual Retreat, Rutgers University, Piscataway NJ
16. Chemical and Biomolecular Engineering Conference, Dow Chemicals & University of Pennsylvania, Philadelphia PA

2016 **Yadavalli SS**, Carey J, Leibman R, Stern A, Roggiani M, Lippa A and Goulian M
Antimicrobial peptides trigger a division block in E. coli through PhoQ signaling.

15. Microbial Stress Response Gordon Research Conference (GRC) at Mount Holyoke College, MA

(Talk)

2015 **Yadavalli SS**, Carey J, Leibman R, Stern A, Roggiani M, Lippa A and Goulian M
Modulation of cell division by a signal transduction system in E. coli.

14. Prokaryotic Seminar Series, Microbiology and Molecular Biology, University of Pennsylvania, Philadelphia PA (Talk)
13. Molecular Genetics of Bacteria and Phages meeting, University of Wisconsin, Madison WI

(Talk)

Yadavalli SS, Carey J, Leibman R, Stern A, Roggiani M, Lippa A and Goulian M
PhoQ/PhoP-dependent filamentation of E. coli.

12. Biochemistry and Molecular Biophysics Research Discussion seminar series, University of Pennsylvania, Philadelphia PA (Talk)

2014 **Yadavalli SS**, and Goulian M
Regulation of the PhoQ histidine kinase by small membrane protein MgrB.

11. Molecular Genetics of Bacteria and Phages meeting, University of Wisconsin, Madison WI

Yadavalli SS, Carey J, Leibman R, Stern A, Roggiani M, Lippa A and Goulian M
Filamentation of E. coli by hyperactivation of PhoQ-PhoP two component system.

10. Prokaryotic Seminar Series, Microbiology and Molecular Biology, University of Pennsylvania, Philadelphia PA (Talk)

2013 **Yadavalli SS**, Carey J, Leibman R, Stern A, Roggiani M, Lippa A and Goulian M
Filamentation of E. coli by hyperactivation of PhoQ-PhoP two component system.

9. Bacteria, Archaea and Phages meeting at University of Wisconsin, Madison WI (Talk)

Yadavalli SS, and Ibba M
Role of phenylalanyl-tRNA synthetase in aminoacylation, translation quality control and disease.

8. Prokaryotic Seminar Series, Microbiology and Molecular Biology, University of Pennsylvania, Philadelphia PA (Talk)

2012 **Yadavalli SS**, and Ibba M
Divergent requirements for quality control mechanisms in bacterial translation.

7. Bacteria, Archaea and Phages meeting at the Cold Spring Harbor Lab, Cold Spring Harbor NY (Talk)

2011 **Yadavalli SS**, and Ibba M
To edit or not to edit: the Mycoplasma question.

6. Microbiology department annual seminar series, The Ohio State University, Columbus OH (Talk)

2010 **Yadavalli SS**, Klipcan L, Zozulya A, Svergun D, Safro M, and Ibba M
Conformational change essential for productive tRNA recognition by an aminoacyl-tRNA synthetase.

5. Microbiology department annual seminar series, The Ohio State University, Columbus OH (Talk)

Yadavalli SS, Ignatov M, Musier-Forsyth K, and Ibba M.
Protein-RNA dynamics during post-transfer editing by phenylalanyl-tRNA synthetase.

4. 23rd tRNA Workshop at Aveiro, Portugal

2009 **Yadavalli SS**, Ling J, So BR, Shoji S, Roy H, Fredrick K, Musier-Forsyth K, and Ibba M
Resampling and editing of mischarged tRNA prior to translation elongation.

3. Ohio Branch American Society of Microbiology (OBASM) Meeting, Athens OH

Yadavalli SS and Ibba M.
How does PheRS ensure aminoacylation fidelity?

2. Microbiology department annual seminar series, The Ohio State University, Columbus OH (Talk)

2008 **Yadavalli SS**, Ling J, So BR, Shoji S, Roy H, Fredrick K, Musier-Forsyth K, and Ibba M.
Resampling and editing of mischarged tRNA prior to translation elongation.

1. Rustbelt RNA Meeting at Mount Sterling OH

MENTORING

Rutgers University

Graduate and Undergraduate students

1. Maryam Mohammed (Undergraduate Microbiology Major-Project SUPER, Spring 2023-)
2. Janki Patel (Undergraduate Biological Sciences Major, Fall 2022-)
3. Varun Chovatia (Undergraduate, University of Illinois at Urbana Champaign, Summer 2022)
4. Pranavi Jagadeesan (Master of Science in Biomedical Sciences, 2021-22)
5. Hifsa Abbasi (Undergraduate Microbiology Major, Summer 2021-present)
6. Hannah Lake (Undergraduate Genetics Major-honors student, Summer 2021, Summer 2022-)
7. Shokufeh Nourallahi (Volunteer researcher, Fall 2021)
8. Daryl Von Herbert (Master of Science in Clinical Research Management, Fall 2020)
9. McKenzie Burge (Molecular Biosciences, Master's student, Spring 2020-Summer 2021)
10. Samuel Adeleye (Microbiology Molecular Genetics graduate student, Spring 2020-)
11. Sangeevan Vellappan (Microbiology Molecular Genetics graduate student, Spring 2020-)
12. Debbie Cerda (Undergraduate Genetics Major, 2019-20)

Students - other

1. Gustavo Rios-Delgado (Microbiology Molecular Genetics, Ph.D. qualifying exam committee, 2022)
2. Saai Anugraha Tiruchendurai Suryanarayanan (Cell & Developmental Biology, Ph.D. thesis committee, 2021-present)
3. Ayla Boyd (Genetics, Honors thesis committee, 2021)
4. Sukanya Das (Shah lab, Fall 2018)
5. Alex Gorbunov (Severinov-Nickels labs, Fall 2018)
6. Jiayu Shen (Nickels lab, rotation, 2017-18)

Technicians and other trainees

1. Kyle Skalenko (Research technician, 2020-22)
2. Shun Liang (Lab researcher, 2019-20)

University of Pennsylvania

1. Ted Goh (Undergraduate Honors Thesis, Swarthmore University, 2013-14)
2. Dr. Shiying Ren, Huaiyin institute of Technology, China (Visiting Professor, Goulian lab, 2012-13)
3. Annie I. Chen (Goulian lab, Ph.D., 2014-17)
4. Yitian Zhou (Zhu lab, Ph.D. rotation, 2014)

The Ohio State University

1. Eric Caruso (Undergraduate researcher and co-author on a manuscript, 2011-2012)
2. Eileen Gulertekin (Undergraduate researcher, 2011-12)
3. Chaojie Wang (Ibba lab, Ph.D. rotation, 2011)
4. Diana Norden (Ibba lab, Ph.D. rotation, 2011)
5. Rajat Banarjee, University of Calcutta, India (Visiting Professor and co-author on 3 manuscripts, Ibba lab, 2008-09)

TEACHING

Faculty

Fall 2022 Genetic Analysis I 01:447:384 for Genetics majors (hybrid, in person and online)

Fall 2021 Genetic Analysis I 01:447:384 for Genetics majors (hybrid, in person and online)

Fall 2020 Genetic Analysis I 01:447:384 for Genetics majors (fully online due to the covid-19 pandemic)

Spring 2022 Ethical Scientific Conduct Refresher 16:115:558 for graduate students and postdocs

Spring 2021 Ethical Scientific Conduct 16:115:556 for graduate students and postdocs

Graduate Teaching Assistant

Spring 2010 General Microbiology II

Winter 2009 General Microbiology II

Fall 2009 General Microbiology I

Spring 2008 General Microbiology II

Fall 2007 General Microbiology I

Spring 2007 Basic and Practical Microbiology

Fall 2006 Basic and Practical Microbiology

PROFESSIONAL SERVICE

2022- Reviewing Editor at Microbiology Spectrum (ASM)

2020- Ad-hoc reviewer at eLife, PLoS Genetics, PLoS Pathogens, mBio, Journal of Bacteriology, Frontiers in Molecular Biosciences

2017- Reviewer at Bio-protocol

2021- Co-leader and administrator for Slack group for Small Protein research community of over 120 trainees and faculty members, ”Small proteins, Big questions”

2022- Undergraduate academic advisor for Genetics majors, Department of Genetics, Rutgers University

2022- Waksman Busch Funds Committee for annual student/postdoc fellowships and seed grants, Waksman Institute of Microbiology, Rutgers University

2022- Waksman Hiring Plans Committee for new faculty recruitment, Waksman Institute of Microbiology, Rutgers University

2022- Seminar Planning Committee, Waksman Institute of Microbiology, Rutgers University

2021- Diversity and Strategic Planning Committee, Waksman Institute of Microbiology, Rutgers University

2020- Graduate student recruitment for Molecular Biosciences and Microbial biology programs, Rutgers University

2020- Diversity and Strategic Planning Committee, Department of Genetics, Rutgers University

2019- Departmental Seminar Planning Committee, Department of Genetics, Rutgers University

Invited panelist:

2023 Judge for posters at the 2023 Annual Graduate Student Research Symposium for biomedical graduate students and postdocs, Rutgers University, Piscataway NJ.

2022 Judge for posters presented by graduate students and postdocs at the 2022 Waksman Annual Retreat, Rutgers University, Piscataway NJ.

2022 Mentor at the career development roundtable on ”Prepare your Teaching and DEI statements for a Faculty Search” at the Molecular Genetics of Bacteria and Phages meeting, University of Wisconsin, Madison WI.

2022 Academic career paths: career panel for biomedical graduate students and postdocs, Rutgers University, Piscataway NJ (virtual).

2022 Judge for talks and posters at the 2022 Annual Graduate Student Research Symposium for biomedical graduate students and postdocs, Rutgers University, Piscataway NJ.

2021 Mentor/facilitator for the "Women in science" session at the Molecular Genetics of Bacteria and Phages symposium (virtual).

2021 Academic career paths: career panel for biomedical graduate students and postdocs, Rutgers University, Piscataway NJ (virtual).

2020 Women in academia: biology career panel for the graduate students and postdocs as part of the iJOBS program, Rutgers University, Piscataway NJ (Virtual).

2016 Presentation judge - Graduate presentations at the Annual retreat for Department of Biology, University of Pennsylvania, Philadelphia PA.

2015 Penn Women's Biomedical Society General Body Meeting, University of Pennsylvania, Philadelphia PA.

2010 Presentation judge - Biological, Mathematical, and Physical Sciences Undergraduate Research Forum, The Ohio State University, Columbus OH.

2009-10 Elected student representative on the Graduate Admissions Committee, Dept. of Microbiology, The Ohio State University, Columbus OH.

OTHER SERVICE

2022- Member of the Board of Trustees of the Rutgers-Livingston Day Care Center (R-LDCC) – New Jersey's first nationally accredited early childhood program.

Budget and finance, Health, safety and food service committees

PROFESSIONAL AFFILIATIONS

American Society of Microbiology (ASM)
New Jersey Branch ASM Theobald Smith Society (TSS)
Human Genetics Institute of New Jersey (HGINJ), Rutgers
Institute for Infectious and Inflammatory Diseases (i3D), Rutgers
Graduate Program in Microbiology and Molecular Genetics (MMG), Rutgers
Graduate Program in Microbial Biology, Rutgers
Rustbelt RNA Society

WORKSHOPS

2021 Rutgers Connection Network (RCN) Mentoring Program

2020 Faculty Workshop in Mentoring Biomedical PhD Students

2020 Summer Institutes on Scientific Teaching, On-line

2019 Faculty Workshop in Mentoring Biomedical PhD Students

2009 Seventh Annual Dawn of the New Enzymology Kinetics, conducted by Dr. Kenneth Johnson, Austin TX

OUTREACH EXPERIENCE

2022 Interviewed by Ms. Ciara Weller, a freshman student at the Ernest Mario School of Pharmacy for her scientific writing class assignment, "Interview with a Scientist" conducted by Dr. Donald Dow, Rutgers University, Piscataway NJ.

2021 Shadowing experience for high-school student, Enna Chiu, from Highland Park High School, Highland Park NJ.

2020 Knowledge and power: Issues in women's leadership - interviewed by Ms. Olivia Becker, a freshman Honors College and Douglass Residential College student at Rutgers University, Piscataway NJ.

2018 Judge for 2017 Waksman Student Scholars Program (WSSP) Forum Poster Session held at Rutgers University Busch Campus Center, Piscataway NJ.

2016 Judge for the middle school student poster presentations at the Annual Science Fair at Penn Alexander School, Philadelphia PA.

2016 Volunteered as biology expert at the first annual Science Expert Expo at Penn Alexander School, Philadelphia PA.

2014 Co-mentored a middle-school student, Donte Carr through the Philadelphia public school SPARK Apprenticeship program, Philadelphia PA.

2011 Demonstrations using liquid nitrogen to freeze different substances and ice cream making. Understanding physical and chemical properties of matter with Ms.Carnate at Hilltonia Middle School, Columbus OH.

2010 Mentored and trained a high-school student (Andrew Bogart) from Metro Early College High School, Columbus OH through the BODIES Internship program.

2010 Shadow mentor for high-school student (Andrew Klingel) from Metro Early College High School, Columbus OH.

2010 Demonstrations with heating of gases trapped in airtight jars and laughing gas (N_2O). Understanding Global warming with Ms.Rucker at Hilltonia Middle School, Columbus OH.

2010 Demonstrations using dry ice and make-your-own glowstick. Experiments for Halloween with Ms.Carnate at Hilltonia Middle School, Columbus OH.