

Address Department of Mathematics
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Date of Birth 09/20/1992

EDUCATION

Clarkson University(Department of Mathematics) Chicago, IL, USA

Ph.D., Applied mathematics Jan 2016- Dec 2018

- Advisor: Dr. Rana Parshad and Dr. Joseph Skufca

M.A., Applied Mathematics Aug 2014- Dec 2015

- Advisor: Dr. Adom Giffin

Huaibei Normal University(Department of Mathematics and Statistics) Huaibei, Anhui, China

B.A., Applied Statistics Sep 2010- Jul 2014

EMPLOYMENT AND EXPERIENCE

- Term Assistant Professor at DePaul University Jan 2019-today
 - Teach Discrete Mathematics
 - Teach Business Calculus
- Research Assistant at Iowa State University (NSF via DMS-1839993) Jul 2018-Dec 2018
 - Optimal implementation comparisons between classic analysis and pure harvesting
 - Help with the preparation of a grant proposal
- REU conference at Stephen F. Austin State University Jul 14-18, 2018
 - Mentoring undergraduate for TYC projects
 - Participate in mathematical modeling of a modified TYC strategy
- Research Assistant at Clarkson University (NSF via DMS-1715377) Jan 2018-Jun 2018
 - Responsible for the mathematically modelling for controlling invasive species(Guppy Meso-cosm)
 - Provide stability analysis and bifurcation analysis for the biological system
 - Perform statistical analysis for the given data
- Instructor at Clarkson University Aug 2017-Dec 2017

- Teach Co-Calculus II
- Teaching assitsant at Clarkson University Jun 2015-Dec 2017
 - Teach Calculus II recitation class(2016-2017)
 - Teach Statistics recitation class (2015-2016)
 - Grading, Office hours
- Industrial Math/Stat Modeling Workshop at North Carolina Jul 22-Jul 27 2015
 - Group cooperation to investigate the relationship between the microbiome and environmental characteristics
 - Writing report
- Working for CITeR projects with Prof. Schuckers at Clarkson University Feb-Jun 2015
 - Collect and deal with data with CITeR projects.
 - Analysis of facial recognition
- Commissioner for data analysis at Qihoo 360- Anhui Branch, China Sep 2013-Jul 2014
 - Record daily sales and report to Beijing headquarters
 - Data analytics: mainly compare daily, weekly, monthly sales
- English teacher (part time) at Lianxiang Education tutoring institution, China 2012-2013
 - Teach students the course– “New Concept English”
 - Teach stuents how to speak, listen, read and write English

GENERAL RESEARCH INTEREST

- Dynamical systems and differential equations
- Mathematically modelling in biological systems
- Optimal Control
- Statistical Data Analysis; Data Mining

PUBLICATIONS

[09] Binayak Nath, Rana D Parshad, **Jingjing Lyu**, Krishna pada Das. *A study of Chaos and its control in a harvested tri-trophic food chain model with alternative food source and diffusion effect*. Submitted to Applied Numerical Mathematics, Nov 2018.

[08] Saikat Batabyal, Debaldev Jana, **Jingjing Lyu**, and Rana D. Parshad. *Explosive predator and mutualistic preys: A comparative study*. Submitted to Communications in Nonlinear Science and Numerical Simulation, Oct 2018.

[07] **Jingjing Lyu**, Pamela Schofield, Matthew Beauregard, and Rana Parshad. *A Comparison of the Trojan Y Chromosome Strategy to Harvesting Models for Eradication of Non-Native Species*. Submitted to Natural Resource Modeling , Oct 2018. An arXiv preprint is availabe at <http://arxiv.org/abs/1810.08279>.

- [06] Rana Parshad, Said Kouachi, and **Jingjing Lyu**. *Global dynamics of a PDE model for eradication of invasive species*. Submitted to Advances in Difference Equations, Aug 2018.
- [05] **Jingjing Lyu**, Linda Auker, Anupam Priyadarshi, and Rana Parshad. *The effects of invasive epibionts on crab-mussel communities: a theoretical approach to understand mussel population decline*. Submitted to Mathematical Biosciences, under review, Jul 2018. Also available at <http://arxiv.org/abs/1810.04256>.
- [04] Ranjit Kumar Upadhyay and Swati Mishra, Rana Parshad and **Jingjing Lyu**, Aladeen Al Basheer. *Investigation of an explosive food chain model with interference and Inhibitory effects*. IMA Journal of Applied Mathematics, 82(6), pp.1209-1237, 2017.
- [03] Aladeen Al Basheer, **Jingjing Lyu**, Adom Giffin, and Rana D. Parshad. *The Destabilizing Effect of Cannibalism in a Spatially Explicit Three-Species Age Structured Predator-Prey Model*. Complexity, 2017.
- [02] Erin Backman, Christine Chai, **Jingjing Lyu**, Shant Mahserejian, Hong Tran, Shirin Yavari. *Investigating the Relationship Between the Microbiome and Environmental Characteristics*, published at “ <https://dukespace.lib.duke.edu/dspace/handle/10161/14287> ”, Jul 2015.
- [01] Sai Wei, **Jingjing Lyu**. *The Assessment and Utilization on Straw Resources in the Major Production Regions of China*. China Animal Industry, volume 394, p56-58, Nov 2013.

PRESENTATIONS

- *A comparison of the TYC strategy to harvesting models*, SIAM 2018 Central States Section Conference at the University of Oklahoma, Norman, OK, Oct 6, 2018.
- *Optimal implementation of the Trojan Y Chromosome Eradication Strategy and a new alternative strategy*, Mathematical Biology REU at Stephen F. Austin State University, Nacogdoches, TX, July 17, 2018.
- *The effects of invasive epibionts on crab-mussel communities*, 2nd Mathematics Conference and Competition of Northern New York (MCCNNY), Potsdam, October 28, 2017.
- *Epibiont Dynamics*, 1st Annual Spring Research and Project Showcase, Clarkson University, April 8, 2017.
- *Investigating the Relationship Between the Microbiome and Environmental Characteristics*, Industrial Math/Stat Modeling Workshop, North Carolina State University, July 22, 2015.

SOFTWARE SKILLS

- Matlab
- Maple
- SPSS
- Microsoft Office: Word, Excel, Powerpoint

AWARDS

- Sanda Briggs Outstanding Teaching Assistant Award for Mathematics, Clarkson Univeristy, 2018.
- Teaching awards from Department of Mathematics, Clarkson University, 2015-2017.
- Best presentation award at the 2nd Mathematics Conference and Competition of Northern New York (MCCNNY), Potsdam, Oct 2017
- Travel rewards to attend Industrial Math/Stat Modeling Workshop at North Carolina State University, Jul 2015
- Outstanding Youth League Cadres, Huaibei Normal University, 2014
- First class people's scholarship, Huaibei Normal University, 2014
- National encouragement Scholarship, China, 2013
- Merit Student, Huaibei Normal University, 2013
- National Scholarship, China, 2012

REFEREES

- Dr. Rana Parshad: rparshad@iastate.edu
- Dr. Joseph Skufca: jskufca@clarkson.edu
- Dr. Guohui Song: gsong@clarkson.edu