

## SHELDON J. PARK, PH.D

905 Furnas Hall, Department of Chemical and Biological Engineering,  
University at Buffalo, Email: sjpark6@buffalo.edu

### EDUCATION

- 1994-2000 **Ph.D, Biophysics**, Harvard University  
1991-1994 **Master of Science, Physics**, Massachusetts Institute of Technology  
1987-1991 **Bachelor of Arts, Physics and Mathematics**, University of California,  
Berkeley

### EMPLOYMENT HISTORY

- 2016-present Director of Graduate Studies, Department of Chemical and Biological  
Engineering  
2013-present Affiliated with the Genetics, Genomics and Bioinformatics Graduate  
program  
2013-present **Associate Professor**, Department of Chemical and Biological  
Engineering, University at Buffalo  
2006-2013 **Assistant Professor**, Department of Chemical and Biological  
Engineering, University at Buffalo  
2002-2006 **Postdoctoral Research Associate**, Department of Chemistry &  
Department of Chemical and Biomolecular Engineering, University of  
Pennsylvania, Philadelphia, PA  
1995-2000 **Research Associate**, Department of Chemistry, Harvard University,  
Cambridge, MA  
1991-1994 **Research Associate**, Department of Physics, Massachusetts Institute of  
Technology, Cambridge, MA

### AWARD

National Science Foundation: CAREER Award (2011)

### RESEARCH

#### Intellectual Properties

- Sheldon Park and Kok Hong Lim, Compositions Comprising Monomeric Streptavidin and Methods for Using Same, Technology disclosure filed (2011, 2013)
- Sheldon Park, Optimized monomeric streptavidin with reduced dissociation kinetics, US Patent filed (July 2017)
- Monomeric streptavidin licensed to EMD Millipore (August 2017)

#### Peer-Reviewed Publications

h-index (14), i10-index (18), Google citations (766 total)  
(Underline: UB undergraduate)

1. Lee, S.H., Jin, C., Cai, E., Ge, P., Ishitsuka, Y., Teng, K.W., de Thomaz, A. A., Nall, D., Baday, M., Jeyifous O., Demonte, D., Dundas, C.M., **Park, S.**, Delgado, J.Y., Green, W.N., Selvin, P.R., Super-resolution Imaging of Synaptic and Extra-synaptic Pools of AMPA Receptors with Different-sized Fluorescent Probes, *eLife* e27744 (2017)

2. Mann, J.K., Shen, J., **Park, S.** Enhancement of muramyl dipeptide-dependent NOD2 activity by a self-derived peptide, *J Cell Biochem* 118, 1127-1238 (2017)
3. Mann, J.K.(\*), Demonte, D.(\*), Dundas, C.M., **Park, S.**, Cell labeling and proximity dependent biotinylation with engineered monomeric streptavidin, *Technology* 4, 1-7 (2016)
4. Chamma, I., Letellier, M., Butler, C., Lim, K. H., Gauthereau, I., Choquet, D., Sibarita, J.B., **Park, S.**, Sainlos, M., Thoumine, O. Mapping the dynamics and nanoscale organization of synaptic adhesion proteins using monomeric streptavidin, *Nature Commun* 7:10773 (2016)
5. Demonte, D., Li, N., **Park, S.**, Postsynthetic domain assembly with NpuDnaE and SspDnaB split inteins, *App Biochem Biotech* 177, 1137-51 (2015)
6. Kroetsch, A. and **Park, S.**, More than one way to skin a cat: in-situ engineering of an antibody through photo-conjugated C2 domain, *Biotechnol J* 10, 508-509 (2015)
7. Wang, H., Carrier, S., **Park, S.**, Schultz, Z.D., Selective TERS Detection and Imaging through Controlled Plasmonics, *Faraday Discussions* 178:221-35 (2015)
8. Mann, J., **Park, S.**, Epitope specific binder design by yeast surface display *Meth Mol Biol* 1319:143-54 (2015)
9. Demonte, D., Dundas, C.M., **Park, S.**, Expression and purification of soluble monomeric streptavidin in E. coli *App Microbiol Biotech* 98: 6285-95 (2014)
10. Dundas, C.M., DeMonte, D., **Park, S.**, Streptavidin-biotin technology: improvements and innovations in chemical and biological applications. *App Microbiol Biotech* 97:9343-9353 (2013)
11. **Park, S.**, Mann, J.K., Li, N., Targeted inhibitor design: lessons from small molecule drug design, directed evolution, and vaccine research. *J SciMed Central Chem Eng Proc Tech* 1:1004 (2013)
12. DeMonte, D., Drake, E., Lim, K.H., Gulick, A., **Park, S.**, Structure based engineering of streptavidin monomer with a reduced biotin dissociation rate. *Proteins: Structure, Function, and Bioinformatics* 81, 1621-1633 (2013)
13. Mann, J.K., Wood, J.F., Stephan, A.F., Tzanakakis, E.S., Ferkey, D.M., **Park, S.** Epitope guided engineering of monobody binders for in vivo inhibition of Erk-2 signaling. *ACS Chem Biol* 8, 608-616 (2013)
14. Lim, K.H., Huang, H., Pralle, A., **Park, S.** Stable, High-Affinity Streptavidin Monomer for Protein Labeling and Monovalent Biotin Detection, *Biotechnol Bioeng* 110, 57-67 (2013)
15. Lim, K.H., Hwang, I., **Park, S.** Biotin-assisted folding of streptavidin on the yeast surface, *Biotechnol Prog* 28, 276-283 (2011)
16. Lim, K.H., Huang, H., Pralle, A., **Park, S.** Engineered streptavidin monomer and dimer with improved stability and function, *Biochemistry* 50, 8682-8691 (2011)
17. Hsu, C.K. and **Park, S.** Computational and mutagenesis studies of the streptavidin native dimer interface, *J Mol Graph Model* 29, 295-308 (2010)
18. Lim, K.H., Hsu, C.K., **Park, S.** Flow cytometric analysis of genetic FRET detectors containing variable substrate sequences, *Biotechnol Prog* 26, 1765-1771 (2010)
19. Lim, K.H., Madabhushi, S. (\*), Mann, J. (\*), Neelamegham, S., **Park, S.** Disulfide trapping of protein complexes on the yeast surface, *Biotechnol Bioeng* 106, 27-41 (2010)
20. Hwang, I. and **Park, S.** Computational design of protein therapeutics. *Drug Disc Today: Tech* 5:e43-8 (2009)

21. Szep, S.\* , **Park, S.\*†**, Boder, E. T., Van Duyne, G., Saven, J. G . Structural coupling between FKBP12 and buried water. *Proteins* 74, 603 (2009) (\*) Equal contribution. (†) Corresponding author.
22. **Park, S.**, Xu, Y., Stowell, X. F., Gai, F., Saven, J. G, Boder, E. T. Limitations of yeast surface display in engineering proteins of high thermostability. *Protein Eng Des Sel (PEDS)* 19, 211-217 (2006).
23. **Park, S.** and Saven, J. G. Simulation of pH-dependent edge strand rearrangement in human  $\beta$ -2 microglobulin. *Protein Sci* 15, 200-207 (2006).
24. **Park, S.** and Saven, J. G. Statistical and molecular dynamics studies of buried waters in globular proteins. *Proteins* 60, 450-463 (2005).
25. **Park, S.**, Boder, E. T., Saven, J. G. Modulating the DNA affinity of Elk-1 with computationally selected mutations. *J Mol Biol* 348, 75-83 (2005).
26. **Park, S.**, Kono, H., Wang, W., Boder, E. T., Saven, J. G. Progress in the development and application of computational methods for probabilistic protein design. *Comp Chem Eng* 29, 407-421 (2005).
27. **Park, S.** and Saven, J. G. Computationally assisted protein design. *Annu Rep Comp Chem*, Vol 1, Chapter 18, 245-253 (2005).
28. **Park, S.**, Fu, X., Wang, W., Yang, X., Saven, J. G. Computational protein design and discovery. *Annu Rep Prog Chem Sect C* 100, 195-236 (2004).
29. **Park, S.**, Yang, X., Saven, J. G. Advances in computational protein design. *Curr Opin Struct Biol* 14, 487-494 (2004).
30. **Park, S.**, Uesugi, M., Verdine, G. L. A second calcineurin binding site on NFAT regulatory domain. *Proc Natl Acad Sci U S A* 97, 7130-5 (2000).

### **Edited Book**

Sheldon J. Park and Jennifer R. Cochran (Eds). Protein Engineering and Design. Taylor & Francis/CRC Press. (2009)

### **PhD Student Theses**

1. “Engineering novel proteins for biotechnology application”, Daniel Demonte, August 2015
2. “Selective Targeting of Cell Signaling and Inflammatory Proteins using Biologics”, Jasdeep Mann, January 2014
3. “Development of Novel Screens and Molecular Tools and High Throughput Screening for Protein Engineering”, Kok Hong Lim, April 2012

### **MS Student Theses**

1. “Engineered Lasso for Stable and Stoichiometric Binding to Antibody”, Fangyu “Amy” Zhou, July 2017
2. “Application of Engineered Monomeric Streptavidin in ELISA”, Vyncent Nguyen, May 2017
3. “Sequence robust loop modeling using PyRosetta”, Aparajita Dasgupta, May 2016
4. “Engineered peptide to restore NOD2 response to bacterial peptidoglycan”, Jiaochen Shen, August, 2015
5. “High Throughput Engineering Of Split Intein with Improved Trans-Splicing Kinetics and a Novel Split Intein Mediated Modular Synthesis”, Naiyi Li, May 2014

6. "Engineering a temperature-sensitive self-cleaving intein", Daniel Demonte, May 2012
7. "Investigation on the Stability and Functions of Engineered Streptavidin", Jia Yen Leong, April 2012
8. "GPCR expression and activation in yeast", Francis Perez, August 2011
9. "Mutational studies of monomeric streptavidin", Taela Durst, December 2010
10. "Heterologously expressed G-protein coupled receptor in yeast", Hyung Joon Cho, February 2009

## Oral presentations

(\* ) Underlined corresponds to the presenter.

1. "Expanding the molecular toolbox with engineered proteins", Sheldon Park, Department of Chemistry, UB, December 2015
2. "Engineered and natural proteins in biotechnology", Sheldon Park, Department of Chemical Engineering, NYU-Polytech, April 2015
3. "Engineered molecular recognition in biomedicine", Sheldon Park, Department of Pharmaceutical Sciences, UB, September 2014
4. "Engineered molecular recognition in biotechnology and medicine", Sheldon Park, WPI, April 2014
5. "Structure Guided Engineering of Monomeric Streptavidin With Improved Ligand Binding", Daniel Demonte, Eric Drake, Kok Hong Lim, Andrew Gulick, Sheldon Park, AIChE annual Meeting, San Francisco, CA, November 2013
6. "Pathobiology of Crohn's Disease Risk Nod2 Mutation", Jasdeep Mann, Sheldon Park, AIChE annual Meeting, San Francisco, CA, November 2013
7. "Targeted inhibitor design: bridging rational and directed evolution studies" Sheldon Park, Indiana University of Pennsylvania, November 2013
8. "Engineered molecular recognition in biotechnology and medicine", Sheldon Park, Ohio State University, October 2013
9. "Engineered monobody inhibitors of Erk-2 dependent signaling", Jasdeep Mann, Jordan Wood, Anne-Fleur Stephan, Emmanuel Tzanakakis, Denise Ferkey, Sheldon Park, AIChE Annual Meeting, Pittsburg, PA, October 2012
10. "Rational and Irrational Engineering of Novel Protein Reagents", Sheldon Park, Department of Biology, University at Buffalo, April 2012
11. "Stable High Affinity Streptavidin Protomers for Cell Biology Application." Kok Hong Lim, \* Heng Hu, Arnd Pralle, Sheldon Park, AIChE Annual Meeting, Minneapolis, MN, October 2011.
12. "Rational Protein Engineering on the Yeast Surface." Sheldon Park, Cheng Kuo Hsu, Kok Hong Lim, Department of Chemical and Biomolecular Engineering, University of Notre Dame, November 2010
13. "Protein complementation assay for detecting homodimeric association on the yeast surface." Sheldon Park, Jasdeep Mann, Cheng Kuo Hsu, AIChE Annual Meeting, Salt Lake City, UT, November 2010.
14. "Molecular Dynamics Simulation as a Protein Engineering Tool." Sheldon Park, Kok Hong Lim, Cheng Kuo Hsu, American Association of Pharmaceutical Scientists 2010 National Biotechnology Conference, San Francisco, CA

15. "Computational design of high affinity monomeric streptavidin." Sheldon Park, Kok Hong Lim, Cheng Kuo Hsu, AIChE Annual Meeting, Nashville, TN, November 2009.
16. "Disulfide trapping of protein complexes on the yeast surface." Sheldon Park, Kok Hong Lim, Jasdeep Mann, Sri Madabhushi, Sriram Neelamegham, AIChE Annual Meeting, Nashville, TN, November 2009.
17. "Computational design of high affinity monomeric streptavidin." Sheldon Park, BMES Annual Meeting, Pittsburgh, PA, October 2009.
18. "Structure based protein engineering." Sheldon Park, Department of Biochemistry and Hauptmann Woodward Institute, University at Buffalo. April 28, 2009
19. "Modulating the DNA affinity of Elk-1 with computationally selected mutations: relationship between protein stability and DNA binding." Sheldon Park, Eric Boder, Jeffery G. Saven, AIChE Annual Meeting, San Francisco, CA November 2006.
20. "Simulation of pH-dependent edge strand rearrangement in human  $\beta$ -2 microglobulin." Sheldon Park, Jeffery G. Saven, AIChE Annual Meeting, San Francisco, CA November 2006.
21. "Essential structural roles of a buried water in FKBP12: a combined approach using database search molecular dynamics, and structure determination." Sheldon Park, Jeffery G. Saven, AIChE Annual Meeting, San Francisco, CA, November 2006.
22. "Simulation of pH-dependent edge strand rearrangement in human  $\beta$ -2 microglobulin." Sheldon Park, Jeffery G. Saven, Chemical and Biophysics Mini-Symposium, University of Pennsylvania, Philadelphia, PA, April 2006.
23. "Using computation and experiment to study structure-function relationship in protein", Sheldon Park, University at Buffalo, March 2006
24. "Using computation and experiment to study structure-function relationship in protein", Sheldon Park, Duke University, NC, February 2006
25. "Using computation and experiment to study structure-function relationship in protein", Sheldon Park, Caltech, CA, January 2006
26. "Biophysical studies and computational design of a DNA binding protein." Sheldon Park, Eric Boder, Jeffery G. Saven, Chemical and Biophysics Mini-Symposium, University of Pennsylvania, Philadelphia, PA, October 2005
27. "Computational and experimental approaches to protein design." Sheldon Park, Virtual Institute Colloquia in Protein Modeling and Bio-nanotechnology, Drexel University, Philadelphia, PA, July 2005
28. "Database and molecular dynamics studies of buried water molecules in globular proteins", Sheldon Park and Jeffery G. Saven, Chemical Biophysical Mini-Symposium, Department of Biochemistry and Biophysics, University of Pennsylvania, PA 2005
29. "Application of molecular dynamics simulation to the study of protein-DNA interaction." Sheldon Park, Eric Boder, Jeffery G. Saven, Biomedical Engineering Society, Philadelphia, PA, October 2004
30. "Computation-assisted design of a transcription factor." Sheldon Park, Institute for Medicine and Engineering, University of Pennsylvania, Philadelphia, PA, May 2004.

## Poster presentations

1. "Disulfide trapping on the yeast surface", Jasdeep Mann, Kok Hong Lim, Sheldon Park, International Conference on Biomolecular Engineering (ICBE) 2011, San Francisco, January 2011
2. "Engineering of a stable domain swapped streptavidin dimer", Cheng-Kuo Hsu, Kok Hong Lim, Sheldon Park, ICBE 2011, San Francisco, January 2011
3. "Flow cytometric analysis of generic FRET detectors", Kok Hong Lim, Cheng-Kuo Hsu, Sheldon Park, ICBE 2011, San Francisco, January 2011
4. "Design of high affinity monomeric streptavidin by MD simulation" Sheldon Park, Proteins Gordon Conference, Holderness School, New Hampshire, June 2009
5. "Computational design of monomeric streptavidin." Sheldon Park, Cheng-Kuo Hsu, Kok Hong Lim. 2nd symposium on Nanotechnology in Biology and Medicine, sponsored by Integrated Nanostructured Systems, University at Buffalo, May 13, 2009
6. "Functional expression of streptavidin on the yeast surface." Cheng-Kuo Hsu, Inseong Hwang, Sheldon Park, AIChE, Philadelphia, PA 2008
7. "Atomic resolution structures of FKBP12 wild type and mutants show the existence of a coupled network of amino acids and a structural water in the protein core", Sheldon Park, Szilvia Szep, Eric T. Boder, Gregory D. Van Duyne, Jeffery G. Saven, San Diego, CA 2006
8. "Ab initio study of the phosphodiester bond hydrolysis by Cre recombinase", Sheldon Park and Jeffery Saven, American Chemical Society, Washington, DC 2005
9. "Statistical and Molecular Dynamics Studies of Buried Waters in Globular Proteins", Sheldon Park and Jeffery G. Saven, Protein Society, Boston, MA 2005
10. "Modulating the DNA Affinity of Elk-1 with Computationally Selected Mutations", Sheldon Park, Eric T. Boder, and Jeffery G. Saven, Protein Society, Boston, MA 2005
11. "Simulation of pH-dependent edge strand rearrangement in human  $\beta$ -2 microglobulin." Sheldon Park, Jeffery Saven, US-Japan Protein Engineering Symposium, University of Pennsylvania, PA, 2005.
12. "Computationally selected mutations in the transcription factor Elk-1 and its DNA binding", Sheldon Park, Eric Boder, Jeffery Saven, Biochemistry and Molecular Biophysics Symposium, University of Pennsylvania, PA 2004
13. "Synthetic protein folding and self-assembly: Computational library design and yeast expression screening", Sheldon Park, Magdalena Jonikas, Eric Boder, Jeffery Saven, American Chemical Society, New York, NY, 2003
14. "Existence of a second calcineurin binding site on select isoforms of NFAT", Sheldon Park, Gregory Verdine, American Society of Biochemistry and Molecular Biology, San Francisco, CA, 1999

## Intradepartmental student presentation (Oral and Poster)

--Includes the Annual Graduate Student Research Symposium and CBE seminars  
(Underline: presenter)

1. "Antibody Lasso for stable and stoichiometric binding of antibody", Fangyu Zhou\*, Vyncent Nguyen\*, Andrew Kroetsch, Sheldon Park", October 2016
2. "Monomeric Streptavidin in Order to Promote Antibody Fluorescence Expression", Jingyuan Gao, Andrew M. Kroetsch, Sheldon Park, October 2016

3. "Engineering Z Domain of Staphylococcal Protein A as Novel Antibody Lasso and its application", Vyncent Nguyen, Fangyu Zhou, Andrew Kroetsch, Sheldon Park, October 2016
4. "Optimized Engineering Platform for Generation of pH Sensitive Antibodies", Andrew M. Kroetsch, Hsueh Yuan Chang, Dhavalkumar Shah, Sheldon Park, October 2016
5. "Sequence-robust loop modelling with PyRosetta", Aparajita Dasgupta, Sheldon Park, October 2015
6. "Engineered monobody inhibitors of Erk-2 dependent signaling", Jasdeep Mann, Jordan Wood, Anne-Fleur Stephan, Emmanuel Tzanakakis, Denise Ferkey, Sheldon Park, October 2012 (Oral presentation at the Annual Research Symposium)
7. "Engineering high affinity monomeric streptavidin", Daniel Demonte and Sheldon Park, 2012
8. "Engineered monobody to target Erk-2 dependent signaling", Jasdeep K. Mann and Sheldon J. Park, Annual Research Symposium, University at Buffalo, NY, 2011
9. "Engineering Stable High Affinity Streptavidin Monomers for Cell Biology Applications", Kok Hong Lim, Heng Huang, Arnd Pralle, Sheldon J. Park, Annual Research Symposium, University at Buffalo, NY, 2011
10. "Designed Streptavidin with Improved Affinity and Stability", Kok Hong Lim and Sheldon Park, April 2011 (Departmental Seminar)
11. "Construction and analysis of novel domain swapped streptavidin dimer", Cheng-Kuo Hsu, Kok Hong Lim, Sheldon Park, 2010
12. "Engineering High-Affinity Monomeric Streptavidin", Kok Hong Lim, Sheldon Park, 2010 – Best Poster award for Kok Hong Lim
13. "Stable streptavidin heterodimer containing complementary interfacial mutations", Jasdeep Mann, Sheldon Park, 2010
14. "Engineering of Monomeric Streptavidin", Kok Hong Lim and Sheldon Park, 2009
15. "Engineering Specificity at the Dimer Interface of Streptavidin", Cheng-Kuo Hsu and Sheldon Park, 2009
16. "Disulfide Trapping of Transient Protein Complexes on the Yeast Surface", Kok Hong Lim, Jasdeep Mann, Sri Ranganayaki Madabhushi, Sriram Neelamegham, and Sheldon Park, 2009
17. "Computational design of monomeric streptavidin" Sheldon Park, Cheng-Kuo Hsu, Kok Hong Lim. 2nd symposium on Nanotechnology in Biology and Medicine, sponsored by Integrated Nanostructured Systems, University at Buffalo, May 13, 2009
18. "Heterologously expressed GPCR in yeast", Hyung Joon Cho and Sheldon Park, 2008
19. "Functional expression of streptavidin on yeast surface", Cheng-Kuo Hsu and Sheldon Park, 2008
20. "Substrate structure and the phosphorylation kinetics", Kok Hong Lim and Sheldon Park, 2008
21. "High-throughput screening of a peptide library to modulate the activity of heterologously expressed GPCR in yeast", Hyung Joon Cho and Sheldon Park, 2007
22. "Development of a high throughput screen for protein-protein interface based on conformation-dependent proteolytic susceptibility", Cheng-Kuo Hsu and Sheldon Park, 2007

23. “Engineering of Monomeric Streptavidin”, Inseong Hwang and Sheldon Park, 2007

### **Other presentations**

1. Guest lecturer: Pharmaceutical Sciences 539, University at Buffalo, Jan 2011
2. Guest lecturer: Biomolecular Engineering 101, University at Buffalo, Feb 2011
3. Guest lecturer: Biomolecular Engineering 101, University at Buffalo, Nov 2009

### **Research collaborators**

#### Former

- Arnd Pralle, Department of Physics, University at Buffalo
- Denise Ferkey, Department of Biological Sciences, University at Buffalo
- Sriram Neelamegham, Department of Chemical Engineering, University at Buffalo
- Manolis Tzanakakis, Department of Chemical Engineering, University at Buffalo
- Andrew Gulick, Hauptman Woodward Institute
- Olivier Thoumine, Institut Interdisciplinaire de Neurosciences, Université Bordeaux
- Paul Selvin, Department of Physics, University of Illinois, Urbana-Champaign

#### Current

- Dhaval Shah, Department of Pharmaceutical Sciences, UB
- Natesh Parashurama, Department of Chemical and Biological Engineering, UB

## **TEACHING**

### **Courses taught**

- CE 327      Chemical Engineering Lab I with Prof T. Kofke—Fall 2006 (32 students),  
Fall 2007 (38 students), Fall 2008 (43 students), Fall 2009 (48 students)
- CE 427      Chemical Engineering Lab III with Prof. T. Kofke—Fall 2006 (29 students),  
Fall 2007 (30 students), Fall 2008 (35 students), Fall 2009 (42 students)
- EAS 230     Higher Level Programming Language with Prof. H. Stenger—Spring 2008  
(324 students), Spring 2009 (315 students)
- CE 517      Bioengineering Principles with Profs. S. Neelamegham and E. Tzanakakis—  
Spring 2010 (11 students)
- CE 434      Process Dynamics and Control—Fall 2010 (52 students), Fall 2011 (50  
students), Fall 2012 (61 students), Fall 2013 (70 students), Fall 2014 (81  
students), Fall 2015 (66 students), Fall 2016 (77 students), Spring 2017 (85  
students)
- CE 450/550 Protein Engineering—Spring 2007 (14 students), Spring 2008 (16  
students), Fall 2009 (14 students), Spring 2011 (18 students), Spring 2012  
(16 students), Spring 2013 (19 students), Spring 2014 (13 students), Spring  
2016 (21 students), Fall 2017 (28 students)

### **Current students**

- Andrew Kroetsch (Ph.D candidate)
- Sheida Jamalzadeh (Ph.D candidate, Research advisor: Dr. P. Cullen—UB Biology)
- Xiao Huang (MS candidate)
- Brandon Chin (MS candidate)



## **Former graduate students and postdoc**

### **Ph.D students**

- Daniel Demonte (Ph.D)—August 2015 (Alpine Immune Biosciences, Seattle, WA)
- Jasdeep Mann (Ph.D)—February 2014 (Bluebird Biotech, Seattle, WA)
- Kok Hong Lim (Ph.D)—May 2012 (Avitide, Hanover, NH)

### **Master students**

- Fangyu Amy Zhou (Master of Science)—August 2017 (HarkerBIO, Buffalo, NY)
- Vyncent Nguyen (Master of Science)—May 2017 (Albany Molecular Research Inc, Buffalo, NY)
- Jingyuan Gao (Master of Engineering)—December 2016
- Aparajita Dasgupta (Master of Science)—May 2016 (Ph.D student in MDI, UB)
- Jiaochen Shen (Master of Science)—August 2015 (Biogen IDEC, Cambridge, MA)
- Naiyi Li (Master of Science)—May 2014 (Bristol Myers Squibb, Devens, MA)
- Taela Durst (Master of Engineering)—January 2012
- Jia Yen Leong (Master of Engineering) May 2012
- Daniel Demonte (Master of Science)—May 2012
- Francis Perez (Master of Science)—August 2011
- Cheng-Kuo Hsu (Master of Engineering)—June 2011
- Hyung Joon Cho (Master of Science)—June 2008 (currently a Postdoc at the University of Miami)

### **Others**

- Dr. Inseong Hwang (postdoc)—November 2008 (currently a Research Scientist at Seoul National University, Department of Chemistry, Seoul, Korea)
- Pooja Chakrabarty (MS candidate)—2009 – 2010

### **Former undergraduates and high school students**

- Benjamin Carlson (CBE undergraduate)—Fall 2015 - 2017
- Thomas Straubinger (Pharmaceutical Sciences)—Fall 2015
- Christopher Dundas (CBE undergraduate)—Fall 2011 – Spring 2015
- Laura Saunders (CBE undergraduate)—Spring 2015
- Darwin Chen (CBE undergraduate)—Fall 2014
- Ming Chen (CBE undergraduate)—Spring 2014
- Karl Barber (CBE undergraduate)—Fall 2009 – Spring 2012
- Shannon Griffin (Kenmore West High School)—Summer 2011
- Yimin Tang (CBE undergraduate)—2009 – 2010
- Lye Lin Lock (CBE undergraduate)—Spring and Summer 2009
- Oluwatobi Busari (Mechanical and Aerospace Engineering)—Summer 2009
- Brett Van Groenewould ( CBE Undergraduate)—Fall 2008
- Ryan Tomko (CBE Undergraduate)—Spring 2008
- Mary Stottele (Sacred Heart Academy, Amherst, NY)—Summer 2008
- Mary Brummond (CBE undergraduate)—Summer 2007

- Kristen Marra (CBE undergraduate)—Summer 2007

### **Student honors**

- Kok Hong Lim: Best poster award, Annual Graduate Student Research Symposium 2010
- Karl Barber: Fulbright Scholarship, 2012
- Christopher Dundas: Goldwater Scholarship, 2013
- Christopher Dundas: NSF-REU 2014
- Andrew Kroetsch: University at Buffalo Engineering Alumni Association Scholarship 2016
- Andrew Kroetsch: Mark Diamond Research Fund 2017

### **SERVICES**

#### **Departmental, School of Engineering, and University Services**

- Participated in the School of Engineering Open House (2006 – 2010)
- Served as an organizer of the Annual Graduate Research Symposium (2006 – 2013)
- Served as a judge at the Annual Departmental Poster Competition (2006, 2008, 2012 - present)
- Served on the Safety Committee (2006 – 2010, 2012 - 2014)
- Served as the Fire Evacuation Warden for the 9<sup>th</sup> floor of Furnas (2008 - 2013)
- Served on the Junior Faculty Panel for “Future Faculty Workshop” organized by Dr. Batta (2008, 2010)
- Served on the UB Graduate School Grievance Committee (2009 – present)
- Served on the Department of Chemical and Biological Graduate Committee (2007 – present)
- Served as a freshman mentor for EAS 202 (2012 – 2014)
- Faculty advisor to the UB student club of the Society for Biological Engineers (2011 – 2013)
- Served on the search committee for the Dean of the School of Engineering and Applied Sciences (2012)
- Faculty advisor to the student chapter of the American Institute of Chemical Engineers (2012 – 2013)
- Furnas Hall, UB, Fire Evacuation Coordinator (2013 – present)
- Served on the Program for Genetics, Genomics and Biophysics Grievance Committee (2013 – present)
- Director of Graduate Studies (2016 – present)

### **Research Committees**

#### **Ph.D/M.S. defense committee**

<b>Student Name</b>	<b>Degree</b>	<b>Year</b>	<b>Thesis Advisor</b>
Indrajeet Singh	Ph.D	2007	Sriram Neelamegham
Savatha Prakash	M.S.	2007	Sriram Neelamegham
Yajun Yan	Ph.D	2008	Mattheos Koffas

Amruta Bedekar	M.S.	2008	Mattheos Koffas
Namita Bhan	M.S.	2011	Mattheos Koffas
Chin Giaw Lim	Ph.D	2011	Mattheos Koffas
Lynn Wong	M.S.	2011	Mattheos Koffas
Sankaranarayanan Venkiteswaran	M.S.	2011	Mattheos Koffas
Nagarajan Krishna	M.S.	2012	Emmanuel Tzanakakis
Aishwarya Ranganathan	M.S.	2012	Stelios Andreadis
Kok Hong Lim	Ph.D	2012	Sheldon Park
Anne Fleur Stephans	M.S.	2012	Emmanuel Tzanakakis
Randall Smith	M.S.	2013	Stelios Andreadis
Seoyoung Son	M.S.	2013	Stelios Andreadis
Sri Madabhushi	Ph.D	2014	Sriram Neelamegham
Jasdeep Mann	Ph.D	2014	Sheldon Park
Nandini Mondal	Ph.D	2014	Sriram Neelamegham
Shobhit Gogia	Ph.D	2014	Sriram Neelamegham
Daniel Demonte	Ph.D	2015	Sheldon Park
Xiaoyan Wang	M.S.	2016	Stelios Andreadis
Aparajita Dasgupta	M.S.	2016	Sheldon Park
Jingyuan Gao	M.E.	2016	Sheldon Park
Mahmoud Ahmadi	Ph.D	2016	Blaine Pfeifer
Shuen Shiuan Wang	Ph.D	2016	Sriram Neelamegham
Yi Li	Ph.D	2016	Sriram Neelamegham
Lei Fang	Ph.D	2017	Blaine Pfeifer
Yuqi Zhu	Ph.D	TBA	Sriram Neelamegham
Fangyu Zhou	M.S.	2017	Sheldon Park
Vyncent Nguyen	M.S.	2017	Sheldon Park
Kai Cheng	Ph.D	TBA	Sriram Neelamegham
Changjie Chen	Ph.D	TBA	Sriram Neelamegham

### **Proposal defense committee**

<b>Student Name</b>	<b>Year</b>	<b>Thesis Advisor</b>
Juhee Han	2007	Stelios Andreadis
Chin Giaw Lim	2008	Mattheos Koffas
Chi Lo	2009	Sriram Neelamegham
Sri Madabhushi	2009	Sriram Neelamegham
Hyemin Kim	2009	David Kofke
MaoShi Liang	2009	Stelios Andreadis
Peng Xu	2010	Mattheos Koffas
Shobhit Gogia	2010	Sriram Neelamegham
Janhavi Moharil	2010	Stelios Andreadis
Sindhu Row	2010	Stelios Andreadis
Shuen Shiuan Wang	2012	Sriram Neelamegham
Mahmoud Ahmadi	2012	Blaine Pfeifer
Yi Li	2012	Blaine Pfeifer

Aref Shahini	2014	Stelios Andreadis
Kai Cheng	2014	Sriram Neelamegham
Samaneh Moghadasi	2016	Stelios Andreadis

### **Undergraduate Academic advising**

Kristen Marra, Theodore Einar Olsen-Tan, Julio Cesar Valenzuela Roc, John Seeley Vallone, Andrew John Westcot, Michael Joseph Wolny, Alexander Philip Anneling, Kathryn Rose Callan, Joshua Urbach, Kevin Carter, Christopher Dundas, Dylan Keefe, James Knox, Hayley Riesel, Keelan Schwab, Lee Terry, Stephen Vitello, Leong Chee Yap, Eunji Youn, Hunter Jones, Zachary Valenza, Yi Chen, Jaehyug Choi, Jermel Griffin, Min Gi Jin, Vivian Luo, Thomas Prato, Zehey Wehbe, Qinqin Xiao, Muhammad Azmi, Justine Cappiello, Nur Hazirah, Ali Jamali, Gino Rosati, Benjamin Skoog, Jinhao Zheng, Yiyang Zhou

### **Professional Services**

- Editor for “Protein Engineering and Design”, together with Dr. Jennifer Cochran, CRC Press (2009)
- AIChE Meeting, Session Chair, 2006—Systems Biology
- BMES Meeting, Session Chair, 2007—Biomolecular Engineering
- AIChE Meeting, Session Chair, 2007-2010—Food, Pharmaceutical, and Bioengineering Division (15c). Advances in Protein Structure, Function, and Stability
- AIChE Meeting, Session Chair, 2011—Food, Pharmaceutical, and Bioengineering Division (15c). Molecular Modeling of Biophysical Processes I - Molecular Binding and Protein Structure and Dynamics
- AIChE Meeting, Session Chair, 2012—Food, Pharmaceutical, and Bioengineering Division (15c). Molecular Modeling of Biophysical Processes I - Molecular Binding and Protein Structure and Dynamics. Biomaterials.

### **Journal Reviews**

- ACS Chemical Biology
- ACS Medicinal Chemistry
- ACS Synthetic Biology
- Analytical Chemistry
- Annals of Biomedical Engineering
- Applied Biochemistry and Biotechnology
- Applied Microbiology and Biotechnology
- Artificial Intelligence in Medicine
- Biochemical Engineering Journal
- Biochemistry
- Biochimica et Biophysica Acta
- Bioconjugate Chemistry
- Biophysical Journal
- Biotechnology and Bioengineering

- Biotechnology Journal
- Biotechnology Progress
- BMC Bioinformatics
- Chemical Biology and Drug Design
- Computational and Structural Biotechnology Journal
- Electrophoresis
- Enzyme and Microbial Technology
- Integrative Biology
- International Journal of Biological Macromolecules
- Journal of Molecular Biology
- Journal of Molecular Modeling
- Letters in Drug Design and Discovery
- PNAS
- Protein Science
- Proteins
- PLoS One

Also a reviewer for the following books or book chapters: Wiley Encyclopedia of Chemical Biology, Dictionary of Chemical Engineering, Process Dynamics Modeling and Control.

### **Grant reviews**

National Science Foundation (2013, 2015)

Czech Science Foundation (2013)

### **Professional Development Activities**

#### **Workshop**

- Conversations on Career Advancement for Tenured Associate Faculty (Apr 2016)
- SEAS Faculty Workshop: Cultural Competence for Faculty in the Academy (Nov 2015)

#### **Professional conferences**

- Annual AIChE meeting (November 2006 – present)
- Annual Protein Society meeting (July 2006, July 2007, July 2008)
- Annual BMES meeting (Oct 2007, Oct 2009)

#### **Teaching related activities**

- A workshop on the use of UBlerns (August 2006)
- Summer School for Chemical Engineering Faculty—organized by the American Society for Engineering Education (ASEE), Chemical Engineering Division (August 2007)