

# Dr. Christine Cole

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## EDUCATION

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**University of Washington** Winter 2005 – Fall 2011  
Ph.D., Applied Mathematics, Advisor: Hong Qian

**University of Washington** Fall 2003 – Fall 2004  
M.S., Applied Mathematics

**Macalester College** Fall 1998 – Spring 2002  
B.A., Mathematics, B.A., Physics, *Cum Laude*

## EXPERIENCE

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**Senior Instructor** Seattle University Fall 2017 – Present

**Instructor** Seattle University Fall 2013 – Spring 2016

*MATH 1010 — College Algebra for Business*  
Winter 2016, Fall 2015, Fall 2014, Fall 2013 *Previously: MATH 118, MATH 1120*

*MATH 1021 — Precalculus - Algebra*  
Fall 2017, Winter 2015, Winter 2014 *Previously: MATH 120, MATH 1321*

*MATH 1022 — Precalculus - Trigonometry*  
Spring 2015 *Previously: MATH 1322*

*MATH 1335 — Calculus II*  
Spring 2017, Fall 2015

*MATH 1336/1337 — Calculus III/Infinite Sequences and Series*  
Spring 2015, Spring 2014 *Previously: MATH 136/137*

*MATH 2330 — Multivariable Calculus*  
Fall 2017, Fall 2016, Winter 2015, Fall 2014, Winter 2014, Fall 2013 *Previously: MATH 232*

*UCOR 1200 — Quantitative Reasoning - Mathematics of Epidemics*  
Winter 2016, Spring 2016

**Visiting Assistant Professor** Pacific Lutheran University Spring 2013

*MATH 115 — College Algebra & Trigonometry*  
Spring 2013

*MATH 152 — Calculus II*  
Spring 2013

- Instructor (Graduate Student)** University of Washington Spring 2006 – Spring 2009  
*AMATH 351 — Introduction to Differential Equations and Applications*  
 Spring 2006  
*AMATH 383 — Introduction to Continuous Mathematical Modeling*  
 Spring 2009, Summer 2008
- Teaching Assistant (Graduate Student)** University of Washington Fall 2004 – Winter 2009  
*MATH 111 — Algebra with Applications*  
 Winter 2009, Fall 2008  
*MATH 120 — Precalculus*  
 Fall 2004  
*MATH 125 — Calculus with Analytic Geometry II*  
 Winter 2004, Fall 2003
- GK-12 Fellow** University of Washington/Emerson Elementary School Fall 2006 – Spring 2008  
*"Mathematics Specialist" in third and fourth grade classrooms, supporting teachers learning to teach inquiry-based mathematics*  
 Fall 2006-Spring 2007, Fall 2007-Spring 2008

## REFEREED JOURNAL PUBLICATIONS

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- Cole, C. L.**, Qian H. "The Brownian Ratchet Revisited: Diffusion Formalism, Attraction, and Multiple Filamentous Bundle Growth." *Biophysical Reviews and Letters*, Vol. 6, No. 1&2 (2011), 59-79.
- Cole, C. L.**, Qian H. "Simple Chemical Model for Facilitated Transport with an Application to Wyman-Murray Facilitated Diffusion." *Acta Phys. -Chim. Sin.*, Vol. 26, No. 11 (2010), 2857-2864.
- Heyman, J. N., Wrage, H., **Lind, C.**, Hebert, D., Neocleous, P., Crowell, P. A., Müller, T., Unterrainer, K. "Terahertz Emission From Magneto-plasma Oscillations in Semiconductors." *Ultrafast Phenomena in Semiconductors VI*, Tsen, Song, Jiang, Editors, Proceedings of SPIE, Vol. 4643 (2002) 12-18.

## PRESENTATIONS

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- Oral Reviews in Calculus* 2016  
 Contributed Talk in Session: Innovations in the Undergraduate Curriculum, North Central Section of the Mathematical Association of America Spring Meeting, Macalester College.
- Panel Discussion: Preparing your file for Tenure or Promotion* 2016  
 Co-organized panel during the Section NExT Session at the Pacific Northwest Section of the MAA Meeting, Oregon State University.
- Mathematical Models for Molecular Motors - The Polymerization Ratchet*  
 Seattle University Mathematics Department Colloquium. 2013  
 Pacific Lutheran University Mathematics Department Colloquium. 2011
- The Brownian Ratchet Revisited: Multiple Filamentous Bundle Growth* 2012  
 Contributed Talk in Mini-Symposium: MS36 Diffusion-Driven Pattern Formation in Biological Model Systems, SIAM Conference on Nonlinear Waves and Coherent Structures, University of Washington.

- The Brownian Ratchet Revisited: Multiple Filamentous Bundle Growth* 2011  
Poster Presentation, Frontiers in Biophysics, University of British Columbia.
- A Simple Chemical Kinetic Model for Facilitated Diffusion* 2009  
Poster Presentation, International Conference on Mathematical Biology and Annual Meeting of the Society for Mathematical Biology, University of British Columbia.
- Panel 7: Effects of the University of Washington's GK-12 project on fellows' teaching pedagogy and on elementary school teachers' and students' content knowledge.* 2008  
Panelist, Joint Mathematics Meetings, San Diego, CA.

## HONORS AND AWARDS

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### Pacific Northwest Section NExT Fellow (2015-2016)

Awarded a fellowship in the Pacific Northwest Section NExT (New Experiences in Teaching) program: a professional development program for new college-level faculty interested in improving the teaching and learning of undergraduate mathematics.

### Boeing Teaching/Service Award (2009)

Awarded for outstanding teaching and service by a student in the department of Applied Mathematics at the University of Washington in the 2008-2009 academic year.

## SERVICE

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### University Service

- Faculty Assessment Report Review Committee* 2016  
Reviewed program assessment reports from ten departments/programs spread throughout the university to ensure that requirements are being met for external accreditation of the university.

### Department Service

- Textbook Selection Committee Member* Fall 2017–Present  
Member of the committee selecting a new textbook for MATH 1000: Functions & Algebraic Methods.
- SMART Friday Co-organizer* Fall 2017–Present  
Co-organizing undergraduate research talks for the Department of Mathematics.
- Teaching Seminar Coordinator* Fall 2016–Present  
Planning and coordinating quarterly teaching-focused seminars for the Department of Mathematics.
- Mentor* Spring 2016  
Served as a faculty mentor for new adjunct faculty member, Dr. Abigail Wachter, in MATH 1010: College Algebra for Business. Discussed course content and design with Dr. Wachter, observed her teaching, and reviewed her syllabus and exams.
- Mentor* Fall 2015  
Served as an informal faculty mentor for new adjunct faculty member, Mr. Stephen Scherba, in MATH 1010: College Algebra for Business. Discussed course content and design with Mr. Scherba, and reviewed his syllabus.
- Textbook Selection Committee Chair* Winter 2015 – Spring 2015  
Chaired the committee that selected a new textbook for College Algebra for Business and Business Calculus. (New text has been in use since Fall 2015.)

*Generic Syllabi Revision Project* Fall 2014 – Winter 2015  
Revised generic syllabi for lower division mathematics courses to ensure that they meet university standards.

*Mentor* Fall 2014  
Served as a faculty mentor for new visiting instructor, Dr. A.J. Stewart, in Math 1010: College Algebra for Business. Discussed course content and design with Dr. Stewart, and reviewed his syllabus and exams.

## External Professional Service

*2018 MAA PNW Section Meeting - Contributed Program Chair* April 2016-Present  
Serving as a member of the local planning committee for the MAA PNW Section meeting that will be hosted by Seattle University in 2018.

*Panel on Finding Teaching Jobs & Working at a Primarily Undergraduate Institution* May 2015  
Served as a panelist at the University of Washington Applied Mathematics department graduate student SIAM chapter meeting.

## PROFESSIONAL DEVELOPMENT

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*Introduction to Inquiry Based Learning Workshop/Minicourse* June 16, 2017  
Participated in a workshop on Inquiry Based Learning led by Stan Yoshinobu from California State Polytechnic University.

*MAA PNW Section Meeting* June 16-18, 2017  
Attended the MAA PNW Section meeting at Gonzaga University in June 2017, and represented the local planning committee for the 2018 meeting, which will be hosted by Seattle University.

*Wolfram Technologies in Education and Research Seminar* October 26, 2016  
Represented the Department of Mathematics at a seminar hosted by the Department of Physics to learn about advances in using *Mathematica* in education and research.

*MAA NCS Section Meeting* April 16, 2016  
Attended the MAA NCS Section meeting at Macalester College in April 2016, gave a talk on the oral review program in the session on innovations in the undergraduate curriculum, and co-presented reflections and memories celebrating the career of Dr. David Bressoud.

*MAA PNW Section Meeting* April 1-2, 2016  
Attended the MAA PNW Section meeting at Oregon State University in April 2016, and organized a panel discussion on preparing for promotion or tenure during the Section NExT activities.

*Joint Mathematics Meetings* January 9, 2016  
Attended the Joint Mathematics Meetings (the yearly meeting of the major professional mathematical associations) in Seattle, WA.

*Pacific Northwest Section NExT Fellow* 2015-2016  
Awarded a fellowship in the Pacific Northwest Section NExT (New Experiences in Teaching) program: a professional development program for new college-level faculty interested in improving the teaching and learning of undergraduate mathematics.

*Year of the Teacher Events* 2015-2016  
Attended and participated in Year of the Teacher Events at Seattle University.

- Strengths Finder Workshop* June 4, 2015  
Participated in a Strengths Finder workshop with other faculty from the Mathematics department, facilitated by Ana White.
- Difficult Conversations Seminar* May 7, 2015  
Attended a one-hour seminar on difficult conversations in the workplace, presented by Ron Daily, sponsored by the ACSE.
- MAA PNW Section Meeting* April 10-11, 2015  
Attended the MAA section meeting at UW Tacoma in April 2015, and participated in the Section NExT activities.
- Inquiry-Based Learning Workshop: Discovering the Art of Mathematics* February 27-28, 2015  
Participated in a two-day workshop on Inquiry Based Learning in mathematics classes, led by Chrissi von Renesse and Volker Ecke from Westfield State University.
- Improving Student Learning by Addressing Student and Teacher Misconceptions about Learning Workshop* January 15, 2015  
Attended the workshop, presented by Dr. Stephen Chew from Samford University.
- MAA Mathfest* August 2014  
Attended Mathfest (the summer meeting of the MAA) in Portland, OR.

## PROFESSIONAL AFFILIATIONS

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Mathematical Association of America (MAA)