

Curriculum Vitae

Personal Information

Name Clinton H. Durney
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Education

- Aug. 2020 **The University of British Columbia, Vancouver, BC**
Ph.D in Applied Mathematics
Dissertation: Applications of Vertex Modelling to Epithelial Morphogenesis
Advisor: Dr. James J. Feng
- May, 2013 **The Ohio State University, Columbus, OH**
M.S. in Mathematics
Thesis: A Two-Component Model for Bacterial Chemotaxis
Advisor: Dr. Chuan Xue
- May, 2011 **Virginia Polytechnic Institute and State University (Virginia Tech), Blacksburg, VA**
B.S. in Physics
B.S. in Mathematics

Publications

4. **Durney, C.H.**, Harris T.J.C, and Feng J.J. "Dynamics of PAR proteins explain the oscillation and ratcheting mechanisms in dorsal closure." *Biophysical journal* 115.11 (2018)
3. **Durney, C.H.**, Case, S.O., Pleimling, M., and Zia, R.K.P. "Stochastic evolution of four species in cyclic competition." *Journal of Statistical Mechanics: Theory and Experiment* 2012.06 (2012)
2. **Durney, C. H.**, Case, S.O., Pleimling, M., and Zia, R.K.P. "Saddles, arrows, and spirals: deterministic trajectories in cyclic competition of four species." *Physical Review E* 83.5 (2011)
1. Case, S.O., **Durney, C.H.**, Pleimling, M., and Zia, R.K.P. "Cyclic competition of four species: Mean-field theory and stochastic evolution." *EPL (Europhysics Letters)* 92.5 (2011)

Professional Experience

- May 2013 – June 2015 **Varee International School Chiang Mai, Thailand**
A/AS Level Mathematics and Physics Instructor
- Taught to the Cambridge International (CIE) Examinations
 - Taught Pure Mathematics 1-3, Statistics 1, Mechanics 1 syllabi
 - Taught entire Physics syllabus
 - Managed an internationally diverse classroom
 - Worked in a diverse workplace

Talks - Selection of Contributed and Invited

- Aug., 2020 **Quantifying cellular contributions to *Drosophila* salivary gland invagination**, *Society for Mathematical Biology (SMB) Annual Meeting*, Virtual Conference
- Jan., 2020 **3D modelling of *Drosophila* salivary gland invagination**, *Mathematical Biology Seminar*, University of British Columbia, Vancouver, BC

- July, 2019 **Dynamics of PAR proteins explain oscillation and ratcheting mechanisms in *Drosophila* dorsal closure**, *Society for Mathematical Biology (SMB) Annual Meeting*, Montreal, Quebec
- July, 2019 **Dynamics of PAR proteins explain oscillation and ratcheting mechanisms in *Drosophila* dorsal closure**, *Frontiers in Biophysics*, Simon Fraser University, Vancouver, BC
- March, 2018 **Translocation and interaction of PAR proteins explain oscillation and ratcheting mechanisms during *Drosophila* dorsal closure**, *APS March Meeting*, Los Angeles, CA
- March, 2017 **A proposed mechanochemical process for *Drosophila* dorsal closure**, *UBC Mathematical Biology Seminar*, University of British Columbia, Vancouver, BC
- Aug., 2011 **Four species in cyclic competition: mean-field and stochastic results**, Workshop for Young Researchers in Mathematical Biology, Mathematical Biosciences Institute, Columbus, OH
- March, 2011 **Mean-field theory of four species in cyclic competition**, *APS March Meeting*, Dallas, TX
- Dec., 2010 **Mean-field Theory (MFT) predictions for four species in cyclic competition**, *104th Statistical Mechanics Conference*, Rutgers University, New Brunswick, NJ

Workshops

- June, 2019 **Bridging Cellular and Tissue Dynamics from Normal Development to Cancer: Mathematical, Computational, and Experimental Approaches**, BIRS International Research Station, Banff, AB
- May, 2017 **PIMS Workshop on stochastic and deterministic modelling with PDEs**, Jasper National Park, AB
- June, 2012 **MBI - NIMBioS - CAMBAM Summer Graduate Workshop on Stochastics Applied to Biological Systems**, Mathematical Biosciences Institute, Columbus, OH
- May, 2012 **Evolution Equations: A Workshop in honor of Terence Tao**, Northwestern University, Evanston, IL
- Feb., 2011 **SAMSI Two-Day Undergraduate Workshop**, SAMSI, Research Triangle Park, Raleigh, NC

Awards

- 2019 Stanley M. Grant Scholarship in Mathematics, University of British Columbia
- 2019 Department of Mathematics Travel Grant, University of British Columbia
- 2019 Institute of Applied Mathematics Travel Grant, University of British Columbia
- 2015-2020 International Tuition Award, University of British Columbia
- 2015-2020 Faculty of Science PhD Tuition Award, University of British Columbia
- 2009 Daniel C. and Delia F. Grant Scholarship, Virginia Tech Physics Dept.
- 2008 Richard C. Coleman Scholarship, Virginia Tech Physics Dept.