

## KENDRA A. BATCHELDER

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### EXPERIENCE

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01/20 - Present	Research Assistant and Adjunct Instructor <ul style="list-style-type: none"><li>○ Analyzed bacterial genomes for antibiotic-resistance genes</li><li>○ Employer: University of Maine at Presque Isle, 181 Main St Presque Isle, ME 04769</li><li>○ Supervisor: Larry Feinstein</li></ul>	Presque Isle, ME
09/16 - 06/18	Middle School Mathematics Teacher at Bangor School Dept. <ul style="list-style-type: none"><li>○ 7<sup>th</sup> Grade Math, Algebra 1 and Geometry Teacher</li><li>○ Employer: Bangor School Department, 73 Harlow St Bangor, ME 04401</li><li>○ Supervisor: Edward Hackett</li></ul>	Bangor, ME
09/15 – 06/16	High School Mathematics Teacher at Nokomis High School <ul style="list-style-type: none"><li>○ Algebra I and Geometry Teacher</li><li>○ Employer: RSU 19, 266 Williams Rd Newport, ME 04953</li><li>○ Supervisor: Mary Nadeau</li></ul>	Newport, ME
06/11 – 08/15	Computational Modeling, Analysis of Images and Numerical Experiments Lab <ul style="list-style-type: none"><li>○ Identify and classify mammographic tissue through physical characteristics</li><li>○ Statistical Analysis of large data sets</li><li>○ Participate in meetings with hospitals and international labs</li><li>○ Train undergraduates in computational techniques</li><li>○ Employer: University of Maine, 79 Flagstaff Rd Orono, ME 04473</li><li>○ Supervisor: Andre Khalil</li></ul>	Orono, ME
08/11 - 05/14	Teaching Assistant <ul style="list-style-type: none"><li>○ Instructor for Algebraic Models in Our World</li><li>○ Instructor for College Algebra</li><li>○ TA for Pre-Calculus, Calculus I, Introduction to Statistics</li><li>○ Tutor for 100 and 200 level courses</li><li>○ Employer: University of Maine, 79 Flagstaff Rd Orono, ME 04473</li><li>○ Supervisor: Robert Franzosa</li></ul>	Orono, ME

### EDUCATION

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08/13 – 05/15	UNIVERSITY OF MAINE Graduate Studies <ul style="list-style-type: none"><li>○ Interdisciplinary PhD: Computational Biomedicine</li><li>○ Course Work Completed</li></ul>	Orono, ME
08/11 – 05/13	UNIVERSITY OF MAINE Graduate Studies <ul style="list-style-type: none"><li>○ Master of Arts in Mathematics</li><li>○ Thesis: <i>Characterization of Mammographic Breast Lesions and their Microenvironment: An Application of a Wavelet-Based Multifractal Method</i></li><li>○ Graduate Student Government</li></ul>	Orono, ME

01/08 –05/11 UNIVERSITY OF MAINE Orono, ME  
 Undergraduate Studies

- o Bachelor of Science in Secondary Education and Mathematics
- o Summa Cum Laude
- o Pi Mu Epsilon President
- o Math and Science Future Teachers' Club

**CONFERENCES AND INSTITUTES**

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April 2020	Maine Biological and Medical Sciences Symposium Presentation: Identifying antibiotic-resistance genes and resistance mechanism in nosocomial bacterial pathogens	Online
April 2013	Graduate Exposition	Orono, ME
November 2012	Mechanogenetic of Cancer	Lyon, France
July 2012	Maine Cancer Foundation	Gray, ME
May 2012	Maine Biological and Medical Science Symposium Presentation: <i>Successful Discrimination Between Benign and Malignant Breast Lesions using a Wavelet-Based Multifractal method</i>	MDI, ME
July 2011	Maine Cancer Foundation	Gray, ME
November 2009	Northeast Section of Mathematical Association of America	Springfield, MA
November 2010	Northeast Section of Mathematical Association of America	Providence, RI
July 2010	NASA Undergraduate Student Research Project Internship Mechanical Systems Branch (Declined)	Langley, VA
July 2009	NASA Pre-Service Teacher STEM Institute	Langley, VA

**SKILLS**

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- o Microsoft Word, Excel and PowerPoint
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  - o TCL
  - o Communication
  - o Grant Writing

**AWARDS AND HONORS**

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2014 – 2015	Mathematics Research Assistantship through Maine Cancer Foundation
2011 – 2014	Mathematics Department Teaching Assistant
Summer 2013	Maine Cancer Foundation and Institute for Molecular Biophysics Award through CompuMAINE
July 2013	Math Department Graduate Research Award
May 2013	Mathematics Department's Outstanding Teaching Assistant
Summer 2012	Maine Cancer Foundation Award through CompuMAINE
Summer 2011	Maine Cancer Foundation Award through CompuMAINE
May 2011	Mathematics Department's Outstanding Graduating Senior
May 2010	Mathew and Ramona Highland's Scholarship
May 2009	Presidential Achievement Award
2008 – 2011	University of Maine Dean's List

**TALKS**

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Spring 2013	Characterization of Mammographic Breast Lesions and their Microenvironment: An Application of a Wavelet-Based Multifractal Method
Fall 2012	Characterization of Mammographic Breast Lesions

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## **PUBLICATIONS**

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Batchelder KA, Tanenbaum AB, Albert S, Guimond L, Kestener P, et al. (2014) Wavelet-Based 3D Reconstruction of Microcalcification Clusters from Two Mammographic Views: New Evidence That Fractal Tumors Are Malignant and Euclidean Tumors Are Benign. PLoS ONE 9(9): e107580. doi:10.1371/journal.pone.0107580.

Marin, Z, Batchelder, KA, Toner, BC, Guimond, L, Gerasimova-Chechkina, E, Harrow, AR, Arneodo, A and Khalil, A 2017 Mammographic evidence of microenvironment changes in tumorous breasts. Medical Physics, 44, 1324-1336.

Plourde, SM, Marin, Z, Smith, ZR, Toner, BC, Batchelder, KA, Khalil, A 2016. Computational growth model of breast microcalcification clusters in simulated mammographic environments. Computers in Biology and Medicine, 76, 7-13.

## **MANUSCRIPTS IN PROGRESS**

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Feinstein, L, Batchelder, K, Tilley, L, Stafford, G. Antibiotic Resistance Gene Dispersal Patterns in Pathogenic Clinical Isolates

Feinstein, L, Batchelder, K, Tilley, L, Stafford, G. Complete Genome Sequences of 28 Northern Maine Clinical Isolates

Gerasimova-Chechkina , E, Toner, B, White, B, Freynd, G, Antipev, I, Batchelder, K, Khalil, A. Differential loss of mammographic tissue homeostasis in contralateral tumorous breasts

## **PATENTS**

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Methods of cancer detection

Patent number: 10467755

Date of Patent: November 5, 2019

Assignee: UNIVERSITY OF MAINE SYSTEM BOARD OF TRUSTEES

Inventors: Andre Khalil, Kendra Ann Batchelder

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