# Math News

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#### Research Collaboration in Mathematics Education with WSU

In the summer of 2011, mathematics educators at WSU and UI were awarded a 5-year \$5 million grant through the National Science Foundation's MSP program for a project entitled "Making Mathematical Reasoning Explicit (MMRE)." The PIs are Libby Knott and Jo Olson from WSU, and Rob Ely, Anne Adams, and Jennifer Johnson Leung from UI. The MMRE project focuses on building math teacher leaders in small rural districts throughout northern Idaho and eastern Washington. These participants will developing teaching practices that foster mathematical justification and generalization in their classrooms, and then lead the other math teachers in their districts in these practices as well. The participants will be taking classes at the MMRE summer institutes in three cohorts over the next four summers. For more information, please contact Rob Elv ely@uidaho.edu.

# Letter from the chair

The 2011-2012 academic year was a very eventful one. We said goodbye to Arie Bialostocki as he retired after over a quarter of a century as a Professor in the Mathematics Department and to a Professor emeritus Roy Goetschel who passed away this year. Frank Gao was given a well deserved promotion to full Professor. Also, we welcomed David Yopp to our faculty as a Math Education specialist. His position is half time in the Mathematics Department and half time in the Curriculum and Instruction Department in the College of Education. His position was made possible by a generous donation from Larry (Pre-Med degree, 1956) and Kaye (B.S. in education, 1955) Knight. Larry has served the college well for many years as an important member of the College of Science Advisory Board. This is a pivotal time for math education in Idaho and the impact of this gift will be enormous. David will join Rob Ely and Cynthia Piez as we reach out to K-12 students and teachers across the state to make the future of Idaho's children brighter. Other efforts in this area include providing leadership to the Idaho Science Mathematics and Technology Coalition as well as participating in a variety of statewide initiatives to enhance the

quality of K-12 mathematics instruction including developing and delivering professional development courses. Rob Ely is a leader of an important grant that he shares with our Jennifer Johnson-Leung, and with College of Education faculty at UI and at WSU. This grant's purpose is to help elementary school teachers develop the knowledge and skills necessary for them to provide their students with the ability to reason in a careful, mathematical way. Empowering the next generation with both strong computational skills and reasoning skills is essential to the success of our society. Our Polya Math Learning Center is featured statewide and nationally as one of the few successful approaches to supporting student success in entry level mathematics courses and as a means of providing remediation

for students needing that level of support. UI continues to be a leader in teacher preparation. Thanks to Barbara and Clancy Potratz, we have been able to provide scholarship support to out-(*Continued on page 12*)





New Associate Professor of **Mathematics Education Joins the** Math Department

David Yopp will join the faculty in the fall of 2012 filling our joint Mathematics Education position with the Department of Curriculum and Instruction. He joins us

Monfrom tana State University where he was an associate professor of **Mathematics** Education. Dr. Yopp's interests include proof and reason-

ing teaching and learning and the knowledge needed for effective mathematics instructional coaching in elementary and middle grades. He is the principal investigator on the 3.5 million dollar NSF-funded DRK-12 Grant Examining Mathematics Coaching, EMC http:// www.math.montana.edu/ ~emc/. He has published in the Journal for Mathematical Behavior, Investigation in Mathematics Learning, Mathematics Teaching in the Middle School, Teaching Children Mathematics, the MAA Focus, and Linear Algebra and Its Applications, among others.

#### **READ MORE ABOUT DAVID YOPP ON PAGE 10**

An Active Colloquium in 2011-2012

"The 2011/12

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interdisciplinary

The math department offers regular colloquia every academic year, where the speaker presents specific topics related to his/her research interests in mathematics aimed at a variety of audiences. Organizing the colloquium is one of the most important

departmental activities, because each colloquium talk provides a bird's eye view of new developments in the speaker's research field and makes an oppor-

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tunity to keep us up-to-date with recent progress and future directions in Mathematics.

The colloquium committee consisting of five people, Zaid Abdo, Lyudmyla Barannyk (Chair), Frank Gao, Rob Ely, and Alexander Woo, made a considerable amount of effort to

keep this year's departmental colloquia very active. There were altogether twentyfour colloquium talks during 2011-2012. Ten of them were given by outside speakers, which include Konstantin Matveev, Bala Krishnamoorthy, Alex Khapalov, Robert Dillon, David Watkins, and Catherine Cooper (WSU), Enrico Au-Yeung (UBC), Jodi Mead (BSU), Yulia Hristova (University of Minnesota), Fernando Guevara Vasquez (University of Utah).

The 2011/12 colloquium series was very special. It had more interdisciplinary flavor than ever! We invited six speakers from five different departments besides for Mathematics; namely Gabriel Potirniche and Tao Xing (Mechanical Enginnering), Jerry Fairley (Geological Sciences), Marty Ytreberg (Physics), Paul Hohenlohe (Biology/Statistics), and Bahman Shafii (Plant, Soil and Entomological Sciences & Statistics).

Six colloquium talks out of twenty-four were presented by our own faculty members, Alexander Woo, Linh Nguyen, Lyudmyla Barannyk, Monte Boisen, Somantika Datta, Hirotachi Abo, Arie Bialostocki, Hong Wang, and Paul Joyce. On December 8th, 2011, Arie Bialostocki gave his colloquium

talk entitled "On Points in the Plane in General Position", which turned out to be his last presentation at the University of Idaho before his retirement (please also see the article "Retirement of Professor Arie Bialostocki" written by Mark Nielsen). Many people

showed up at the reception, which took place before the colloquium, to celebrate his accomplishment in Mathematics as well as his twenty-seven years of service at the University of Idaho with Hummus (a Mediterranean food dip) made by Arie himself.

The department will maintain the flavor than ever! " colloquium series during the year 2012/13 and will try to coordinate it with the Department of Mathematics at WSU. The schedule will be posted in the website at

> http://www.webpages.uidaho.edu/~barannyk/ Seminars/ColloquiumUI.html

Finally, if you have a fun math-related story to tell us and are interested in giving a talk, please let us know. We would like to have you as a colloquium speaker!

# **New Graduate** Students Fall 2011

Michael Eldredge received his **Bachelor's Degree in Mathematics** from University of Idaho in 2010. He is pursuing a M.S. in Mathematics.

Liang Lu received his Bachelor's **Degree in Photo—Electronics** from YanShan University in 2006 and his M.A. in Econometrics from NanKai University in 2009. He is pursuing a Ph.D. in Mathematics.

Xian Wu received his Bachelor's **Degree in Mathematics from Jilin** University in 2009 and his Auditor in School of Mathematics from Zhejing University in 2010. He is pursuing a M.S. in Mathematics.



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#### homeomorphs" on March 1, 2012 and received her PhD degree in Mathematics this spring. She will be returning to China and take her held position at Suzhou University of Science and Technology.

#### Andrzej Wojtowicz

successfully defended his dissertation entitled "Estimating the number and distribution of beneficial mutations for models of adaptive evolution" on

# **UI** Math Club

**By Rob Ely Math Club Advisor** 

The UI Math Club had a fun year! We picnicked in the fall, investigated Scary Math Paradoxes at Halloween, played games for a night, watched a debate about whether pi or e is the better number, and went to see "mathemagician" Arthur Benjamin. We also had a terrific Pi Day celebration complete with an Integration Bee, a pi-ku contest, and plenty of tasty pie (which, like Euler's formula, combines "pi" and "e" in a delicious

way). Thanks to President Audrey Hitchman, Vice President Jessica Herring, and Transcendental Geometer, Meredith Sargent, as well as our faculty math club advisors Drs. Nielsen, Woo, and Ely. For information more about the UI Math Club, contact Rob Elv at ely@uidaho.edu.

# **Bialostocki Retirement**

Article prepared by Mark Nielson

Professor Bialostocki's career contributed to all aspects of the Mathematics program at Idaho. Originally trained in group theory, he developed a reputation as a world-class researcher in combinatorics, bringing international stature to the department though his work. His many collaborations with other UI mathematicians (particularly with Bill

# Excellence in Teaching

Awarded to graduate students who demonstrate excellence in teaching.

At Spring commencement Doug Torrance, Zhenxia Liu, Jesse Oldroyd, Liang Lu, and Masaki Ikeda, received the Outstanding Teaching Assis005 To





The department mourns the passing in November of Professor Emeritus Roy Goetschel. Roy, survived by his wife Jane and his younger brother Charles, was born and raised in Chicago, Ill. and attended Northwestern University and **DePaul University** concentrating on mathematics and music. His mathematical development was inspired and guided largely by Dr. Guido Weiss and he earned a doctorate in 1966 at the University of Wisconsin as the first Ph.D. student of the stellar analyst, Wolfgang Wasow. Dr. Goetschel taught at Sonoma State University in California before accepting a professorship in mathematics at the University of Idaho in 1969. In 1971 he met and married Jane Peterson, a University of Idaho graduate assistant in English.

His research centered on fuzzy sets and was directed equally towards the theoretical conceptualization and development of this new area and towards its promising applications in logic, economics, computing, actuarial science and neurology. He was internationally recognized for inaugurating the implementation of fuzzy hypergraphs into Hebbian structures as well as setting forth a program and providing an impetus for its future advancement. This association of computing with the neural network architecture and sy naptic plasticity of learning and memory has become a fertile and growing area of research. Recently, he had turned his attention to fuzzy dart representations of fuzzy numbers. He coauthored with his colleague, William Voxman, a textbook

Advanced Calculus: An Introduction to Modern Analysis as well as collaborating with Bill in introducing and de-

# We Would Like to Hear Fron

If you have some news/information about yourself that you would like printed in the next Math News, please send your information to math@uidaho.edu or to:

Department of Mathematics, University of Idaho, PO Box 441103, Moscow, ID 83844-1103.



# Scholarships Awarded for 2011-2012

#### J. Lawrence Botsford Scholarship

This scholarship was established by the family of J. Lawrence Botsford who was a member of the department from 1949 until his retirement in 1970. He also served as head of the department from 1950 to 1954. This scholarship is based on merit and is awarded to mathematics majors entering their junior or senior year. *Hannah Hallock* is this year's recipient.

#### Mathematics Graduate Student Scholarship

This scholarship is supported by annual contributions of friends of the department and is awarded to mathematics graduate students. This one time gift is awarded at the discretion of the Math Department. The recipients this year were:



# BIRTHPLACE

Hayti, Missouri

# FAMILY

Wife: Misty; Daughter: Chari Anne, age 8 months

## DEGREES

Bachelors of Science in Mathematics Education: Arkansas State University Masters of Science in Mathematics: Arkansas State University Masters of Arts in Mathematics: Indiana University Doctorate of Arts in Mathematics: Idaho State University

# **RESEARCH AREA**

Arguing and Proving in Grades K-14; Impacts of Mathematics Specialists in Elementary (K-8); Grades; Teachers' Understanding of Real Number

### **FAVORITE LIVING** M0n: ArfE ArICILIVING

You can learn more about the UI Math Department and see a full color version of the newsletter by visiting our website:

www.uidaho.edu/ math

