



Mathematical Matters

The Newsletter of the Pacific Northwest Section of the MAA
Spring 2019

The Spring Meeting of the PNW MAA Hosted by the University of Portland, April 12-13th, 2019

This year's annual meeting at the University of Portland kicks off with the PNW Section NExT program on Friday from 8:00-2:30 for section and national NExT fellows and invited guests. The program for all opens on Friday afternoon with two minicourses by Su Doree and Rob Beezer from 3:00-5:30 pm. There will be a student reception from 5:30- 7:30. The evening plenary will be by the 2018 MAA Polya Lecturer, Carlos Castillo-Chavez at 8:00 pm, with a reception following the talk.

Saturday opens with a talk by MAA Visitor Su Doree and for the afternoon plenary Carlos will return to talk about his experiences with REUs and modeling. After each of these there will be both student talks and special sessions for the

general program. There will be an evening reception followed by the PNW Section Awards and the closing plenary by Brian Katz!

Abstracts are due Friday, March 15th. More information, including a list and descriptions of plenary talks, minicourses, and special sessions, an Abstract template, and Travel and Hotel details, is available at the meeting website:

<https://college.up.edu/math/pnw-maa.html>

Be sure to register online before March 29th to avoid late fees: [registration link](#)

Please e-mail: pnwmaa2019@up.edu if you have questions or need more information.



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PNW MAA Distinguished Teaching Award

By Jessica Sklar

The PNW MAA is pleased to announce that the Distinguished Teaching Award Winner for 2019 is Tom Edgar of Pacific Lutheran University.

Tom completed his PhD at the University of Notre Dame and joined the faculty at PLU in 2009. Tom is an extraordinarily successful and dedicated teacher, who has had a profound impact on students and instructors both within and beyond his institution. He consistently looks for ways in which he can contribute to the mathematical community using his knowledge and teaching experience, and collaboration plays a starring role in his views and practice of mathematics.

Reading his student evaluations from PLU and watching him work with students—struggling students in service courses, senior majors working on capstones—it becomes clear that his enthusiasm is inspiring. Tom’s office hours and outside-of-office hours overflow with both current and former students, and Tom regularly introduces his colleagues to novel teaching practices: he was the first person in his department to implement blogs as a standard element of his courses, using them to help his students think about and write about mathematics, and he brought the SageMath computing environment to campus, using it to enhance student learning in his upper-level linear and abstract algebra courses. He also designed two innovative inquiry-based upper-level topics courses at PLU: an enumerative combinatorics course consisting of 150 problems and 20 probing summary questions, and a course that introduced approximately 120 “proofs without words” and required that students both discover the theorems that they represented, and write worded proofs for those theorems. He also has designed numerous guided-inquiry activities for other PLU courses of all levels.

His ability to engage and excite his students is reflected in the number of students who have chosen him to serve as their primary or

secondary senior capstone advisor. Tom has been the capstone advisor for more than 50 PLU students; on average, he’s advised between a quarter and a third of PLU’s math major graduating class each year. Moreover, Tom’s work with undergraduate research students has been extensive and exceedingly productive. Tom twice received university summer support to fund PLU students to conduct research in combinatorial number theory, and he spent two summers as a mentor at the SUMMER REU at Seattle University. In all, he has conducted research with a total of 18 undergraduates from 10 different universities, resulting in 8 published papers so far and an Outstanding Student Poster award at the Joint Mathematics Meetings.

Tom’s work as a teacher extends beyond PLU in other ways. During three summers spent at the University of Notre Dame, he designed intensive 4-week inquiry-based workshops—one on probability/statistics, one on number theory, and one on linear algebra and voting theory—for high school teachers and students. More recently, Tom has begun working with kids aged 9–11 and their parents at Epsilon Camp, a two-week residential summer camp that seeks to “connect precocious children to professional mathematics, and build a supportive community with peers and families” through an intensive student program and parent workshop.



Dr. Tom Edgar

Conferences and Contests in the PNW



Join WWU's family friendly brain-stretching outdoor adventure race:

The WWU Great Puzzle Hunt! Open to all!

REGISTRATION CLOSES April 11, 2019
PUZZLE HUNT GEAR SALES CLOSES April 3, 2019

Event is on Saturday, April 13, 2019 @ 10:00 a.m.
Red SquareT-Shirts – Music – Food – Prizes – and More!
\$8 Students, \$15 Non-Students – Teams of up to 6
Check-in 10 a.m. Hunt starts at 11 a.m. Prizes awarded at 4:30 p.m.

Register here – <https://greatpuzzlehunt.com/register>

Check out Official Puzzle Gear – <https://www.wwu.edu/emarket/puzzlehunt/#tshirts>

YouTube 36 seconds – <https://www.youtube.com/watch?v=paBGQzMCdUo>

Be a part of the fun! All shirt sale proceeds go to support the Puzzle Hunt, a non-profit 501(c)(3)

Pacific Inland Mathematics Undergraduate Conference

Looking for a Spring Term opportunity to present your research?

Undergraduates at Universities and Colleges throughout the Pacific Inland Region are invited to participate in the second annual Pacific Inland Mathematics Undergraduate Conference. Talks and Posters accepted.

Save the Date: Saturday, March 30, 2019
2019 Location: Gonzaga University Website:
<https://sites.google.com/view/pimuc>

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KRYPTOS: A Series of Cryptanalysis Challenges

April 4 – 8, 2019

KRYPTOS is a contest open to undergraduate and high school students. The theme of the contest is centered around the breaking, or cryptanalysis, of ciphers (secret writing). Each challenge presents contestants with a brief scenario together with some ciphertext (encoded message). The goal is to discover the original plaintext message!

While it is not the intent of this contest to test overly technical aspects of cryptanalysis or advanced mathematical algorithms, some familiarity with basic codemaking and codebreaking is certainly helpful. See the

[KRYPTOS web page](#) for some helpful resources.

We had over 140 students participate last year and many have been clamoring for more! Please announce this contest to your students! Cool prizes are sent out to first and second place winners!

Visit the [competition site](#) for more information – including instructions on registering students for the contest and a one-page flyer that you can post around your department or campus. Registration will begin in early March.

KRYPTOS is sponsored by the MAA Pacific Northwest Section with Central Washington University and Western Oregon University.



Announcing and Inviting Applications for NSF SIMIODE Summer 2019 Workshops

**Sponsored by the National Science Foundation and SIMIODE
July 2019 at George Fox University, Newberg OR USA**

18-21 July 2019 4-Day Intensive SIMIODE Developer's Workshop

Those with experience and ideas for writing differential equations modeling scenarios for classroom use are encouraged to apply. DEMARC (Differential Equations Model and Resource Creators) Fellows who are selected for this workshop are fully funded, including travel up to \$600, room & board, and a stipend up to \$600. Applicants are asked to provide evidence of successful modeling scenario development. The workshop will provide training and support for creating new modeling scenarios. See <https://www.simiode.org/nsf2019devworkshop> for complete information and application process.

21-26 July 2019 5-Day SIMIODE Practitioners Workshop

Ideal for those who would like to learn more about how to foster a modeling-first approach in the classroom. Workshop includes hands-on demonstration, group discussions, and activities facilitated by experienced faculty. MINDE (Model INstructors in Differential Equations) Fellows selected for this workshop have a \$300 registration fee and are provided all materials and room & board for 5 days. See <https://www.simiode.org/nsf2019pracworkshop> for complete information and application process.

To learn more about SIMIODE – Systemic Initiative for Modeling Investigations and Opportunities with Differential Equations visit <https://www.simiode.org>.

Contact Information: Dr. Brian Winkel, Director SIMIODE, Director@simiode.org, 26 Broadway, Cornwall NY 12518 USA, 845-534-4887.

News and Notes from the PNW MAA section

Oregon

University of Portland

Herbert A. Medina became Professor of Mathematics and Dean of the College of Arts & Sciences at University of Portland in July 2018. He came to UP from Loyola Marymount University (LMU) in Los Angeles where he had



Dr. Medina

served as faculty since 1992 and as associate dean since 2015. Herbert received his Ph.D. in Mathematics from UC Berkeley and his B.S. in Mathematics/Computer Science from UCLA. He has taught

courses at all undergraduate levels and has published mathematical research in functional analysis, wavelets and polynomial approximations (collaboratively with undergraduates). One of his passions is working to increase participation of historically underrepresented groups in STEM. For example, he is co-founder of mathematics REUs in Puerto Rico and Berkeley, CA that mentor and prepare ethnic minority students and women to pursue advanced degrees in the mathematical sciences.

The mathematics department at the University of Portland is excited to announce that starting Fall 2019 we will be offering a new major in Applied Mathematics. We hope this degree will better meet the needs of our growing body of students who are interested in applied areas as well as attract even more students to the exciting field of mathematics.

Washington

Pacific Luthern University

The PLU Computer Science and Mathematics Departments worked together to create a new Data Science minor, which will be offered beginning in Fall 2019. The minor comprises courses that teach students data management, analysis, and visualization skills, and courses in related topics that are specific to each individual student's chosen discipline.

Tom Edgar is currently the editor-elect for Math Horizons; he will serve as the editor from 2020 to 2024. He encourages those interested in writing for Math Horizons to contact him with ideas.

Future PNW MAA Meetings

2020 University of Alaska Anchorage
2021 Western Washington University
(tentative)