CURRICULUM VITAE

Natalya Voloshchuk, Ph.D.

CONTACT INFORMATION

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EDUCATION

Ph.D. Biochemistry (2004)
City University of New York Graduate School, New York, NY
Thesis: "Mapping the DNA binding site of HIV-1 integrase using fluorescent oligonucleotides and fluorescence polarization." Advisor: Prof. Lesley Davenport

B.S. Chemistry, *cum laude* (1998)
Brooklyn College of CUNY, Brooklyn, NY

ACADEMIC APPOINTMENTS

TEACHING

Assistant Teaching Professor, Department of Biochemistry and Microbiology, SEBS, Rutgers University, New Brunswick, NJ, 2018 to Present

Courses

11:115:413	Experimental Biochemistry	3 credits (fall)
11:115:414	Experimental Biochemistry	3 credits (spring)
11:115:409	Principles of Biophysical Chemistry	3 credits (spring)
11:115:493/494	Research Problems In Biochemistry	3 credits (fall, spring, summer)
11:115:301	Introductory Biochemistry	3 credits (summer, one section of a multi-section course)
11:015:112	Academic Mentoring	1 credit (fall)
11:015:103	Portals To Academic Study Success	1 credit (spring)
11:115:110	Experiments with GFP	3 credits (summer)

Instructor, the New Brunswick Summer/Winter Session, Experiments with GFP 11:115:110 (3 credit hours), July 2024, 2025
Summer Academy Instructor, Experiments with GFP 11:115:110 (3 credit hours), Rutgers Biochemistry Summer Academy, July 10 - 22, 2023

Summer Program Assistant Instructor, Research Skills, Top Universities Preparatory Program, Division of Continuing Studies, Rutgers University, July 20 – August 6, 2016
Teaching Instructor, Experimental Biochemistry, Principles of Biophysical Chemistry, Research Problems in Biochemistry, Department of Biochemistry and Microbiology, SEBS, Rutgers University, New Brunswick, NJ, 2013 - 2018
Adjunct Lecturer, Biochemistry (lecture, lab), Chemistry Department, Wagner College, Staten Island, NY, 2012-2013
Adjunct Lecturer, Molecular Genetics (lecture, lab), Biostatistics (lecture), Department of Chemical and Biomolecular Engineering, Polytechnic Institute of NYU, Brooklyn, NY, 2009 academic year
Adjunct Lecturer, Organic Chemistry (recitation, lab), General Chemistry (recitation, lab), Chemistry Department, Brooklyn College of CUNY, Brooklyn, NY, 2005-2006
Teaching Assistant, General Chemistry (recitation, lab), Organic Chemistry (recitation, lab), Chemistry Department, Brooklyn College of CUNY, Brooklyn, NY, 1998-2004

RESEARCH

Undergraduate Research Mentor, Department of Biochemistry and Microbiology, SEBS, Rutgers University, New Brunswick, NJ

11:115:493/494 Research problems in biochemistry courses (18 students)	2014-present
The George H. Cook Scholars Program thesis advisor (1 student)	2024-2025
Project SUPER, Douglass Women in Science and Engineering (6 students)	2023-2025
The George H. Cook Scholars Program thesis advisor (1 student)	2022-2023
Collaboration with Dr. Peter Khan (7 students)	2014-2023

Students develop skills in:
recombinant protein expression, protein purification, protein concentration determination, activity assays, gel electrophoresis, UV-Vis spectroscopy
Recent student projects:

- Designing GFP Purification Protocol for Teaching Lab.
- Investigating an Alternative Method For Endoglucanase CelB2 Production in *E.coli* to improve yield
- Expression and purification of Horse Liver Alcohol Dehydrogenase in *E. coli.*
- Optimization of expression levels of recombinant Horse Liver Alcohol Dehydrogenase in *E. coli.*
- Bacterial expression of His-tagged yeast phosphoglycerate kinase and metal affinity chromatography purification of the enzyme.
- Horse Liver Alcohol Dehydrogenase production by auto-induction in *E. coli*.
- Cloning *Streptomyces lividans* Endoglucanase CelB2 gene into pET28a vector, and Expression in *E. coli.*
- Engineering of plasmid for the expression and purification of cellulase CelB2 as fusion protein His_6/MBP/CelB2 in *E. coli*.

Research Scientist (Laboratory of Dr. James Liang), Stevens Institute of Technology, Hoboken, NJ, 2010-2012

- carried out therapeutic peptide modifications via transpeptidase and phospholipase enzymatic activities

Postdoctoral Fellow (Laboratory of Dr. Jin K. Montclare), Polytechnic Institute of New York University, Brooklyn, NY, 2006-2009

- carried out incorporation of unnatural amino acids into recombinant proteins
- characterized stability and activity of the expressed proteins
- served as co-advisor for the project designed for undergraduate students
  Project: Machine learning protein design: optimization of tGCN5 acetyltransferase.
  Funded by: Multidisciplinary Research Opportunities for Women (MRO-W) Program of the Committee on the status of women in computing research (CRA-W)

Research Assistant (Laboratory of Dr. L. Davenport), Brooklyn College of CUNY, Brooklyn, NY, 1998-2004

- determined the importance of nucleotides at two positions in DNA substrate for binding by HIV-1 integrase through quantitative evaluation of binding by steady-state fluorescence anisotropy

Visiting researcher (laboratory of Mary E. Hawkins), Pediatric Oncology Branch, National Cancer Institute, Bethesda, MD, June 2000

- performed synthesis and purification of short (20-40 bp) oligonucleotides

Undergraduate Research (Laboratory of Dr. L. Davenport)**,** Brooklyn College of CUNY, Brooklyn, NY, 1997-1998

- developed a working purification protocol of amine oxidase from bovine plasma based on literature reports

PUBLICATIONS

JOURNALS

N. Voloshchuk, D. Liang, J.F. Liang, Sortase A mediated protein modifications and peptide conjugations. Current Drug Discovery Technologies, 2015, 12(4):205-13.

L. Chen, Z. Tu, N. Voloshchuk, J.F. Liang, Lytic peptides with improved stability and selectivity designed for cancer treatment. Journal of Pharmaceutical Sciences, 2011,101 (4): 1508-1517.

K.R. Menta, Y.M. Chan, C.Y. Yang, M.X. Lee, N. Voloshchuk, J.K. Montclare, Mutagenesis of tGCN5 core region reveals two critical surface residues F90 and R140, Biochemical and Biophysical Research Communications, 2010, 400 (3): 363-368.

N. Voloshchuk and J. K. Montclare, Incorporation of Unnatural Amino Acids for Synthetic Biology, Molecular Biosystems, 2010, 6(1):65-80.

J.S. Haghpanah, C. Yuvienco, D. E. Civay, H. Barra, P. J. Baker, S. Khapli, N. Voloshchuk, S.K. Gunasekar, M. Muthukumar, J. K. Montclare, Artificial Protein Block Copolymers Comprised of two Self-assembling Domains, ChemBioChem, 2009, 10(17): 2733-2735.

N. Voloshchuk, Y. Zhu, D. Snydacker and J. K. Montclare, Positional Effects of Monofluorinated Phenylalanines on Histone Acetyltransferase Function and Stability, Bioorganic and Medicinal Chemistry Letters, 2009,19(18):5449-5451.

N.Voloshchuk, M.Lee, W. W. Zhu, I.C. Tanrikulu and J. K. Montclare, Fluorinated Chloramphenicol Acetyltransferase Thermostability and Activity Profile: Improved Thermostability by a Single-Isoleucine Mutant, Bioorganic and Medicinal Chemistry Letters, 2007,17:5907-5911.

N. Voloshchuk, M.E. Hawkins and L. Davenport. Mapping the DNA binding site of HIV-1 integrase using fluorescent oligonucleotides and fluorescence polarization, Biophysical Journal, 2005, 88: 406a.
N. Voloshchuk, M.E. Hawkins and L. Davenport. HIV-1 integrase binding to model oligonucleotide substrates, Biophysical Journal, (2001) 80, 294A.
N. Voloshchuk, M.E. Hawkins and L. Davenport. The Binding Properties of HIV-1 Integrase, Biophysical Journal, (2000) 78, 300A.

UNDEGRADUATE RESEARCH STUDENT POSTERS (Rutgers)

Gauri Vaidya, Dr. Natalya Voloshchuk. Comparing Yield of PGK in Two Buffer Systems. Douglass SUPER Research Experience Symposium. (September 26, 2025)
Roxanne Jolie, Tiffany Prasad, Natalya Voloshchuk. Comparing Specific Activity of CelB2 Expressed in pET28a(+) and pMAL-c4X Recombinant Protein Expression Systems. Douglass SUPER Research Experience Symposium. (September, 2024)
Jyoti Kandel, Yongjian Qin, N. Voloshchuk. Investigating an Alternative Method For Endoglucanase CelB2 Production. William Paterson University 17th annual undergraduate research symposium (April, 2024). 2nd place winners in Biochemistry category
Vani Bhagat, Alyssa Allijan, N. Voloshchuk. Designing GFP Purification Protocol for Teaching Lab. William Paterson University 17th annual undergraduate research symposium (April, 2024).
Jiaying Wang, Thi Nguyen, Natalya Voloshchuk, Cloning *Streptomyces lividans* Endoglucanase CelB2 gene into pET28a vector, and Expression in *Escherichia coli.* William Paterson University 13th annual undergraduate research symposium (April, 2019).
Amara Qureshi, Peter C. Kahn, Natalya Voloshchuk, Horse Liver Dehydrogenase expression in *E.coli*. William Paterson University 11th Annual Undergraduate Research Symposium (April, 2017).
Margaret Morales, Peter C. Kahn, Natalya Voloshchuk, Expression and purification of cellulase CelB2 produced as fusion protein His_6/MBP/CelB2 in *E.coli*. Aresty annual undergraduate research symposium, Rutgers (April, 2015).
Margaret Morales, Peter C. Kahn, Natalya Voloshchuk, Engineering of plasmid for the expression and purification of cellulase CelB2 as fusion protein His_6/MBP/CelB2 in *E.coli*. 1st place winner in the Biochemistry category. William Paterson University 9th annual undergraduate research symposium (April, 2015).

POSTERS (before Rutgers)

Natalya Voloshchuk, Chen Long, and James Liang, Controlled peptide ligation and cyclization using Sortase A from *Staphylococcus aureus*. Research & Entrepreneurship Day, Stevens Institute of Technology (April, 2012).
Natalya Voloshchuk, Yuhua Zhu, David Snydacker and Jin Kim Montclare. "Positional Effects of Monofluorinated Phenylalanines on Histone Acetyltransferase Function and Stability." ASBMB annual meeting, New Orleans (April, 2009).
Natalya Voloshchuk, Yuhua Zhu, and Jin Kim Montclare. "Characterization of stability and activity of fluorinated histone acetyltransferase, tGcn5." 236th ACS national meeting, Philadelphia (August 2008).

Natalya Voloshchuk, Yuhua Zhu, and Jin Kim Montclare. "Effects of fluorinated phenylalanine incorporation on histone acetyltransferase, tGcn5." 2nd Annual Advances in Biomolecular Engineering: Protein Design Symposium, City College of the City University of New York (June, 2008).
Natalya Voloshchuk, Yuhua Anita Zhu, and Jin Kim Montclare. "Characterization of fluorinated histone acetyltransferase, tGcn5." 40th Mid-Atlantic regional meeting, New York (May 2008).
Natalya Voloshchuk, Man Xia Lee, Wan Wen Zhu, Ismet Caglar Tanrikulu & Jin Kim Montclare. "Thermal stability and activity of fluorinated single-isoleucine mutants of chloramphenicol acetyltransferase." 234th Annual ACS meeting, Boston, MA (August, 2007).
Natalya Voloshchuk, Yuhua Zhu, and Jin Kim Montclare. "Engineering a therapeutic, fluorinated histone acetyltransferase: resistance to proteolysis and activity study." Advances in Biomolecular Engineering: Protein Design Symposium, Polytechnic Institute of New York University (May, 2007).
Natalya Voloshchuk, Yuhua Zhu, and Jin Kim Montclare. "Engineering a therapeutic, fluorinated histone acetyltransferase." Drug Delivery and Translational Research meeting, Polytechnic Institute of New York University (December, 2006).
Natalya Voloshchuk, Mary E. Hawkins and Lesley Davenport. "Mapping the DNA binding site of HIV-1 integrase using fluorescent oligonucleotides and fluorescence polarization." 49th Annual Biophysical Society Meeting, Long Beach, California (February, 2005).
Natalya Voloshchuk, Mary E. Hawkins and Lesley Davenport. "Mapping the DNA binding site of HIV-1 integrase using fluorescent oligonucleotides and fluorescence." 5th Annual Science, Engineering and Mathematics Celebration, New York City (March, 2004).
Natalya Voloshchuk, Mary E. Hawkins and Lesley Davenport. "HIV-1 integrase binding to model oligonucleotide substrates." 4th Annual Science, Engineering and Mathematics Celebration, New York City (March, 2003).
Natalya Voloshchuk, Mary E. Hawkins and Lesley Davenport. "Mapping the DNA binding site of HIV-1 integrase using fluorescent oligonucleotides and fluorescence polarization." ACS 3rd metropolitan area poster program for graduate students in chemical sciences, New York City (February, 2003).
Natalya Voloshchuk, Mary E. Hawkins and Lesley Davenport. "HIV-1 integrase binding to model oligonucleotide substrates." 45th Annual Biophysical Society meeting, Boston (February, 2001).
Natalya Voloshchuk, Mary E. Hawkins and Lesley Davenport. "The binding properties of HIV-1 integrase." 14th annual meeting of the groups studying the structure of AIDS-related systems and their application to targeted drug design, NIH, Bethesda (June, 2000).
Natalya Voloshchuk, Mary E. Hawkins and Lesley Davenport. "The binding properties of HIV-1 integrase." 44th Annual Biophysical Society Meeting, New Orleans (February, 2000).
Natalya Voloshchuk and Lesley Davenport. "Isolation and Purification of Bovine Plasma Amine Oxidase (BPAO)." ACS Undergraduate Research Conference, New York University, New York (May, 1998).

Collaborative presentations (presenting author is listed first)

Project 1
Ching-Yao Yang, **Natalya Voloshchuk**, and Jin Kim Montclare. "Impact of fluorination on the stability and function of the Histone Acetyltransferases." 4th annual advances in biomolecular

engineering: biological design symposium, The New York Academy of Sciences, NY (December, 2010)
Ching-Yao Yang, **Natalya Voloshchuk**, and Jin Kim Montclare. "Preparation of the histone acetyltransferase, tGCN5, for fluorine NMR studies." 3rd annual advances in biomolecular engineering: protein design symposium, The New York Academy of Sciences, NY (June, 2009)
Anita Yuhua Zhu, **Natalya Voloshchuk**, Jin Kim Montclare. "The Incorporation of Fluorinated Phenylalanine Analogs into Histone Acetyltransferase." 40th Annual Fall MACUB Conference, St. John's University, New York (October, 2007).
Anita Yuhua Zhu, **Natalya Voloshchuk**, Jin Kim Montclare. "The Incorporation of Fluorinated Phenylalanine Analogs into Histone Acetyltransferase." 2007 Summer Undergraduate Research Symposium, Polytechnic Institute of New York University (August, 2007).
Anita Yuhua Zhu, **Natalya Voloshchuk**, Jin Kim Montclare."Incorporation of p-fluorophenylalanine into Histone Acetyltransferases: Structural and Functional Analysis." 55th Annual Undergraduate Research Symposium, Manhattan College, New York (May, 2007).
Anita Yuhua Zhu, **Natalya Voloshchuk**, Jin Kim Montclare."Incorporation of p-fluorophenylalanine into Histone Acetyltransferases: Structural and Functional Analysis." 39th Annual Fall MACUB Conference, Kingsborough Community College of the City University of New York (October, 2006).

Project 2

Jennifer S. Haghpanah, Carlo Yuvienco, Deniz E. Civay, Hanna Barra, Peter J. Baker, Sachin Khapli, **Natalya Voloshchuk**, Susheel K. Gunasekar, Murugappan Muthukumar, J. K. Montclare," Orientation and number of blocks influence structure and self-assembly of artificial protein copolymers." 3rd annual advances in biomolecular engineering: protein design symposium, The New York Academy of Sciences, NY (June, 2009)
Jennifer S. Haghpanah, Carlo Yuvienco, Hanna Barra, Peter James Baker, **Natalya Voloshchuk**, Sachin Khapli, and Jin K. Montclare. "Orientation and number of blocks influence structure and self-assembly of protein copolymers." NSF fellowship meeting, Washington, DC (March, 2009).
Carlo Yuvienco, Jennifer S. Haghpanah, Susheel Gunasekar, Peter James Baker, Wendy Hom, **Natalya Voloshchuk**, Jin K. Montclare. "Protein Engineered Biomaterials Based on COMPcc and Elastin." 41st Annual Fall MACUB Conference, Montclair State University, Montclair, NJ (October, 2008).
Hanna Barra, Carlo Yuvienco, Jennifer S Hagpanah, Susheel K. Gunasekar, Peter James Baker, Wendy Hom, **Natalya Voloshchuk**, Jin K. Montclare. "Synthesis and Characterization of Elastin Based Biomaterials." Undergraduate Research Presentation, Polytechnic Institute of New York University (2008).
Hanna Barra, Carlo Yuvienco, Jennifer S Hagpanah, Susheel K. Gunasekar, Peter James Baker, Wendy Hom, **Natalya Voloshchuk**, Jin K. Montclare. "De Novo Design of Elastin Based Biomaterials." Mega Meeting Symposium, City College of City University of New York (2008).
Hanna Barra, Carlo Yuvienco, Jennifer S Hagpanah, Susheel K. Gunasekar, Peter James Baker, Wendy Hom, **Natalya Voloshchuk**, Jin K. Montclare. "Genetically Engineered Elastin Based Biomaterials." Protein Engineering Symposium, City College of City University of New York (2008).

Hanna Barra, Carlo Yuvienco, Jennifer S Hagpanah, Susheel K. Gunasekar, Peter James Baker, Wendy Hom, **Natalya Voloshchuk**, Jin K. Montclare. "Genetically Engineered Elastin Based Biomaterials." Bioactive Systems, Polytechnic Institute of New York University (2008).
Jennifer S Hagpanah, Susheel K. Gunasekar, Peter James Baker, Wendy Hom, **Natalya Voloshchuk**, Jin K. Montclare. " Synthesis and Characterization of Elastin Based Biomaterials." Nano Symposium, Polytechnic Institute of New York University (2008).
Jennifer S Hagpanah, Susheel K. Gunasekar, Peter James Baker, Wendy Hom, **Natalya Voloshchuk**, Jin K. Montclare. "The Biosynthesis and Characterization of Elastin Based Biomaterials." Green Polymers Symposium, New Brunswick (2007).

Project 3

Yan Mei Chan, Kinjal Mehta, Rebecca Reich, Wendy Hom, Man Xia Lee , Aye Sandar Moe, Susheel Kumar Gunasekar, Zhiqiang Liu , **Natalya Voloshchuk** , Phyllis Frankl and Lisa Hellerstein , Jin K. Montclare. "Optimizing fluorinated tGCN5 for improved histone 3 (H3) activity." 3rd annual advances in biomolecular engineering: protein design symposium, The New York Academy of Sciences, NY (June, 2009)

Man Xia Lee, Kinjal Mehta, Aye Sandar Moe, Susheel Kumar Gunasekar, Zhiqiang Liu , **Natalya Voloshchuk** , Phyllis Frankl and Lisa Hellerstein , Jin K. Montclare. "Homology and Biochemical Based Design of Functional Fluorinated Histone Acetyltransferases." 2nd Annual Advances in Biomolecular Engineering: Protein Design Symposium. City College of the City University of New York (June, 2008).

Man Xia Lee, Kinjal Mehta, Aye Sandar Moe, Susheel Kumar Gunasekar, Zhiqiang Liu , **Natalya Voloshchuk** , Phyllis Frankl and Lisa Hellerstein , Jin K. Montclare. "Engineering artificial histone acetyltransferases: a combined homology and biochemical based approach." Bioactive Systems Symposium. Polytechnic Institute of New York University (June, 2008).

Man Xia Lee, Kinjal Mehta, Aye Sandar Moe, Susheel Kumar Gunasekar, Zhiqiang Liu , **Natalya Voloshchuk** , Phyllis Frankl and Lisa Hellerstein, Jin K. Montclare. "Homology and Biochemical Based Design of Functional Fluorinated Histone Acetyltransferases." ACS 56th Annual Undergraduate Research Symposium. Queens Community College of the City University of New York (May, 2008).

Man Xia Lee, Kinjal Mehta, Aye Sandar Moe, Susheel Kumar Gunasekar, Zhiqiang Liu , **Natalya Voloshchuk** , Phyllis Frankl and Lisa Hellerstein , Jin K. Montclare. "Engineering Functional Artificial Histone Acetyltransferases. ACS 40th Mid-Atlantic Regional Meeting." Queens Community College of the City University of New York (May, 2008).

Man Xia Lee, Kinjal Mehta, Aye Sandar Moe, Susheel Kumar Gunasekar, Zhiqiang Liu , **Natalya Voloshchuk** , Phyllis Frankl and Lisa Hellerstein , Jin K. Montclare. "Engineering Functional Artificial Histone Acetyltransferases." 2nd Conference on Drug Delivery and Translational Research. Polytechnic Institute of New York University (May, 2008).

Man Xia Lee, Kinjal Mehta, Aye Sandar Moe, Susheel Kumar Gunasekar, Zhiqiang Liu , **Natalya Voloshchuk** , Phyllis Frankl and Lisa Hellerstein , Jin K. Montclare. "Machine Learning Designs for Artificial Histone Acetyltransferases." Frontiers of Nanotechnology & Biotechnology: Integration and Invention. Hunter College of the City University of New York (January, 2008).

Man Xia Lee, Kinjal Mehta, Aye Sandar Moe, Susheel Kumar Gunasekar, Zhiqiang Liu , **Natalya Voloshchuk** , Phyllis Frankl and Lisa Hellerstein , Jin K. Montclare. "Machine Learning Designs for Artificial Histone Acetyltransferases." 40th Annual Fall MACUB Conference. St. Johns University, New York (October, 2007).

PRESENTATIONS

TALKS

2025 Assessment Institute in Indianapolis — 2025
Topic: Applying Outcomes Assessment to Support Persistence in STEM Learners, co-presenter: Karen Harris
October 28, Indianapolis, Indiana

EdgeCon Spring 2025 — 2025
Topic: A Learning Outcomes Strategy for Supporting Persistence in STEM Learners, co-presenter Karren Harris
April 10, Seton Hall University, NJ

Rutgers Online Learning Conference — 2024
Presentation: Building a Science lab program from a CidiLabs perspective
co-presenters Kyle Murphy and Karen Harris, March 11

Preparation, Accountability, and Support for SoTL and Education Research Semester Support Group — 2023
Informal Presentation: Proposed research project on how students who engage in assignment revision opportunities describe using feedback as a learning tool.
Rutgers University, December 5

Group for Independent Feedback on Teaching — 2022
Informal Presentation: Alternative Grading Practices: assignment-level standardized grading. Rutgers University, October 10

Provost's Teaching Fellows Program course redesign presentations meeting, Rutgers University — 2022
Presentation: Experimental Biochemistry specifications grading at an assignment level with laboratory reports and laboratory notebook assessments, August 22

Rutgers Online Learning Conference — 2020
Presentation: Enhancing learning with technology in experimental biochemistry courses, June. Co-presenter: Gina Moreno

OSE/TRIAD faculty workshop, Rutgers, SAS — 2020
Topic: Developing self-directed and persistent learners
Workshop Facilitators: Christine Altinis-Kiraz, Martha Haviland, Charles Ruggieri, Natalya Voloshchuk
My contribution: Assignment and lab report checklists facilitate feedback and student learning.
March
https://sites.rutgers.edu/triad-coalition/faculty-workshops/

Rutgers University Electronic Laboratory Notebook (ELN) workshop — 2019

Presentation: Use of LabArchives ELN in undergraduate experimental biochemistry courses. Rutgers, SEBS, NJ, June

Department of Chemistry and Physics Seminar 2012
SUNY Old Westbury College, NY, April
Presentation: Positional effects of fluorinated phenylalanine on histone acetyltransferase function and stability.

Liang Laboratory of Molecular Pharmacology Seminar 2009
Stevens Institute of Technology, NJ, September 2009
Presentation: Nucleotide analogs and amino acid analogs in protein-DNA and protein studies.

Montclare Protein Engineering Laboratory Seminar 2006
Polytechnic Institute of NYU, March
Presentation: Mapping the DNA binding site of HIV-1 integrase using fluorescent oligonucleotides and fluorescence polarization.

ACS the 46th annual Undergraduate Research Symposium 1998
New York University, NY, May
Presentation: Isolation and Purification of Bovine Plasma Amine Oxidase (BPAO).

PROFESSIONAL DEVELOPMENT

CERTIFICATIONS and BADGES

Certificate of participation in the Spring 2025 Student Pedagogical Partners Fellowship by the Institute of Teaching, Innovation, and Inclusive Pedagogy. 2025

Level 2 Competency 2 Digital Badge: Implementation of Inclusive & Equitable Teaching Practices. Issued by The Office of Teaching Evaluation & Assessment Research and the University Equity and Inclusion Office. Report: "Reflection on Inclusive Teaching Practices in Experimental Biochemistry course". The badge and report are published at https://otear.rutgers.edu/workshops/inclusivitybadgeawardees. 2024

Level 2 Competency 3 Digital Badge: Implementation of Inclusive & Equitable Teaching Practices. Issued by The Office of Teaching Evaluation & Assessment Research and the University Equity and Inclusion Office. Report: "Improving accessibility in the Principles of Biophysical Chemistry course". The badge and the report are published at https://otear.rutgers.edu/workshops/inclusivitybadgeawardees. 2023

CITI certificate: Social / Behavioral / Epidemiologic Research Investigators 2023
https://www.citiprogram.org/verify/?w1931c2f7-8e8c-4124-b1b4-a2a319d307c6-49175960

CITI certificate: Research Study Design 2023

https://www.citiprogram.org/verify/?w670c0a6f-d128-4e5b-b435-51b836483497-49175964

Certificate of Participation as a Peer Mentor in the 2022-2023 Rutgers Connection Network Mentoring Program. Issued by the University Equity and Inclusion Faculty Diversity Collaborative. 2023

Level 1 Digital Badge: Lifelong Learning in Inclusive & Equitable Teaching. Issued by The Office of Teaching Evaluation & Assessment Research and the University Equity and Inclusion Office. Report: "Classroom Inclusivity Series Reflection" The report describes what I learned from each of the five sessions I attended and how I can use this information to change my courses, undergraduate research experience, and the impact on my professional context. The badge is published at https://otear.rutgers.edu/workshops/inclusivitybadgeawardees 2022

Certificate in Effective Instruction. Issued by The Association of College and University Educators and the American Council on Education 2019

COURSES

Introduction to learning analytics, Office of Teaching Evaluation and Assessment Research, Rutgers. This is a 14-day asynchronous course focused on using learning analytics available through Canvas to support my teaching and student success. June, 2024

Course Transformation Summer Institute, Teaching Excellence Network, Rutgers. The Summer Institute is an intensive 15-day program, funded by a grant from the National Science Foundation, that supports faculty in developing their teaching skills and transforming their courses using evidence-based educational practices. July, 2023

Course in Effective Instruction, The Association of College and University Educators and the American Council on Education. Completed 25-module course with implementation and reflection on implementing evidence-based instructional practices. Fall, 2018-Spring, 2019

SEMESTER SUPPORT GROUPS

Student Pedagogical Partners Program Fellow
Institute for Teaching, Innovation, and Inclusive Pedagogy (TIIP)
provides opportunities for instructors to obtain formative feedback on their teaching from trained students invested in supporting instruction at Rutgers University – New Brunswick. Spring 2025

Level 2 Competency 2 Digital Badge: Implementation of Inclusive & Equitable Teaching Practices offered by The Office of Teaching Evaluation & Assessment Research and the University Equity and Inclusion Office. Fall 2023

Inventory and analysis of inclusive teaching practices with a Protocol for Advancing Inclusive Teaching Efforts in the Experimental Biochemistry course. The badge and the report are published at https://otear.rutgers.edu/workshops/inclusivitybadgeawardees

Preparation, Accountability, and Support for SoTL and Education Research (PASSER) group led by Dr. Mary Emenike. Identify a set of research questions to answer with a research study, and outline reasonable methods to collect and analyze data to answer those research questions. — Fall 2023

Group for Independent Feedback on Teaching (GIFT) led by Dr. Philip Brown. Peer support group for faculty and nonfaculty instructors at Rutgers University. GIFT was created in order to give instructors a welcoming, supportive, low-stakes forum to get feedback on and seek improvement of their instructional methods. — Fall 2022

Design, Analysis, Reflection, and Feedback of Assessments (DARFA) Semester Support Group led by Dr. Marc N. Muñiz — Spring 2022

CONFERENCES

Assessment Institute in Indianapolis, October 26 - October 28	2025
Rutgers Active Learning Symposium, May 22	2025
EdgeCon Spring 2025 Seton Hall University, April 10	2025
Rutgers Active Learning Symposium, May 14	2024
Rutgers Online Learning Conference, March 11	2024
Rutgers Active Learning Symposium, May 18	2023
Rutgers Active Learning Symposium, May 19	2021
Remote connected faculty summit July 13-July 14, 2020, Arizona State University	2020
Rutgers Online Learning Conference, Rutgers University, June	2020
5th Annual Online and Hybrid Learning Conference, January	2014

WORKSHOPS/FOCUS GROUPS/DISCUSSION PANELS

A National Framework for Equitable and Effective Teaching in STEM — 2025
Dr. Tracie Addy, March 7

The Impacts of GenAI on Learning: Early Findings & Implications for Teaching, January 7 — 2025

Interview for the TEN research study, November 8 — 2024
Title of Study: Coordinating a Teaching Excellence Network: An agency approach to engaging STEM Faculty in teaching reform (Short version of title: TEN Faculty Development)

GenAI Explorations: Featuring ChatGPT & NotebookLM October 25, By Institute for Teaching, Innovation, and Inclusive Pedagogy, Rutgers	2024
PAITE observations focus group, organized by the Office of Teaching Evaluation and Assessment Research. Discussion of the PAITE observations experience for program optimization, July 1	2024
Preparing teaching documents, Rutgers OTEAR, January 19	2024
Microinequities: Impact and Interventions, Classroom Focus. Kaylin Padovano, Diversity education and outreach facilitator, Rutgers University Equity and Inclusion Office, January 17	2024
Artificial Intelligence & Academic Integrity, Rutgers OTEAR, December 11	2023
AI and Teaching and Learning: Initiatives at the University of Wisconsin-Madison (Sr. Vice Provost John Zumbrunnen), November 9	2023
Microinequities in the workplace. Kaylin Padovano, Diversity education and outreach facilitator, Rutgers University Equity and Inclusion Office, October	2023
Alternative Grading Practices, Rutgers OTEAR discussion panel, April 8	2022
Teaching evaluation to meet the needs of higher education, Rutgers OTEAR	2021
Reflecting on online teaching, Rutgers OTEAR	2021
Remote/online instruction in Fall 2020: what we learned, Rutgers OTEAR	2021
Quantitative Disciples online, OTEAR	2021
Alternative Assessments Workshop, OTEAR	2021
American Chemical Society: Teaching Remotely Together.	2020
CTAAR: Effective Online Course Design Workshop	2020
Lab Archives: How to teach lab courses when you are not in the lab.	2020
American Chemical Society, Enhancing Online Lab Experiences.	2020
Developing self-directed and persistent learners. OSE/TRIAD Faculty workshop, Rutgers University, March	2020
Setting goals for your courses and using self-assessment rubrics to help students achieve them. OSE/TRIAD Faculty workshop, Rutgers University, January	2020
Using Evidence to Evaluate Teaching, CTAAR, Rutgers University	2020

Rutgers University Electronic Laboratory Notebook Workshop	2019
CTAAR implementing teaching portfolio workshop, February	2019
Office of STEM Education Open House, Rutgers University	2019
Active Learning Boot Camp, Rutgers University, May	2017
Active Learning Boot Camp, Rutgers University, May	2016
Active Learning Community open house, Rutgers University, October	2015
Reflections on reflection: its role in teaching and learning. Stuart D. Cook Master Educators' Guild Symposium. Rethinking learning: pedagogies for learning that counts, Rutgers University, January	2015

AWARDS

Provost's Teaching Fellow. Implementation of learning outcomes-driven assignment-level specifications in the Experimental Biochemistry 11:115:413 course for laboratory notebooks and laboratory reports to prioritize student learning. 2022-2023

Open and Affordable Textbook (OAT) grant. Created an open-access lab manual on the course management site for the Experimental Biochemistry course. 2017

Instructional Computing Fund (ICF) grant. Integrated iPads into the experimental biochemistry teaching laboratory to improve student learning experiences by facilitating laboratory data recording and data management in an electronic notebook format. 2016

SERVICE

ADVISING

Academic advisor: First-year, transfer, and biochemistry major students	2016-present
SEBS PASS (portals to academic success) instructor every spring semester	2016-2024
SEBS AM (academic mentoring) instructor every fall semester	2018-present
The Student to Professional Internship Network (SPIN) Program faculty sponsor, 4 students	2023-2025
Biochemistry program representative at SEBS Academic & Career Extravaganza, Feb 21	2023

Transfer student Community Connection Program, Department of Biochemistry and Microbiology, faculty representative, May 2 — 2023

SEBS Open House, Biochemistry major faculty representative, Nov 7 — 2020

THE GEORGE H. COOK SCHOLARS PROGRAM PARTICIPATION

The George H. Cook Scholars Program thesis advisor. Thesis title: Study of Phosphoglycerate Kinase Using Dilatometry. — 2025

The George H. Cook Scholars preliminary presentations, Biochemistry and Microbiology Session co-chair, Class of 2025 Honors Thesis Symposium, September 27. Managed five student presentations. — 2024

The George H. Cook Scholars Program thesis advisor. Thesis title: Investigatory Studies of Horse Liver Alcohol Dehydrogenase through Dilatometry. — 2023

The George H. Cook Scholars Program Session Chair, Microbiology, Class of 2023 Honors thesis Symposium, April 14. Managed four student presentations. — 2023

The George H. Cook Scholars Program thesis reader. Thesis title: The role of Aryl Hydrocarbon Receptor (AHR) and RAS/RAF Signaling Cross-Talk on MMP-1 and CYP1A1 in melanoma. — 2023

The George H. Cook Scholars Program thesis reader. Thesis title: sRNA delivery to control bacterial growth. — 2019

The George H. Cook Scholars Program thesis co-advisor. Thesis title: Pseudotyping Sindbis Virus onto Lentiviral Vectors. — 2018

DOUGLASS WISE PROJECT SUPER RESEARCH EXPERIENCE FACULTY ADVISOR

One student. Project: Investigation of metal affinity and ion-exchange chromatography methods for purification of recombinant phosphoglycerate kinase. — Summer, 2025

Two students. Project: Protein expression in the pET system. — Spring, 2025

Two students. Project: Comparing Specific Activity of CelB2 Expressed in pET28a(+) and pMAL-c4X Recombinant Protein Expression Systems — Summer, 2024

Two students. Project: Investigation of growth conditions and plasmid retention in E.coli to increase recombinant protein expression levels. — Spring, 2024

Two students. Project: Methodology of recombinant protein production in *E.coli*. — Spring, 2023

PEER MENTORING

Faculty Diversity Collaborative (FDC) Peer Network member	since 2023
Peer mentor, Rutgers Connection Network (RCN) Mentoring Program	2022-2023
Conducted Peer teaching observation: Soul beliefs: courses and consequences 01:830:123 (200 students), Department of Psychology, Rutgers	Fall, 2022
Conducted Peer teaching observation: Introductory Biochemistry Lab 11:115:313 (10 students), Department of Biochemistry and Microbiology	Summer, 2021

DEPARTMENT OF BIOCHEMISTRY AND MICROBIOLOGY

Search Committee Chair, Principal Laboratory Technician	2024
Biochemistry Teaching Lab Emergency Contact for REHS	2024-present
Peer Evaluation Committee member, Faculty Compensation Program	2024
Faculty Search Committee member, Biochemistry Instructor	2021

COMMUNITY

Judge, Nanochemistry category at the 17th annual undergraduate research symposium, William Paterson University.	April 2024
Member of a team that facilitates the Biochemistry program activities, Rutgers Day	2015- present
Academic Integrity Facilitator, The Office of Student Conduct, Rutgers	2021-present
Panelist, SciOPS (Scientist Opinion Panel Survey) is a new type of science, technology, and innovation (STI) knowledge commons that conducts national surveys concerning the scientific community's views on important topics. https://www.sci-ops.org/	2022-present
Guest lecture "Protein engineering with unnatural amino acids." Course: Contemporary Issues in Biochemistry 11:115:201	2015-2017, 2019, 2022
Book Chapter Reviewer, Biochemistry (2nd ed) by Roger Miesfeld (University of Arizona) and Megan McEvoy (UCLA), Chapter 20. DNA Replication, Repair, and Recombination and Chapter 21. RNA Synthesis, Processing, and Gene Silencing. W.W. Norton& Company	2019
Judge, Toxicology category at the 11th annual undergraduate research symposium, William Patterson University.	April 2017

Judge, Analytical Chemistry category at the 9th annual undergraduate research symposium, William Patterson University. April 2015