Youngmin Park, PhD

Personal Data

Date of Birth:	28 October 1988
Citizenship:	USA
Address:	301 Thackeray Hall Pittsburgh, PA 15260
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Positions

May 2018 – Present Postdoctoral Fellow **University of Pennsylvania**

Education

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

Sep. 2016 Advanced Computational Neuroscience
Max Planck Institute for Dynamics and Self Organization
Göttingen, Germany

Aug. 2015 Methods in Computational Neuroscience
Marine Biological Laboratory, Woods Hole, MA

Aug. 2012 – Aug. 2013 MS Applied Math **Case Western**, Cleveland, OH
[1]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

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

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

[4]**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).

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

[6]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.

[1]Source code: https://github.com/youngmp/ms_cwru_2013
[2]Source code: https://github.com/youngmp/park_ermentrout_chaos_2018

Book Chapters

[7]**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.

Invited Presentations

"The Infinitesimal Phase Response Curve of Oscillators in Piecewise Smooth Dynamical Systems". Oral presentation at SIAM Annual Meeting, Pittsburgh, PA, July 11, 2017.

"Weakly Coupled Oscillators in a Slowly Varying World". Oral presentation at SIAM Dynamical Systems, Snowbird, Utah, May 24, 2017;
SIAM Life Sciences, Boston, MA, July 13, 2016.

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)
		Recitation	Comput. Neurosci. (MATH 1370, 21 students)
2016	Fall	Recitation	Business Calculus (MATH 0120, 20–24 students each) x3
	Summer	**Lecture**	Differential Equations (MATH 0290, 23 students)
	Spring	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 (MATAH 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)

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)/P-SURG

[3]Source code: https://github.com/youngmp/park_and_ermentrout_2017
[4]Source code: https://github.com/youngmp/pwl_iprc
[5]Source code: https://github.com/youngmp/park_and_ermentrout_2016
[6]Source code: https://github.com/CWRUChielLab/Shaw_et_al_2012_code
[7]Source code: https://github.com/youngmp/park_heitmann_ermentrout_wiley_2017