

Youngmin PARK, PhD

PERSONAL DATA

DATE OF BIRTH: 28 October 1988
CITIZENSHIP: USA
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EMPLOYMENT

MAY 2018 – PRESENT Postdoctoral Fellow **University of Pennsylvania**
Advisor: Maria N. Geffen

EDUCATION

AUG. 2013 – APR. 2018 PhD Mathematics, **University of Pittsburgh**
Thesis: Dimension Reduction of Neural Models Across
Multiple Spatio-temporal Scales | Advisor: G. Bard Ermentrout

AUG. 2012 – AUG. 2013 MS Applied Math **Case Western**, Cleveland, OH
Thesis: Infinitesimal Phase Response Curves for Piecewise
Smooth Dynamical Systems | Advisor: Peter J. Thomas

AUG. 2008 – AUG. 2013 BS Applied Math **Case Western**, Cleveland, OH

PUBLICATIONS

Park, Y., Ermentrout, G.B. "A Multiple Timescales Approach to Bridging Spiking- and Population-level Dynamics." *Chaos*. 28.8 (2018).

Park, Y., Ermentrout, G.B. "Scalar Reduction of a Neural Field Model with Spike Frequency Adaptation." *SIADS* 17.1 (2018): 931–981.

Park, Y., Shaw, K.M. Chiel, H.J. Thomas, P.J. "The Infinitesimal Phase Response Curve of Oscillators in Piecewise Smooth Dynamical Systems." *EJAM* (2018).

Park, Y., Heitmann, S., Ermentrout, G.B. "The Utility of Phase Models in Studying Neural Synchronization." Book chapter in "Computational Models of Brain and Behavior". Wiley-Blackwell (2017): 493–505.

Park, Y., Ermentrout, G.B. "Weakly Coupled Oscillators in a Slowly Varying World." *Springer Journal of Computational Neuroscience* 40.3 (2016): 269–281.

Shaw, K.M., **Park, Y-M.**, Chiel, H.J., Thomas, P.J. "Phase Resetting in an Asymptotically Phaseless System: On the Phase Response of Limit Cycles Verging on a Heteroclinic Orbit." *SIADS* 11.1 (2012): 350–91.

INVITED PRESENTATIONS

“Exploiting a Separation of Timescales to Extend the Theory of Weakly Coupled Oscillators”. Computational Neuroscience Initiative Seminar, Philadelphia, PA, September 25, 2018.

“A Multiple Timescales Approach to Bridging Spiking- and Population-level Activity”. Mathematical Biology Seminar, Pittsburgh, PA, February 1, 2018.

“The Infinitesimal Phase Response Curve of Oscillators in Piecewise Smooth Dynamical Systems”. SIAM Annual Meeting, Pittsburgh, PA, July 11, 2017.

“Weakly Coupled Oscillators in a Slowly Varying World”. SIAM Dynamical Systems, Snowbird, Utah, May 24, 2017;

“Scalar Reduction of a Neural Field Model with Spike Frequency Adaptation”. Mathematical Biology Seminar, Pittsburgh, PA, March 30, 2017.

“Re-deriving the Phase Reduction in the Case of Strong Perturbations”. SIAM Life Sciences, Boston, MA, July 13, 2016.

HONORS AND AWARDS

- 2017-2018 Andrew Mellon Predoctoral Fellowship
- 2017 SIAM Student Travel Award
- 2016 Elizabeth Baranger Teaching Award (nominated)
- 2012 SPUR (Summer Program for Undergraduate Research)

TEACHING

University of Pittsburgh

Year	Term	Type	Class	
2017	Summer	Lecture	Differential Equations (MATH 0290, 14 students)	
	Spring	Grading	Differential Equations 1 (MATH 1270) x2	
		Grading	Differential Equations 2 (MATH 1280)	
		Grading	Complex Variables and Applications (MATH 1560)	
2016	Fall	Recitation	Comput. Neurosci. (MATH 1370, 21 students)	
	Summer	Recitation	Business Calculus (MATH 0120, 20–24 students each) x3	
	Spring	Lecture	Differential Equations (MATH 0290, 23 students)	
		Recitation	Calculus 3 (MATH 0240, 28 students)	
		Grading	Ordinary Differential Equations 1 (MATH 1270) x2	
2015	Fall	Recitation	Calculus 1 (MATH 0220, 25 students)	
		Recitation	Calculus 2 (MATH 0230, 25 students)	
		Grading	Ordinary Differential Equations 1 (MATH 1270)	
	Summer	Lecture	Matrices and Linear Algebra (MATH 0280, 27 students)	
		Spring	Lecture	Discrete Math. Structures (MATH 0400, 33 students)
			Grading	Matrices and Linear Algebra (MATH 0280) x2
2014	Fall	Recitation	Calculus 1 (MATH 0220, 25 students each) x3	
	Summer	Lecture	Differential Equations (MATH 0290, 9 students)	
2013	Fall	Recitation	Business Calculus (MATH 0120, 23 students)	
		Grading	Differential Equations (MATH 0290) x2	

Oberlin College

- 2013 Winter Assistant Computational Neuroscience (Keith Downing)

SERVICE

- JUL. 2017 Volunteer kit-stuffing at the SIAM Annual Meeting
MAR. 2017 Volunteer lifeline at the Pitt Integration Bee

CONFERENCES AND SUMMER SCHOOLS

- SEP. 2016 Advanced Computational Neuroscience (Summer School)
Max Planck Institute for Dynamics and Self Organization
Göttingen, Germany
AUG. 2015 Methods in Computational Neuroscience (Summer School)
Marine Biological Laboratory, Woods Hole, MA
MAY. 2015 Society of Industrial and Applied Math: Dynamical Systems (Conference)
Poster Presentation. Snowbird, Utah
MAY. 2011 Society of Industrial and Applied Math: Dynamical Systems (Conference)
AUG. 2010 Mathematical Association of America MathFest (Conference)
Oral Presentation. Pittsburgh, PA
JUL. 2010 MBI Summer Program (Summer School)
Mathematical Biosciences Institute, Columbus, OH
JUL. 2010 Society of Industrial and Applied Math: Life Sciences (Conference)
Pittsburgh, PA