

# SLICE OF PI

Volume 11

Fall 2013 - Spring 2016

A Publication of the Department of Mathematics and Statistics at Washburn University.

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### **The Chair's Corner** **Kevin Charlwood, Chair**

The 2015 – 2016 academic year was a great one for our department. Our number of declared majors continues to climb, to about 60 this spring. Part of the reason for this surge in interest in mathematics (and quantitative disciplines in general) is due to the recent economic downturn, increased media attention, and a shortage of math and science teachers. Among our new declared majors, about 60% are planning on actuarial science, another 20% are pursuing secondary education, and the remaining 20% are going into pure mathematics. We are pleased that over 20 of our students received a total of over \$22,000 from our departmental scholarships this past year.

As far as events within the department this past year, our Math Day on Nov. 17th was a big success, with 20 local high schools represented for our competitive exam and a campus tour. In 2014, we added the Mathnificent Race, a new team competition, which students really enjoyed. Three faculty took five students to the Kappa Mu Epsilon regional convention at University of Nebraska-Kearney, April 1 – 2, 2016. Taylor Balsmeier gave a presentation, "Statistical Analysis of Trends in Ranking and Salaries for Washburn University." The 2018 KME regional convention will be hosted by Truman State University.

We've seen some changes in department staffing over the past three years. Pat Mower retired in Spring 2014, and Hwa Chi Liang took a position at Texas A&M University in Fall 2014. Donna LaLonde left Washburn at the end of 2014 to become Director of Special Projects at the ASA in Washington DC, working with Ron Wasserstein ('78) who is ASA Director. Stephanie Herbster and Beth McNamee joined our department as full-time Lecturers in August 2014; they teach a broad range of courses for us. Dr. Jason Shaw joined the faculty in 2015 to replace Hwa Chi in Actuarial Science; he teaches Mathematical Statistics, Theory of Interest, Stochastic Processes, and Actuarial Mathematics for us. Jason joins us after 10 years at Truman State University.

The past two years, the department has made a significant investment in technology to support our teaching mission. In particular, we purchased three 84" UHD interactive panels for three classrooms, an Elmo system (document camera system), 9 Apple I-pads, 2 MS Surface units, and more. Donations to our department's discretionary fund covered about 75% of the costs; the rest came from our operating budget and 2 successful internal technology grants funded by Washburn. We are most appreciative of the very strong financial support we've received from alumni and friends of the department over the years – we've come a long way since the days of the slide rule!

Each May, Kevin, Mike and Jason meet with our local actuarial advisory board to discuss our program and how we may better serve our students to prepare them for internships and full time employment as actuaries. This spring, 6 local

actuaries joined us for our annual luncheon: Jeffrey Bergman (ASA, at BC/BS), John Blocher (FSA, at SBG), Matt Dinkel ('02, Supervising Assistant Actuary at SBG), Brian Oxendine ('14, ASA, Actuarial Associate at SBG), Ron Schucknecht (ASA, at BC/BS), and Megan Thompson ('12, Actuarial Associate at SBG). This year, discussion focused on how to get students taking and passing SOA exams sooner in their careers, and how best to provide students with appropriate computing skills. We started a new listserv for our actuarial students, to keep them abreast of employment opportunities and to provide a convenient way for them to form study groups, etc.

On October 23, 2015, our department hosted a special Homecoming weekend reception for alumni from our department – more than 50 former graduates attended, and it was a wonderful evening filled with many memories. Some of our retired faculty were in attendance, to help celebrate Washburn's sesquicentennial.

Announcements of future department alumni functions will come via postal mail, so please be sure to keep the Alumni Office apprised of your current address. In the meantime, we always enjoy hearing from our graduates to know how you're doing both personally and professionally – please keep in touch!

## **Spotlight on Graduates 2014 - 2016**

### **Spring 2014**

**Brad Alberts** graduated with a BA in Actuarial Science.

**Carly Boswell** graduated with a BA in Actuarial Science.

**Ron Gudenkauf** graduated with a BS in Actuarial Science.

**Holly Kennedy** graduated with a BS in Pure Math.

**Laura (Kinderknecht) Rezac** graduated with a BA in Mathematics for Secondary Education.

**Yangfang Mao** graduated with a BA in Actuarial Science.

**Garrett Mazachek** graduated with a BA in Pure Math.

**Kim-Vinh Nguyen** graduated with a BA in Pure Math.

**Brian Oxendine** graduated with a BS in Actuarial Science.

### **Fall 2014**

**Brandon Marshall** graduated with a BS in Pure Math.

**Michael McSweeney** graduated with a BS in Actuarial Science.

**Rachael Strobel** graduated with a BA in Mathematics with Emphasis in Secondary Education.

### **Spring 2015**

**Brian Hunter** graduated with a BA in Mathematics for Secondary Education.

**Nicole Lutsenhizer** graduated with a BS in Actuarial Science.

**Jennifer Nesbit** graduated with a BS in Pure Math.

**Corey Stevens** graduated with a BA in Actuarial Science.

**Shane Stovall** graduated with a BA in Actuarial Science.

**Paul Thurbon** graduated with a BA in Actuarial Science.

### **Fall 2015**

**Christine Groves** graduated with a BA in Pure Math.

**Paige (Eslick) Spade** graduated with a BA in Mathematics for Secondary Education.

**Joshua Vega** graduated with a BS in Pure Math and English.

### **Spring 2016**

**Colin Moriarty** graduated with a BA in Mathematics for Secondary Education.

**Kevin Mosier** graduated with a BA in Actuarial Science.

**Thilo Schlenker** graduated with a BA in Actuarial Science.

**Payton Soicher** graduated with a BS in Actuarial Science.

Editor's Note: This edition covers more time than our usual annual newsletter. If anything has been omitted, or there is something you want included in the next edition, please send a memo to the editor. See attached sheet.

## Club Mathematica

The '15 – '16 Club Mathematica (aka Math Club) officers were Kent Van De Mark (President), Katelynn Robinson (Vice President), Taylor Balsmeier (Secretary), and Jonathan Tyler (Treasurer). We typically meet on a Tues/Thurs. over a pizza lunch once a month, and often feature a guest speaker.

Since the last edition of Slice of Pi, Math Club has had the privilege of hearing presentations from faculty, current students, and alumni. We were fortunate to have many wonderful presentations during the 2015 - 2016 academic year. Talks included: Dr. Rob Weigand from SoBu spoke on alphas affecting investments; Jason Shaw showed several card tricks and explained the mathematics behind them; John Blocher, Matt Dinkel ('02) and Dave Sedich from SBG/SE2 spoke on preparing for interviews for actuarial internships and full-time positions; and, Dr. Sarah Cook played the guitar and led a Pi Day song about the number pi to the tune of Don McLean's "American Pie."

During the 2014 - 2015 academic year, we had three Math Club presentations. One was a video presentation on, "The Secrets of Mental Math." Jessica Luse, Secondary Mathematics Educator at Washburn Rural High School, spoke on her experiences in teaching high school mathematics. Misty Long ('10) and three other K-State math graduate students led a panel discussion on what graduate school in mathematics is like.

In 2013 – 2014, Megan Jones (Founder and President of Jones Advisory Group and WU alumnus) spoke on, "The Selling Power of Statistics." Angela Sully (Senior Project Engineer, CBM-HUMS, Honeywell Aerospace) gave a

presentation about her career and how mathematics played a big role in her success. Sarah Cook gave the presentation, "Have Your Pi and Eat it Too!" in honor of Pi Day that March.

Math Club is always looking for alumni to give presentations. If you are interested in giving real-world insight to our students, please contact Jason Shaw at [jason.shaw@washburn.edu](mailto:jason.shaw@washburn.edu), or at 785-670-1884. We are happy to schedule meetings around your schedule.

## KME Conventions

Our KME chapter continues to be very active. In 2014, we inducted 6 new members; 7 in 2015, and 8 in 2016. In April 2014, Dr. Porta took Matt Herrman and Brandon Marshall to the national convention at Jacksonville State University in Alabama. Brandon won a Top 2 award for his oral presentation, "Colorfully Complex: Visualizing Complex Numbers using Domain Coloring." Well done, Brandon!

In April 2015, Bill Gahnstrom attended the national convention at Embry Riddle Aeronautical University in Boca Raton, Florida to represent our chapter. Faculty members Mike Mosier, Gaspar Porta and Jason Shaw took five students, Taylor Balsmeier, Kendall Golder, Kevin Mosier, Katelynn Robinson, and Jonathan Tyler to the North Central Regional Convention on April 1 – 2, 2016, held at the University of Nebraska-Kearney. There were about 60 faculty and student participants from 7 institutions overall, and 7 students presented papers at the convention. Taylor Balsmeier presented his work on, "Statistical Analysis on Trends in Ranking and Salaries for Washburn University." Taylor won third place in a judged oral competition for his efforts. Congratulations, Taylor!



Back row: Evelyn Pitts, Jennifer Wagner, Stephanie Herbster, Janet Sharp, Beth McNamee, Sarah Cook  
Front row: Hee Seok Nam, Mike Mosier, Bill Gahnstrom, Kevin Charlwood, Jason Shaw, Gaspar Porta

## Other News

### Apeiron (Student Research Forum)

In April 2016, the 13<sup>th</sup> annual Apeiron featured four student presenters - Luke Hill and Hannah Johnson gave a joint oral presentation; Emma Bayless and Jordan Massey gave poster presentations. All students worked on various aspects of a salary ranking study, a project directed by Gaspar Porta.

### Math Day

On Tuesday, November 17, 2015 our department sponsored its annual Math Day competition for area high schools. We had 136 students and 25 faculty sponsors from 20 schools participate. The competition featured the usual 40-question individual exam, plus the team competition "Mathnificent Race."

### Mathcounts

Each year on the first Saturday in March, the Kansas Mathcounts competition for middle school students is held. Washburn now hosts this event, since 2015; Kevin and Janet are the liaisons with the organizers. Mathcounts is overseen by the Kansas Practicing Engineers (KSPE) organization, and many of their members assist with scoring competition exam papers. As needed, some of our students also score papers to ensure that the competition stays on schedule. The top four students earn the privilege of competing at the national Mathcounts event in Washington DC in May.

## New Endowed Scholarships

We are pleased to announce the endowment of three new math scholarship funds for our students. Two were begun by Julie and Ed Glotzbach ('70); one fund is in their name, and the other is a memorial scholarship in honor of Ed's sister Susan who was also a Washburn alum. The third new fund was established by Arden Kanode ('64, Physics), in honor of his late wife Carol. These awards complement the Carswell, Greene, Kinzer, Lempanau, McAdam, and Shermoen scholarships given annually to very deserving math students. We are very grateful to the Glotzbachs and Mr. Kanode for their desire to help our students defray their educational expenses.

## Faculty Accomplishments

Our faculty have been very busy over the last three years. Here are just a few of the activities our tenure-stream faculty took part in recently.

### Kevin Charlwood

- Attended the JMM in San Antonio, January 2015; co-organized a special session on integrating tablets into the mathematics curriculum
- Attended the KS MAA annual Sectional Meeting at K-State University, March 2014
- Planned the KME national convention trip to Embry Riddle Aeronautical University in Boca Raton, Florida, April 9 – 11, 2015
- Planned the KME national convention trip to the University of Nebraska-Kearney, April 1- 2, 2016
- Serving on the national MAA Actuarial Science Education Committee since 2007
- Published PRIMUS journal article detailing Washburn's actuarial science program in August 2014

### Sarah Cook

- Gave presentations, "Have Your Pie and Eat it Too" and "The Secrets of Mental Math" to Math Club (2014)
- Received a C-TEL grant to author streaming videos for Intermediate Algebra exercises
- Presented "Using a Rubric to Assess Development of Proof-Writing" at the Joint

- Winter Mathematics Meetings in Baltimore, January 2014
- Oversees up to 6 CEP sections of College Algebra with local high schools each semester
- Attended Gateway Course Experience Conference in Indianapolis, Spring 2014.
- Attended Joint Winter Mathematics meetings, Seattle, January 2016.

### Mike Mosier

- Presented a full day tutorial workshop in conjunction with the Drug Information Association entitled, "Clinical Statistics for Non-Statisticians," Washington DC, June, 2015. The DIA is a global professional society for the pharmaceutical industry.
- Co-authored, "In-office diagnostic arthroscopy for knee and shoulder intra-articular injuries, its potential impact on cost savings in the United States," in BMC Health Services Research (2014)
- Co-authored, "Diagnostic Needle Arthroscopy and the Economics of Improved Diagnostic Accuracy: A Cost Analysis," in Applied Health and Economic Health Policy (2014)
- Co-authored, "Antibiotics and antiseptics for preventing infection in people receiving primary total hip and knee prostheses: A systematic review and meta-analysis of randomized controlled trials," in Antimicrobial Agents and Chemotherapy, November 2015
- Presented, "Phase 3 study of APF530 vs ondansetron with a neurokinin 1 antagonist + corticosteroid in preventing highly emetogenic chemotherapy-induced nausea and vomiting: MAGIC trial," at the ACSO Breast Cancer Symposium, September 2015
- Member of a Data Safety Monitoring Board (DSMB) for a study at KU Medical Center

### Gaspar Porta

- Spending two months on a Sweet Sabbatical in Argentina in summer 2016 to work on several research projects
- Awarded a C-TEL grant to develop software support tools for the Advanced Problem Solving

Techniques course (taken to prepare for senior Capstone Research)

- Gave a presentation at TopCon (the inaugural annual game convention in Topeka) on game development using Modifiable Randomizers, Spring 2014
- Took two students to the 2014 National KME convention held at Jacksonville State University (AL), April 2014
- Took five students to Gencon in Chicago in August 2015; the students did a group WTE project, developing an original game in connection with the Washburn Game Club

#### **Jason Shaw**

- Serving as Faculty Adviser to Club Mathematica
- Taking a 10-hour Data Science Specialization course through Coursera, an online education platform
- Working on a book project: Beginning R instruction manual motivated by problem solving

#### **Janet Sharp**

- Granted tenure, and promoted to Professor in 2016
- Co-authored, "Using Moon Phases to Measure Time," in Mathematics Teaching in the Middle School, 2015
- Authored, "Relationships between the Hopi calendar and measurement concepts," in the Journal of Mathematics and Culture, 2015

- Reviewed the book, "Insights into Mathematical Thought: Excursions with Distributivity," for

NCTM; the review appeared in Mathematics Teaching in the Middle School, 2015

- Presented, "Applications of Similarity – What do we mean when we say "twice as big?"" at the annual Emporia State Sonja Kovalevsky Mathematics Day, 2014
- Received a WWVP grant to explore the use of an I-pad in teaching statistics to prospective middle school mathematics teachers

#### **Jennifer Wagner**

- Co-authored, "On the spectra of simplicial rook graphs," in Graphs and Combinatorics, September 2015
- Presented, "Proofs from the Book," to Natural Sciences Division at Washburn, 2014
- Attended KSMAA Sectional Meeting at Fort Scott, March 2015
- Attended First Great Plains Combinatorics Conference at KU, April 2014
- Attended 26<sup>th</sup> Int'l Conference on Formal Power Series and Algebraic Combinatorics, June 2014
- Served as Chair of the Kansas Section of the MAA (April 2013 – March 2014)

***Many faculty accomplishments were omitted due to space constraints; however, our faculty continue to excel in teaching, service, and scholarship.***



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**WU Department of Mathematics & Statistics**  
**Sheet for Alumni Information and/or Recommendation of Potential Student**

PLEASE PRINT OR TYPE

Name: \_\_\_\_\_ Year of Graduation from WU: \_\_\_\_\_

Address: \_\_\_\_\_ Phone: (    ) \_\_\_\_\_

\_\_\_\_\_ Cell: (    ) \_\_\_\_\_

Employer or Business (address):

\_\_\_\_\_ Phone: (    ) \_\_\_\_\_

\_\_\_\_\_ E-mail: (    ) \_\_\_\_\_

\_\_\_\_\_ Web URL: \_\_\_\_\_

News: (Tell us about yourself; recommend a potential student – name, address, something about her or him; other news of interest, or update your last entry.)

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