

Youngmin PARK

PERSONAL DATA

DATE OF BIRTH: 28 October 1988
CITIZENSHIP: USA
ADDRESS: 301 Thackeray Hall Pittsburgh, PA 15260
PHONE: (412) 805-0283
EMAIL: ympark1988@gmail.com
WEB: youngmp.github.io

EDUCATION

AUG. 2013 – APRIL 2018 (Expected) PhD Mathematics, **University of Pittsburgh**
Thesis: TBD | 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
^aThesis: 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

- ^a**Park, Y.**, Ermentrout, G.B. “A Multiple Timescales Approach to Bridging Spiking- and Population-level Dynamics.” (Submitted to Chaos).
- ^a**Park, Y.**, Ermentrout, G.B. “Scalar Reduction of a Neural Field Model with Spike Frequency Adaptation.” SIADS. (In Press).
- ^a**Park, Y.**, Shaw, K.M., Chiel, H.J., Thomas, P.J. “The Infinitesimal Phase Response Curve of Oscillators in Piecewise Smooth Dynamical Systems.” EJAM. (In Press).
- ^a**Park, Y.**, Ermentrout, G.B. “Weakly Coupled Oscillators in a Slowly Varying World.” Springer Journal of Computational Neuroscience 40.3 (2016): 269–281.
- ^bShaw, 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.” SIAM Journal on Applied Dynamical Systems 11.1 (2012): 350–91.

BOOK CHAPTERS

- ^a**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.

^aSource code: <https://github.com/youngmp>

^bSource code: https://github.com/CWRUChielLab/Shaw_et_al_2012_code

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 Conference on Applications of Dynamical Systems, Snowbird, Utah, May 24, 2017.

“Weakly Coupled Oscillators in a Slowly Varying World”. Oral presentation at SIAM Conference on the 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)
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)
2015	Fall	Grading	Ordinary Differential Equations 1 (MATH 1270) x2
		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
	Fall	Recitation	Calculus 1 (MATH 0220, 25 students each) x3
2014	Summer	Lecture	Differential Equations (MATH 0290, 9 students)
	2013	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

COMPUTER SKILLS

Web: Drupal, HTML/CSS
Research: MCell/DReAMM, R, NEURON, UNIX, Mathematica, XPP
Languages: Python (Numpy, Scipy, Matplotlib), MATLAB

Programming Projects

Py_XPPCALL: Open source Python binding to XPPAUT with a focus on ease of use and extensive documentation.

https://github.com/youngmp/Py_XPPCALL

XPPScripts: A collection of Python scripts written to modify XPP data.

<https://github.com/youngmp/xppscripts>