

CURRICULUM VITAE

Minjoung Kyoung

EDUCATION

- Ph.D. 2008 The Pennsylvania State University (University Park, PA, USA),
Chemistry
- M.S. 1999 Ewha Womans University (Seoul, Korea), Molecular Science
- B.S. 1997 Ewha Womans University (Seoul, Korea), Chemistry

Experience in Higher Education

- 2016 – present **University of Maryland School of Medicine, Baltimore, MD.**
Department of Biochemistry and Molecular Biology
Graduate Program in Life Sciences
Member of the Graduate Faculty, Biochemistry
- 2014 – present **University of Maryland Baltimore County, Baltimore, MD,**
Assistant Professor, Analytical Chemistry
- 2012 – 2014 **University of Maryland Baltimore County, Baltimore, MD,**
Assistant Research Scientist, Biochemistry
- 2008 – 2012 **Stanford University & University of California Berkeley,**
Molecular and Cellular Physiology
- 2002 – 2007 **The Pennsylvania State University - University Park, PA**
Ph.D. Student, Chemistry
- 1998 – 2000 **Ewha Womans University, Seoul, Korea**
M.S. Student, Molecular Science
- 1994 – 1998 **Ewha Womans University, Seoul, Korea**
Undergraduate Student, Chemistry

Certificates

- 2015 – 2017 Completion of the Active Learning, Inquiry Teaching (ALIT)
Certificate Program, the Faculty Development Center at
UMBC
- January 2018 Completion of the Entrepreneurial Skillset Training Program,

The Center for Leadership and Innovation at UMBC

Honor and Award

- 2019 NIH R01 award, National Institute of General Medical Sciences (NIGMS)
- 2019 (Selected) a Must-See Presenter in 2019 ACS national meeting at C&EN magazine – <https://cen.acs.org/acs-news/acs-meeting-news/guide-ACS-Spring-2019-National/97/i10>
- 2018 Seed Grant, the 2018 Data Science Innovation Lab: Mathematical Challenges of Single Cell Dynamics (NIH Bigdata to Knowledge, BD2K)
- 2016 (Selected) UMBC Phase I applicant for 2016 Keck Research Grant
- 2015 Special Research/Assistantship Initiative Support (SRAIS) Award
- 2015 UMBC Summer Faculty Fellowship
- 2014 (Selected) UMBC Nominee for Searle Scholar Award
- 2007 The First Place Winner, 2007 Graduate Exhibition Award, The Pennsylvania State University
- 2006 Dan H. Waugh Teaching Award - Honorable Mention, The Pennsylvania State University
- 2006 Dalalian Fellowship Award, Department of Chemistry, The Pennsylvania State University
- 2006 The Newport and Spectra-Physics Research Excellence Travel Award (SPIE)
- 2005 Graduate Student Travel Award, Department of Chemistry, The Pennsylvania State University
- 2004 The First Place Winner in Analytical & Quantitative Light Microscopy, Marine Biological Laboratory, Woods Hole, MA
- 2003 Outstanding Student Honor Society, The Pennsylvania State University
- 2002 Roberts Fellowship, Department of Chemistry, The Pennsylvania State University

Research Support

2019 – 2024	\$1,600,995 (total cost), Source: National Institute of General Medical Sciences (NIGMS) – “4D functional mapping of glucose metabolism in living Cells” Role: P.I. (Kyoung)
2018 – 2019	\$9,000 (direct cost), Source: The Jayne Koskinas Ted Giovanis Foundation for Health and Policy – “Understanding therapeutic failures through 4D single-cell analysis of metabolic heterogeneity” Role: P.I. (Kyoung)
2015 – 2016	\$20,000 (direct cost), Source: UMBC SRAIS, “Dynamic mapping of localized drug targets in cancer cells: super-resolution multi-focal FCCS” Role: P.I. (Kyoung)
Summer 2015	\$6,000 (direct cost), Source: UMBC Summer Faculty Fellowship, “Dynamic mapping of localized drug targets in cancer cells: super-resolution multi-focal FCCS” (Kyoung)

Ph.D. Students

Erin Kennedy (Chemistry Ph.D. Program, joined 2015), Degree expected in 2021. Role: Chair

Tao Zhang (Chemistry Ph.D. Program, joined 2018), Degree expected in 2023. Role: Chair

Haotian Wu (Chemistry Ph.D. Program, joined 2019), Degree expected in 2024. Role: Chair

Spencer Jacquet (Biochemistry Ph.D. Program, joined 2020), Degree expected in 2024. Role: Chair

Undergraduate Students (*Underrepresented Minorities)

*Michelle Ramsahoye, MARC U*STAR Scholar (2017-2020)
Role: research mentor

*Keynon Bell, MARC U*STAR Scholar (2017-2020)
Role: research mentor

Asfand Hussain, UMBC undergraduate research (2017-2019)
Role: research mentor

*Manuel Huerta, UMBC undergraduate research (2017-2020)
Role: research mentor

Celeste Chung, UMBC undergraduate research (2017)
Role: research mentor

Kristein Iron, Research Experiences for Undergraduates (REU), University of Virginia (June 2017), Role: research mentor

Blake Ford, Research Experiences for Undergraduates (REU), Stevenson University (June 2016), Role: research mentor

Anthony Huynh, UMBC undergraduate research (June 2016 – present)

Role: research mentor

*Sarah Pollock, UMBC undergraduate research (May 2015 – present)

Role: research mentor

*Chidera Ekeocha, UMBC undergraduate research (Nov 2014 – May 2015)

Role: research mentor

*Vanessa Nwaiwu, UMBC undergraduate research (July 2014 – present)

Role: research mentor

Hye Min Baek, UMBC undergraduate research (July 2014 – June 2015)

Role: research mentor

High School Students (*Underrepresented Minorities)

Marcus Suri, Research Intern, Mount Hebron High School in Howard County, MD
(August 2017 – April 2018)

*Aiya smith, Youth Work Researcher, Mergenthaler Vocational-Technical High School
in Baltimore City, MD (June 2016 – July 2016)

Lauren Cho, Research Intern, Mount Hebron High School in Howard County, MD (July
2016 – May 2017)

PUBLICATIONS AND PRESENTATIONS

Publications

Peer-reviewed Scientific Articles

1. S. An*, M. Jeon, EL. Kennedy **M. Kyoung*** “Phase-separated condensates of metabolic complexes in living cells: Purinosome and glucosome” *Methods in Enzymology*, (2019) 628, 1-17
2. Kohnhorst, C. L[†]., **Kyoung, M[†].,** Jeon, M., Schmitt, D. L., Kennedy, E. L., Ramirez, J., Bracey, S. M., Luu, B. T., Russell, S. J., and An, S. “Identification of a Multienzyme Complex for Glucose Metabolism in Living Cells”, *Journal of Biological Chemistry*, (2017) 292, 9191-9203
3. **M. Kyoung**, S. Russell, C. Kohnhorst, N. Esemoto, S. An “Dynamic architecture of the Purinosome involved in human de novo purine biosynthesis” *Biochemistry* (2015) 54, 870–880
4. J. Diao, J. Burré, S. Vivona, D.J. Cipriano, M. Sharma, **M. Kyoung**, T. C. Südhof, A. T. Brunger “ α -Synuclein induces synaptic vesicle clustering via binding to phospholipids and synaptobrevin-2/VAMP2” *eLife* (2013) 2, e00592
5. J. Diao, M. Zhao, Y. Zhang, **M. Kyoung**, A. T. Brunger “Studying protein-reconstituted proteoliposome fusion with content indicators *in vitro*” *BioEssays* (2013) 35, 658-665

6. **M. Kyoung**, Y. Zhang, J. Diao, S. Chu, A. T. Brunger “Studying calcium-triggered vesicle fusion in a single vesicle-vesicle content and lipid-mixing system” *Nature Protocols* (2013) 8, 1-16
7. J. Diao, P. Grob, D. J. Cipriano, **M. Kyoung**, Y. hang, S. Shah, A. Nguyen, M. Padolina, A. Srivastava, M. Vrljic, A. Shah, E. Nogales, S. Chu, A. T. Brunger “Synaptic proteins promote calcium-triggered fusion from point contact to full fusion” *eLife* (2012) 1, e00109
8. F. Verrier, S. An, A. M. Ferrie, H. Sun, **M. Kyoung**, H. Deng, Y. Fang, S. J. Benkovic, “GPCR signaling regulates the assembly of a multienzyme complex for purine biosynthesis” *Nature chemical biology* (2011) 7, 909-915
9. **M. Kyoung**, A. Srivastava, Y. Zhang, M. Vrljic, P. Grob, E. Nogales, S. Chu, A. T. Brunger “Ca²⁺-triggered single vesicle content mixing: fast fusion kinetics reveals mechanistic insights into neurotransmitter release” *Proc Natl Acad Sci U S A* (2011) 108, E304-13
10. S. An, Y. Deng, J. W. Tomsho, **M. Kyoung**, and S. J. Benkovic “Microtubule-assisted mechanism for functional metabolic macromolecular complex formation” *Proc Natl Acad Sci U S A* (2010) 285, 12871-12876
11. S. An, **M. Kyoung**, J. J. Allen, K. M. Shokat, S. J. Benkovic “Dynamic regulation of a metabolic multi-enzyme complex by protein kinase CK2” *Journal of Biological Chemistry* (2010) 285, 11093-11099
12. **M. Kyoung**, E. D. Sheets “Vesicle diffusion close to a membrane: intermembrane interactions measured with fluorescence correlation spectroscopy” *Biophysical Journal* (2008) 95, 5789-5797
13. K. Vats, **M. Kyoung**, E. D. Sheets “Characterizing the chemical complexity of patterned biomimetic membranes” *Biochimica et Biophysica Acta* (2008) 1778, 2461-2468
14. **M. Kyoung**, K. Karunwi, E. D. Sheets “A versatile multi-mode microscope to probe and manipulate nanoparticles and biomolecules” *Journal of Microscopy* (2007) 225, 137-146
15. **M. Kyoung**, S. Y. Kim, H. Y. Seok, I. S. Park, M. Lee, “Probing the caspase-3 active site by fluorescence lifetime measurements” *Biochimica et Biophysica Acta* (2002) 29, 74-79
16. **M. Kyoung**, M. Lee, “Z-scan studies on the third-order optical nonlinearity of Au nanoparticles embedded in TiO₂.” *Bulletin of the Korean Chemical Society* (2002) 21, 26-28
17. **M. Kyoung**, M. Lee, “Nonlinear absorption and refractive index measurements of silver nanorods by the Z-scan technique.” *Optics Communications* (1999) 171, 145-148

Manuscripts Submitted

18. E. Kennedy, M. Jeon, F. Augustine, K. Chauhan, S. An, **M. Kyoung*** “Metabolic regulation by 4D functional network of energy metabolism in living cells”
Submitted

Manuscripts to be Submitted

19. T. Zhang, M. Huerta-Alvarado, K. Bell, **M. Kyoung*** “Nano-reaction chamber to characterize weak interactions in condensates” *to be submitted in September 2020*

Manuscripts in Preparation

20. E. Kennedy, Haotian Wu, Yan Chen, S. An, **M. Kyoung*** “Programmed organization of multi-enzyme condensates via cytoskeletons in living cells”
21. T. Zhang, M. Huerta-Alvarado, K. Bell, **M. Kyoung*** “Dissecting weak interactions in higher order macromolecular condensates”

Conference Proceedings

1. **M. Kyoung**, E. D. Sheets, “Manipulating and probing the spatio-temporal dynamics of nanoparticles near surfaces” *Proceedings of SPIE (2006)* 6326, 63262L

Presentations***Invited Seminars in Universities and Institutions***

1. (Postponed due to Covid-19) **Minjoung Kyoung** “4D functional mapping energy metabolism in living cells” Cornell University, Ithaca, NY.
2. (Postponed due to Covid-19) **Minjoung Kyoung** “4D functional mapping energy metabolism in living cells” University of Maryland, College Park, MD. November 11, 2020
3. **Minjoung Kyoung** “4D metabolic network in living cells” Department of Chemistry and Biochemistry, Ohio State University, Columbus, OH. February 6, 2020
4. **Minjoung Kyoung** “4D metabolic network in living cells” the Department of Chemistry and Biochemistry in University of Minnesota, Duluth, MN. December 6, 2019
5. **Minjoung Kyoung** “4D metabolic network in living cells” the Department of Biochemistry, Molecular Biology and Biophysics in University of Minnesota, twin city, MN. December 4, 2019

6. **Minjoung Kyoung** “4D mapping metabolic network in living cells” the Department of Chemistry in Pennsylvania State University, PA. November 21, 2019
7. **Minjoung Kyoung** “4D mapping metabolic network in living cells” the Department Chemistry at U of Akron, Akron, OH. March 15, 2019
8. **Minjoung Kyoung** “4D Mapping of Spatiofunctional Enzyme Droplets in Living Cells” Biophysics department, University of Michigan, Ann Arbor, MI. December 7, 2018
9. **Minjoung Kyoung** “Biophysicist – Chemist & Physicist & Biologist” Centennial lane elementary school, MD. May 23, 2018
10. **Minjoung Kyoung** “4D networks of membraneless and membranous organelles”, Department of Chemistry, George Washington University, DC. February 16, 2018
11. **Minjoung Kyoung** “Quantitative analysis of dynamic macromolecular complexes”, Department of Chemistry, The Institute of Marine and Environmental Technology (IMET), VA. April 26, 2017
12. **Minjoung Kyoung** “Quantitative analysis of dynamic macromolecular complexes”, Department of Chemistry, George Mason University, VA. April 20, 2017
13. **Minjoung Kyoung** “Seeing is believing” Mt. Hebron high school, MD. March 24, 2017
14. **Minjoung Kyoung** “Single particle at a time” Department of Biochemistry and Molecular Biology, University of Maryland, Baltimore, MD. April 13, 2015
15. **Minjoung Kyoung** “synaptic neurotransmission: single particle at a time” Department of Biology, University of Maryland, Baltimore County, Baltimore, MD. November 12, 2014
16. **Minjoung Kyoung** “Ca²⁺-triggered single vesicle content mixing: fast fusion kinetics reveals mechanistic insights into neurotransmitter release” Department of Physics, KAIST, Daejeon, Korea April 11, 2011
17. **Minjoung Kyoung** “Ca²⁺-triggered single vesicle content mixing: fast fusion kinetics reveals mechanistic insights into neurotransmitter release” International Membrane Biophysics Conference, POSTECH, Pohang, Korea April 7-8, 2011
18. **Minjoung Kyoung** “Molecular dynamics of biomembrane as probed by multifaceted biophotonics” Institute of Quantitative Biosciences, University of California Berkeley, Berkeley, CA. May 17, 2007
19. **Minjoung Kyoung** “Molecular dynamics of biomembrane as probed by multifaceted biophotonics” Department of Chemistry, Cornell University, Ithaca, NY. March 20, 2007
20. **Minjoung Kyoung** “Molecular dynamics of biomembrane as probed by multifaceted biophotonics” Department of Pharmacology, University of North Carolina, Chapel Hill, NC. February 20, 2007
21. **Minjoung Kyoung** “Molecular dynamics of biomembrane as probed by multifaceted biophotonics” Department of Physics, Emory University, Atlanta, GA. February 6, 2007

22. **Minjoung Kyoung** “Vesicle diffusion close to a membrane: intermembrane interactions measured with fluorescence correlation spectroscopy.” Lion lectures, Pennsylvania State University, University park, PA. October 19, 2006

Invited Oral Presentation at National/International Conferences

23. **Minjoung Kyoung** “4D characterization of spatiofunctional multi-enzyme droplets in living cells” National Meeting of the American Chemical Society (ACS) in Orlando, FL. March 31 – April 4, 2019
24. **Minjoung Kyoung** “4D characterization of spatiofunctional multi-enzyme droplets in living cells” Annual Biophysical Society Meeting in Baltimore, MD. March 2-6, 2019
25. **Minjoung Kyoung** “Enzyme droplets in 4D metabolic network in living cells” Quantitative Biology Conference, Oahu, HI. February 18-23, 2019
26. **Minjoung Kyoung** “4D characterization of spatiofunctional enzyme assemblies in living cells” Single Molecule Approaches to Biology, 2018 Gordon Research Conference (GRC), Mount Snow in West Dover, VT. July 15-20, 2018
27. **Minjoung Kyoung** “Novel nano-reaction chamber for quantitative measurements of transient macromolecular dynamics in real-time” UKC2017 Chemistry symposium (CHM), Hyatt Regency Crystal City, VA. August 9-12, 2017

Oral Presentations at Regional Conferences/Symposia

28. **Minjoung Kyoung** “4D metabolic network in living cells” Biochemistry and Molecular Biology Retreat in University of Maryland, Baltimore, MD. January 10, 2020
29. **Minjoung Kyoung** “4D metabolic network in living cells” 5th Chesapeake Bay Area Single Molecule Biology Conference at Janelia Research Campus, MD. May 11, 2019
30. **Minjoung Kyoung**, “4D characterization of spatiofunctional enzyme assemblies in live cells” The 11th Annual Frontiers at the Chemistry and Biology Interface Symposium, University of Pennsylvania, Philadelphia, PA. May 5, 2018
31. Hye Min Baek[†], Poornima Patel[†], Natalie Steenrod[†], Mashhood Wani[†], **Minjoung Kyoung**, “Sustain-O-Scope: Simple Compound Light Microscope”, Undergraduate Research and Creative Achievement Day, Baltimore, MD. April 27, 2016
32. **Minjoung Kyoung** “Inside insight to neurotransmission: single particle at a time” Protein Meet-Up Symposium, Baltimore, MD. January 14, 2015

Poster Presentations at National/International Conferences

33. **(Canceled due to COVID19)** Ein L. Kennedy Miji Jeon, Daniel L. Schmidt, Songon An, **Minjoung Kyoung** Spatiotemporal Organization of Metabolic Networks in Living Cells. Experimental Biology, San Diego, CA. (May 2020)
34. **(Canceled due to COVID19)** Miji Jeon, Ein L. Kennedy, Daniel L. Schmidt, **Minjoung Kyoung**, and Songon An, The Glucosome: A Metabolic Complex for Glucose Metabolism and Its Functional Contribution to Cellular Metabolism in Living Cells. Experimental Biology, San Diego, CA. (May 2020)
35. **Minjoung Kyoung**, 4D mapping of spatiofunctional enzyme droplets in living cells Biomolecular Condensates, Keystone symposium Salt Lake City, UT. (April 2019)
36. Ein L. Kennedy, Miji Jeon, Patricia S. Boyd, Farhan Augustine, Songon An, and **Minjoung Kyoung**, "Spatiofunctional enzyme droplets in cellular metabolism". 63rd Annual Meeting of the Biophysical Society, Baltimore, MD. (March 2-6 2019)
37. **Minjoung Kyoung** "4D characterization of spatiofunctional enzyme assemblies in live cells" Single Molecule Biophysics Conference at Aspen, CO. (January 6-11 2019)
38. **Minjoung Kyoung** "4D characterization of spatiofunctional enzyme assemblies in live cells" Single Biomolecules, 2018 Cold Spring Harbor Laboratory Meeting (CSHL meeting), Cold Spring Harbor, NY. (August 28 - September 1, 2018)
39. **Minjoung Kyoung** "4D characterization of spatiofunctional enzyme assemblies in live cells" Single Molecule Approaches to Biology, 2018 Gordon Research Conference (GRC), Mount Snow in West Dover VT. (July 15 - July 20, 2018)
40. Erin Kennedy, Farhan Augustine, Anthony Huynh, **Minjoung Kyoung** "4D spatial analysis of protein assemblies in metabolism with lattice light sheet microscopy" The Gordon Research Conference on Image Science, Stonehill College, Easton, MA. (June 18-22, 2018)
41. Erin Kennedy, Farhan Augustine, Anthony Huynh, and **Minjoung Kyoung**, 4D spatial analysis of protein assemblies in metabolism with lattice light sheet microscopy. Image Science Gordon Research Conference, Stonehill College, Easton, MA. (June 17-22, 2018)
42. Erin Kennedy, Miji Jeon, Anthony Huynh, and **Minjoung Kyoung**, "Transient protein-protein interactions within Hs578T breast cancer cells." ACS 254th National Meeting, Walter E. Washington Convention Center, Washington, DC. (August 21, 2017)
43. **Minjoung Kyoung** "Visualizing regulatory interactions in metabolic networks" The Gordon Research Conference: Single molecule to Biology, Hong Kong, China (July 3-8, 2016)
44. **Minjoung Kyoung**, "Tracking Multi-spatial signaling communications with super-spatiotemporal resolution" Cold Spring Harbor Meeting: Metabolic Signaling & Disease: From Cell to Organism, Cold Spring Harbor, NY. (August 11-15, 2015)
45. **Minjoung Kyoung**, Sarah J Russell, Nopondo N Esemoto, Songon An "Assembly Mechanism of a Transient Metabolic Complex, the Purinosome, in Living Cells" The Gordon Research Conference: Enzymes, Coenzymes and Metabolic Pathways, Waterville Valley, NH. (July 14-19, 2013)
46. **Minjoung Kyoung**, Sarah J Russell, Nopondo N Esemoto, Songon An "Kinetic Organization of a Transient Metabolic Complex, the Purinosome, in Cancer Cells" The Cancer and Metabolism – 2013, Amsterdam, Netherlands (June 24-25, 2013)

47. **Minjoung Kyoung**, Ankita Srivastava, Yunxiang Zhang, Mria Vrljic, Patricia Grob, Eva Nogales, Steven Chu, Axel T. Brunger “Ca²⁺-triggered single vesicle content mixing: fast fusion kinetics reveals mechanistic insights into neurotransmitter release” Annual Biophysical Society Meeting, Baltimore, MD. (March 5-9, 2011)
48. **Minjoung Kyoung**, Ankita Srivastava, Yunxiang Zhang, Mria Vrljic, Patricia Grob, Eva Nogales, Steven Chu, Axel T. Brunger “Kinetic control of SNARE-dependent fusion by accessory factors and calcium” Single Molecule Biophysics Conference, Aspen, CO (January 9-15, 2011)
49. **Minjoung Kyoung**, Ankita Srivastava, Yunxiang Zhang, Mria Vrljic, Patricia Grob, Eva Nogales, Steven Chu, Axel T. Brunger “ Reconstitution of Ca²⁺ triggered synaptic vesicle fusion” Howard Hughes Medical Institute Meeting, MD. (January 24-27, 2010)
50. **Minjoung Kyoung**, Erin. D. Sheets, “TIR-FCS/optical trapping for investigating lipid vesicle and nanoparticle dynamics near surfaces” The 51st Annual Biophysical Society Meeting, Baltimore, MD. (March 3-7, 2007)
51. **Minjoung Kyoung**, Erin. D. Sheets, “Manipulating and probing the spatio-temporal dynamics of nanoparticles near surfaces” Optics and Photonics (SPIE), San Diego, CA. (August 12-17, 2006,)
52. **Minjoung Kyoung**, Dan J. Eves, Andrew. G. Ewing, Erin. D. Sheets, “ Using fluorescence correlation spectroscopy (FCS) dimensional analysis of lipid nanotubes” The 50th Annual Biophysical Society Meeting, Salt Lake City, UT. (February 17-22, 2006)
53. Kanika. Vats, **Minjoung Kyoung**, Erin. D. Sheets, “Micropatterned domains in supported lipid bilayers and their molecular dynamics” The 50th Annual Biophysical Society Meeting, Salt Lake City, UT. (February, 17-22, 2006)
54. Kanika. Vats, **Minjoung Kyoung**, Erin. D. Sheets, “Patterning complexity into supported planar bilayers” The 49th Annual Biophysical Society Meeting, Long Beach, CA. (February, 12-16, 2005)
55. Erin. D. Sheets, **Minjoung Kyoung**, Kanika.Vats, Angel. M. Davey, Kelly M Stewart, Hanna Lazarus, “Probing biomembrane heterogeneity using patterning with high spatio-temporal resolution” 44th Annual Meeting of the American Society for Cell Biology, Washington, DC. (December 4-8, 2004)

Poster Presentations at Regional Conferences/Symposia

56. Michelle Ramsahoye, Erin Kennedy, **Minjoung Kyoung** “Analysis of 4-D images of metabolic pathways” SURF (August 5 - 14 2020)
57. Michelle Ramsahoye, Erin Kennedy, **Minjoung Kyoung** “Analysis of 4-D images of metabolic pathways” URCAD (April 22-29 2020), virtual Voicethread
58. Keynon Bell, Tao Zhang, **Minjoung Kyoung** “Spatiofunctional Enzyme Condensates in Living” Summer Undergraduate Research Fest (SURF) at UMBC (August 2019)
59. Ein L. Kennedy, Miji Jeon, Patricia S. Boyd, Farhan Augustine, Songon An, and **Minjoung Kyoung**, Spatiofunctional enzyme droplets in cellular metabolism. 2nd UMBC Chemistry/Biochemistry Graduate Research Day, University of Maryland, Baltimore County, Baltimore, MD. (March 8 2019)

60. Keynon Bell, Erin Kennedy, Anthony Huynh, Patricia Boyd, Tao Zhang, **Minjoung Kyoung** “Improving the Surface Adhesion of Lipid-Based Nano-Chambers “ Undergraduate Research Creative Achievement Day (URCAD) (April 2019)
61. Erin Kennedy, Farhan Augustine, Anthony Huynh, and **Minjoung Kyoung**, “4D spatial analysis of protein assemblies in metabolism with lattice light sheet microscopy.” 3rd Chesapeake Bay Area Single Molecule Biology Meeting, Johns Hopkins University, Baltimore, MD (May 12 2018)
62. Erin Kennedy, Farhan Augustine, Anthony Huynh, and **Minjoung Kyoung**, “4D spatial analysis of protein assemblies in metabolism with lattice light sheet microscopy.” 11th Frontiers in Chemistry & Biology Interface Symposium, University of Pennsylvania, Philadelphia, PA (May 5, 2018)
63. Erin Kennedy, Farhan Augustine, Anthony Huynh, and **Minjoung Kyoung**, “4D spatial analysis of protein assemblies in metabolism with lattice light sheet microscopy.” Graduate Research Conference, University of Maryland, Baltimore County, Baltimore, MD (March 28, 2018)
64. Erin Kennedy, Farhan Augustine, Anthony Huynh, and **Minjoung Kyoung**, “4D spatial analysis of protein assemblies in metabolism with lattice light sheet microscopy.” Graduate Research Day, University of Maryland, Baltimore County, Baltimore, MD (March 16, 2018)
*Awarded Outstanding Graduate Research Award
65. Manuel Huerta-Alvarado, Noah Robinson, Erin Kennedy, Tao Zhang, **Minjoung Kyoung**, “Developing nano-reaction chambers to characterize transient macromolecular complexes” 2nd Chesapeake Bay Area Single Molecule Biology Meeting (November 4 2018)
66. Manuel Huerta-Alvarado, Noah Robinson, Kristen Irons, Erin Kennedy, Anthony Huynh, **Minjoung Kyoung** “Nano-Reaction Chambers to Differentiate Binding Affinities for Modified FKBP-Rapamycin/FRB Ternary Complexes” SURF, University of Maryland, Baltimore County, Baltimore, MD August-10 2017
67. Kristen Irons, Erin Kennedy, Noah Robinson, Manuel Huerta-Alvarado, Anthony Huynh, **Minjoung Kyoung** “Developing Mutant FKBP-Rapamycin/FRB Ternary Complexes” SURF, University of Maryland, Baltimore County, Baltimore, MD August-10 2017
68. **Minjoung Kyoung** “Mapping 4-D networks in live cells and in vitro.” A Look Ahead, University of Maryland, Baltimore County, Baltimore, MD (May 2017)
69. Erin Kennedy, Anthony Huynh, and **Minjoung Kyoung**, “Live cell imaging using lattice light sheet microscopy.” Biotech Symposium, University of Maryland, Baltimore County, Baltimore, MD (January 2017)
70. Noah Robinson, Erin Kennedy, Vanessa Nwaiwu, and **Minjoung Kyoung**, “Vesicle based nano-chamber for single molecule studies”. Biotech Symposium, University of Maryland, Baltimore County, Baltimore, MD (January 2017)
71. Erin Kennedy, Anthony Huynh, and **Minjoung Kyoung**, “Transient protein-protein interactions inside living cells.” 6th Annual Biochemistry and Molecular Biology Retreat, University of Maryland, Baltimore, MD (January 2017)
72. Anthony Huynh, Aiya Smith, Erin Kennedy, **Minjoung Kyoung**, "Developing transient tertiary complexes with various binding affinities" in Summer Undergraduate Research Festival, UMBC, MD (August 10, 2016)
73. Blake Andrew Ford, Noah Robinson, Vanessa Nwaiwu, **Minjoung Kyoung** "Developing nano-reaction chamber to probe transient macromolecular complexes" Summer Undergraduate Research Festival, UMBC, MD (August 10, 2016)
74. Noah Robinson, Erin Kennedy, Vanessa Nwaiwu, Chidera Ekeocha, **Minjoung Kyoung** "Developing Nanoscale Reactors for Single Molecule Studies" Frontiers in

- Chemistry and Biology Interface Symposium, Johns Hopkins University, MD (May 14, 2016)
75. Natalie McDonald, Victoria Davenport, **Minjoung Kyoung** "Applications of Light Microscopy Principles in Building a Smartphone Microscope" Undergraduate Research and Creative Achievement Day, UMBC, MD (April 27, 2016)
 76. Sarah Pollock Erin Kennedy, Vanessa Nwaiwu, Chidera Ekeocha, **Minjoung Kyoung** "Engineering of the FRB domain of the mechanistic target of rapamycin (mTOR)" Undergraduate Research and Creative Achievement Day, UMBC, MD (April 27, 2016)
 77. Chidera Ekeocha, Erin Kennedy, Sarah Pollock, Vanessa Nwaiwu, **Minjoung Kyoung** "Cloning, Mutating and Labeling of FK506-binding Protein (FKBP)" Undergraduate Research and Creative Achievement Day, UMBC, MD (April 27, 2016)
 78. Noah Robinson, Erin Kennedy, Vanessa Nwaiwu, Chidera Ekeocha, **Minjoung Kyoung** "Developing Nano-reactors for Single Molecule Studies Utilizing Vesicle Fusion by Two Independent Methods." Graduate Research Conference UMBC, MD (March 23, 2016)
 79. Sarah Pollock, Erin Kennedy, **Minjoung Kyoung** "Molecular-Level Alteration of Signaling and Metabolic Pathways in Cancer Immunotherapy" College of Natural and Mathematical Sciences Symposium, UMBC, MD (October 3, 2015)
 80. Sarah Pollock, Erin Kennedy, **Minjoung Kyoung** "An approach towards efficient cancer immunotherapy" Summer Undergraduate Research Festival, UMBC, MD (August 5, 2015)
 81. Noah Robinson, Erin Kennedy, Vanessa Nwaiwu, Chidera Ekeocha, Heymin Haek, **Minjoung Kyoung** "Developing Nano-reactors for Single Molecule Studies" Graduate Research Conference, UMBC, MD (March 25, 2015)
 82. **Minjoung Kyoung**, Sarah Russell, Nopondo Esemoto, Songon An "Kinetic Organization of a Transient Metabolic Complex, the Purinosome, in Cancer Cells" The 6th Annual Frontiers at the Chemistry-Biology Interface Symposium, University of Maryland, College Park, MD (May 4, 2013)
 83. Anand Sundaram, Casey Kohnhorst, Danielle Schmitt, **Minjoung Kyoung**, Songon An "Spatiotemporal Regulation of Metabolic Pathways in Living Cells" Annual A Look Ahead XVI Symposium, University of Maryland Baltimore County, Baltimore, MD (April 17, 2013)
 84. Sarah J Russell, **Minjoung Kyoung**, Songon An "Metabolic Sensor for Cancer Development" The 15th Annual Undergraduate Research Symposium in the Chemical and Biological Sciences, University of Maryland Baltimore County, Baltimore, MD (October 20, 2012)
 85. Erin. D. Sheets, **Minjoung Kyoung**, "Vesicle interactions with target membranes: a model for pre-exocytosis and post-endocytosis" 82nd ACS Colloid & Surface Science Symposium, June 15-18, 2008, Raleigh NC
 86. **Minjoung Kyoung**, Jiho Kim, Minyung Lee, "Energy transfer processes in Au:dye conjugates" The 84th annual meeting of Korean Chemical Society, Seoul, South Korea (October, 1999)

87. **Minjoung Kyoung**, Minyung Lee, “Nonlinear optical properties of silver nanorods” The 82nd annual meeting of Korean Chemical Society, Seoul, South Korea (October, 1998)
88. **Minjoung Kyoung**, Soyeun Kim, Lee Chae, Minyun. Lee, “Two-photon absorption and nonlinear refractive index measurement by femtosecond Z-scan” The 81st annual meeting of Korean Chemical Society, Seoul, South Korea (April, 1998)

SERVICE TO THE DEPARTMENT, UNIVERSITY & PROFESSION

Departmental Activities

August 2017-present	Graduate Student Recruiting and Admission Committee
Spring 2016 –Fall 2019	Departmental Seminar Coordinator
Spring 2016	Minute Recorder for Faculty Meeting
Fall 2015 – present	Academic Adviser for 45 Biochemistry Undergraduate Students
Fall 2014 – 2017	Graduate Career Committee

List of PhD/MS Students Committees Served/Serving on

Erin Kennedy	Chemistry PhD degree expected in 2021, Committee Chair/Advisor
Tao Zhang	Chemistry PhD degree expected in 2023, Committee Chair/Advisor
Haotian Wu	Chemistry PhD degree expected in 2024, Committee Member
Spencer Jaquet	Biochemistry PhD degree expected in 2024, Committee Member
Josh Moskowitz	Chemistry PhD degree expected in 2021, Committee Member
Daniel Kazal	Chemistry PhD degree expected in 2021, Committee Member
Chanda Lowrance	Chemistry PhD degree expected in 2022, Committee Member
Laura Satterfield	Chemistry PhD degree expected in 2023, Committee Member
Eric Bowman	Chemistry PhD degree expected in 2023, Committee Member
Steven Lowery	Chemistry PhD degree expected in 2023, Committee Member
Maki Negesse	Biology PhD degree expected in 2023, Committee Member
Zach Nichole	Chemistry PhD degree expected in 2024, Committee Member

Nopondo N. Esemoto	Chemistry PhD degree received in 2019, Committee Member
Scott Riley	Chemistry PhD degree received in 2020, Committee Member
Denise Williams	Chemistry PhD degree received in 2020, Committee Member
Sarah Keasey	Biology PhD degree received in 2018, Committee Member
Stacey Sova	Chemistry PhD degree received in 2018, Committee Member

University Activities

October 2019	Judge at the Annual Undergraduate Research Symposium in the Chemical and Biological Sciences, University of Maryland Baltimore County, Baltimore, MD
March 2018	Judge at the Graduate Research Day, Department of Chemistry and Biochemistry, University of Maryland Baltimore County, Baltimore, MD
February 2018	Invited Speaker for Faculty Development Center Workshop (Dr. Kerrie Kephart's invitation)
August 2017	Invited Panel for New Faculty Orientation (Dr. Linda Hodges's invitation)
October 2015	Judge at the Annual Undergraduate Research Symposium in the Chemical and Biological Sciences, University of Maryland Baltimore County, Baltimore, MD
May 2015	Judge at the Frontiers in the Chemistry-Biology Interface Symposium, University of Maryland Baltimore County, Baltimore, MD

Professional Activities

October 2014	Judge at the Annual Undergraduate Research Symposium in the Chemical and Biological Sciences, University of Maryland Baltimore County, Baltimore, MD
2020 Mar	Invited Session Chair of Session J26: Multimodal Optical Trapping/Microscopy/Spectroscopy of Living Matter, March American Physical Society Virtual Meeting
2019 Nov	Organizer, The 6 th Chesapeake Bay Area Single Molecule Biology Meeting
2016-present	Editorial Board Member, Advances in Biochemistry and its

Applications

- 2015 Panelist for NSF Graduate Research Fellowship Program on the Chemistry 3 Review Panel
- 2014-present Editorial Board Member, the Advanced Techniques in Biology & Medicine (ISSN: 2379-1764) OMICS Publishing Group

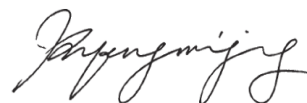
Manuscript Reviewer for:

Nature Chemistry
Science
Scientific Reports

Professional Societies/Associations

- 2019-present American Physical Society
- 2014-present American Chemical Society
- 2003-present Biophysical Society
- 2013 – 2016 American Association of Cancer Research
- 2014 – 2015 Member, Baltimore Chapter, Korean-American Scientists and Engineers Association
- 1997 – 1999 Member, Korean Chemical Society

I certify that this document is accurate and true.



MINJOUNG KYOUNG

September 15th, 2020