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HAMTE Crossroads

The Official Newsletter of the Hoosier Association of Mathematics Teacher Educators

Message from the President

Greetings fellow HAMTE members! I hope the semester is starting well for you and you are continuing to be energized by your work as mathematics teacher educators. I'm looking forward to seeing you all at the ***ICTM Conference*** **on November 6 & 7**. As usual, we will hold the HAMTE business meeting at the conclusion of the sessions on Sunday and then head as a group to dinner at a local restaurant.

I have much to report on the continuing good work of HAMTE members. In June, I attended a *Specialized Content Knowledge (SCK) Institute* at the University of Michigan with HAMTE colleague **Betsy Berry** from IPFW and Ivy Tech instructor Becky Grable. Led by Deborah Ball and Mark Hoover, we worked with teams of mathematicians and mathematics teacher educators to develop our understanding of SCK and to design learning tasks for targeting such knowledge. One of our requirements as participants was to write a "contract" outlining our plans to use what we learned at the institute. Betsy, Becky, and I planned to implement SCK learning tasks in our mathematics courses for prospective elementary teachers. We also wanted to share what we learned with other mathematics teacher educators in Indiana. With that in mind, we secured an opportunity to meet with a statewide group of Ivy Tech instructors who teach MATH 141, *Mathematics for Elementary Teachers*. On August, we met with 11 instructors and discussed SCK in relation to some of the topics in the MATH 141 syllabus. We also distributed flyers and invited them all to become members of HAMTE!

The HAMTE Advocacy Teams (K-12 Curriculum, Mathematics Teacher Recruitment, and Teacher Licensure Testing) have been busy identifying their goals and planning their actions. **Gina Yoder** and **Jill Newton**, with assistance from the other team leaders, will be hosting working group sessions at the upcoming ICTM conference and at the AMTE conference in February. All HAMTE members are welcome to attend these sessions.

Enrique Galindo and **Jill Newton** have enlisted many HAMTE members to help with various aspects in planning and preparing for the PME-NA 2017 Conference that will be held in Indianapolis. If you are interested in helping but have not yet been tapped, please contact Enrique, egalindo@indiana.edu, or Jill, janewton@purdue.edu.

Enrique Galindo is nearing the end of his term as HAMTE Past President and **Craig Willey** is nearing the end of his term as HAMTE Secretary. We have very much appreciated Enrique's and Craig's service and leadership on the Board. I have been inspired by Enrique's vision for HAMTE's role in Indiana and his commitment to the realization of that vision, and have valued Craig's communication and organization skills and the thoughtfulness with which he approaches his work.

Many thanks to **Rick Hudson** and **José Contreras**, who serve as the Nominations and Elections Committee and are facilitating the election of a new President Elect and Secretary. Candidate biographies appear on pages 5-6.

Take care and we'll see you soon!

-Sheryl Stump-

Inside This Issue:

Newsletter Editor:
Andrew Gatza,
Indiana University, IUPUI
agatza@iupui.edu

Indiana Mathematics Education Research Symposium

The mathematics education faculty at Indiana University Bloomington, Indiana University-Purdue University Indianapolis, Purdue University, and HAMTE will be hosting their sixth IMERS on **Friday, March 3, 2017**. This symposium, held in Indianapolis on the IUPUI campus, supports mathematics education graduate students and educators and offers opportunities to present research and receive feedback from mathematics education faculty and other graduate students from across the region.

ABOUT IMERS

We invite proposals that describe research studies at various stages - completed work, work-in-progress and studies currently under design. If you are looking for a conference that will allow you to practice presenting your ideas and where feedback on design and works in progress is provided, IMERS is for you! *A call for proposals will be sent out in the coming months.*

PROPOSAL GUIDELINES

Completed Studies

Proposals should be no more than 1000 words (excluding references) including a description of the purpose of the study, theoretical framework, research design, findings and relevance of the study to mathematics education.

Work In Progress

Proposals should be no more than 500 words (excluding references) including descriptions of the purpose of the study, brief literature review, research questions, methodology (i.e. participants, data sources, methods of analysis) and preliminary findings (if applicable).

Work Under Design

Proposals should be no more than 300 words (excluding references) including rationale for the study, brief literature review, research questions, and proposed methods.

CONTACTS

Elizabeth Suazo-Flores, esuazo@purdue.edu
Andrew Gatza, agatza@iupui.edu
Rebecca Borowski, rborowsk@indiana.edu

2017 Indiana STEM Education Conference

The second-annual Indiana STEM Education Conference will be held at Purdue University on **January 12, 2017.** The Purdue University College of Education and Center for Advancing the Teaching and Learning of STEM (CATALYST), the Indiana Department of Education, and the Indiana Commission for Higher Education are proud sponsors of the conference. Indiana has increased momentum in K-12 STEM education over the past few years and this event is designed to capitalize on the knowledge and experiences that have been generated to continue moving Indiana forward. The goal of the conference is to provide a platform for dissemination of best practice in K-12 STEM teaching and learning in Indiana. There will be three strands that organize the conference:

Strand 1: K-12 STEM Practice will include selected presentations and workshops from individuals and teams from Indiana K-12 schools who are implementing STEM programs and school approaches. For example, sessions on problem and project based pedagogy, engineering design process, integrated STEM curriculum development, strategic planning, the new Indiana science standards, or science education, mathematics education, and/or engineering education practices will be offered.

Strand 2: STEM Education Research will include invited presentations from leading STEM education researchers within Indiana who are examining pressing challenges in K-12 STEM education. For example, sessions on integrated STEM education, mathematics education, science education, engineering education, technology education, etc. will be offered.

Strand 3: STEM Resources will include many invited organizations and other community partners from across the state that have resources available to support STEM education. The focus will be for partners in this strand to connect with participants to help support the growth of STEM programs and focus within IN schools.

The daylong conference will be from 9 a.m. to 4:30 p.m. with lunch and parking included in the registration fee. All participants will have multiple offerings to select from for each of the five sessions across the day. Participants can choose selections from any and all strands as well.

See https://www.conf.purdue.edu/landing_pages/stem/ for registration and proposal information.

Upcoming Events

- **Psychology of Mathematics Education – North American Conference:**
  - Sin Fronteras: Questioning Borders With(in) Math Education
  - Tucson, Arizona, November 3-6.
  - For more information go to http://www.pmena.org
- **Indiana Council of Teachers of Mathematics (ICTM) Conference:**
  - Staying Ahead of the Curve
  - Indianapolis, IN, November 6-7.
  - For more information go to http://ictm.onefireplace.org
- **Association for Mathematics Teacher Educators (AMTE) Conference:**
  - Orlando, Florida, February 9-11.
  - For more information go to https://www.amte.net

Creating Algebra Teacher Communities for Hoosiers

The *Creating Algebra Teacher Communities for Hoosiers (CATCH)* HAMTE team (Jodi Frost, Andrew Hoffman, Rick Hudson, Winnie Ko, Jean Lee, Brooke Max, Doris Mohr, Jill Newton, and Christine Taylor) continue their work in year 2 of their three-year MSP, planning to bring most of the 60 participating teachers from around the state together at ICTM in November. In addition, the team will present work-to-date on the project at both ICTM (some teachers are presenting as well) and AMTE.

PME-NA 2017 - INDIANAPOLIS: LOCAL ORGANIZING COMMITTEE

The HAMTE PME-NA 2017 Local Organizing Committee is off and running, including more than 40 Indiana faculty and graduate students from eight universities across the state – we have organized ourselves into eight sub-committees and progress is being made on all fronts. The conference will take place **October 5-8, 2017 at the Crowne Plaza in Indianapolis**, so mark your calendars! Also, please contact Enrique Galindo (egalindo@indiana.edu) or Jill Newton (janewton@purdue.edu) if you are interested in helping with these efforts.

HAMTE TRAVEL GRANTS

The HAMTE Board is accepting applications for the Travel Grant awards for graduate students to attend either AMTE ($200) or ICTM ($100). Please consider applying if you meet these criteria:

a. HAMTE member and graduate student making steady progress toward your degree;
b. You have a presentation accepted for the conference;
c. You do not have other funding sources available, or these funding sources do not cover all expenses

Winners of the travel grants will be asked to share their experiences at AMTE or ICTM with other members via future editions of *HAMTE Crossroads*, the official HAMTE newsletter.

If interested, **please send your CV and brief (one paragraph) statement of application to Sheryl Stump (sstump@bsu.edu) by Wednesday, October 28th.** This year's awards will be selected at random and announced at the HAMTE Business Meeting on **November 6th**.

HAMTE BOARD MEMBER ELECTIONS

Voting this year will take place online through a program called Election Buddy. You should have already received an email from Rick Hudson that contains a unique voter key link for you to cast your vote. **If you have not already received an email or are having trouble with the link, please contact Rick Hudson at rhudson@usi.edu.** The voting window closes at **11:59 PM on November 4th.**

Candidate for President-Elect (1):

Signe E. Kastberg, Purdue University

I am excited and honored to be considered for HAMTE president. As you think of how I might join with you to support mathematics teacher education in Indiana, I hope these words are of use.

Historically I have explored teaching and learning, drawing from my interpretation of radical constructivist epistemology (von Glasersfeld, 1995) and constructivist teaching (Steffe & D'Ambrosio, 1995). The mathematics context for my inquiry is multiplicative reasoning (Harel & Confrey, 1994). My work includes discussions of ways listening, trust, care, and empathy are used to sustain and motivate professional collaborations (D'Ambrosio & Kastberg, 2012; Kastberg, Lynch-Davis, & D'Ambrosio, 2014). I have also joined with classroom teachers to understand, support, and describe their practices (Kastberg & Frye, 2013; Kastberg & Otoupal-Hylton, 2006; Kastberg, Otoupal-Hylton, & Farmer, 2008). Recently, I have explored scholarly inquiry and practices (Lee & Mewborn, 2009) of mathematics teacher educators (Kastberg, Tyminski, Lischka, & Sanchez, Accepted for publication; Kastberg, Tyminski, & Sanchez, in press; Sanchez, Kastberg, Lischka, & Tyminski, 2015).

As HAMTE president I would engage with you to build and sustain our community by capitalizing on the power of our diversity. Key in this effort is communicating the complexity and dilemmas of our work, legitimizing representations of our work as scholarly practice, and participating in state and national conversations. Thank you for your consideration as you evaluate the needs of mathematics teacher educators in Indiana and my potential to work with you to sustain our community and share our collective voice.

Candidates for Secretary (3):

Betsy Berry, Indiana University-Purdue University Fort Wayne

I am an Associate Professor of Mathematics Education at IPFW where I have taught for 11 years. I received my PhD at Purdue University in 2007 and prior to that spent many years as a classroom teacher at the middle and high school levels as well as providing professional development for classroom teachers. My passions are student-centered teaching and learning of K-16 mathematics and implementing and studying portfolio assessment strategies. In my "down time" you will find me reading, sailing, hiking or paddling.

I would be honored to serve HAMTE as its secretary. I believe our organization is immensely important to mathematics education at all levels in the state of Indiana and I'd be pleased to be an officer to help with those endeavors.

Mark Creager, University of Southern Indiana

I am in my first year as an assistant professor at the University of Southern Indiana. I did my graduate work at Indiana University, and before that I taught high school mathematics at Martinsville High School here in Indiana. My research interests are in developing teachers' mathematical knowledge for teaching, especially in the areas of reasoning and proof. Although my research focuses on high school teachers, I enjoy helping teachers of all grade levels incorporate reasoning and proof into their mathematics courses because I feel that doing so helps make mathematics more meaningful and, in turn, more enjoyable for students.

Being from Indiana and having spent my entire adult life working in education in Indiana, it is a passion of mine. I have been a member of HAMTE since 2012 because I strongly agree with the mission of HAMTE. Primarily, I appreciate that HAMTE has provided me with the opportunity to make connections around the state that have helped me broaden my research interests and become an advocate for change that I see as necessary for improving Indiana's teacher education programs. I am proud to be a part of some of the great work that HAMTE has been doing lately to make our voices heard on policy issues, including HAMTE's assessment of the new Indiana State Standards and the advocacy team for teacher licensure testing. As secretary, I plan to maintain care of our records and make them available for public viewing as well as help structure and organize meetings.

Jerry Woodward, Ball State University

I am an Assistant Professor of Mathematics Education in the Department of Mathematical Sciences at Ball State University. I earned a Ph.D. in Mathematics Education from Purdue University in 2015. My research focuses on children's multiplicative and algebraic reasoning, research-based instruction in mathematics content courses for elementary teachers, and prospective secondary mathematics teachers' conceptions of teaching constructs.

I have served on two departmental and one university-wide committee at Ball State. For both of my departmental committees, I have successfully served as secretary by being organized, detail-oriented, and responsible. I believe these traits would also enable me to excel at the position of HAMTE secretary. Currently, I am serving on HAMTE's Local Organizing Committee for PME-NA 2017 as a co-chair of the Food, Lodging, Transportation, and Entertainment Committee. I am interested in helping HAMTE put on a successful PME-NA 2017 in the near future, but I am also excited for the opportunity to possibly serve the organization going forward as a member of its leadership team.

Provide Input to the IDOE on ESSA Funds

Currently the Indiana Department of Education is trying to determine the plan for the new ESSA funds. The Math/Science Partnership Grant money and all funds for IDOE to provide professional development for Math, Science and STEM is now going to be included in the funding for the new ESSA Act. Please provide comments on ESSA and funding suggestions. The IDOE is paying particular attention to all comments left on the Feedback link on the IDOE ESSA Web-page at: http://www.doe.in.gov/essa.

Investigating the Role of Field Experience Teachers

By: Rebecca Borowski – Doctoral Student, Indiana University, Bloomington

Jared Allen, a science education doctoral student, and I have been investigating the role field experience teachers play in developing pre-service teachers' (PSTs) ability to bridge theory into practice. We collected survey data from pre-service teachers during a semester in which we taught different sections of an early mathematics/science field experience course and also taught the mathematics and science methods courses for the same pre-service teachers.

So far, we found that having a field experience teacher who was deeply knowledgeable of the theories being taught in the methods courses helped PSTs enact those theories in their own practice. At the conclusion of the mathematics portion of the field experience, 16 of the 23 participants indicated their field experience instructor played a role in their ability to bridge theory into practice. In explaining this role, many PSTs explicitly mentioned both the methods and field experience courses, indicating that having the same instructor for both courses had a positive influence on their ability to bridge theory into practice. For example, one PST described learning about the importance of giving students concrete experiences with joining and separating before naming operations or teaching standard algorithms. She reported that the instructor "told us about the theory and how to implement it and double checked our lesson. However, in the actual classroom and in actually using the theory, my field experience teacher stayed back, observed, and reported back to us how well we did with the theory and how we can improve." Another PST described learning about subitizing in the methods course, then getting help from the field experience teacher in developing subitizing activities to be used in the lesson taught in the field. A third PST described learning about different problem types in the methods course, then getting ideas from the field experience teacher about where the various problem types could be incorporated in a lesson

Throughout the semester under study, Jared and I collaborated closely, meeting weekly to plan mini-lessons for the field and to discuss any problems that arose. We also helped each other answer content-specific questions and become familiar with the content in each other's methods courses. In analyzing our data, we have found that our close collaboration seemed to contribute to our ability to support PSTs in applying theories in both subjects, not just in our respective areas of scholarship. For example, despite the fact that he had no formal training in elementary math methods, Jared's PSTs reported that he helped them bridge theory into practice for mathematics, specifically in using investigations, enacting effective lesson summaries, and facilitating math discussions. Rebecca's PSTs indicated that she helped them bridge theory into practice by providing feedback before and after implementing their science lesson plans.

This study has implications for teacher education programs that hope to better prepare future teachers as well as support graduate students in their development as teacher educators. If you would like to know more about the study, please contact us at rborowsk@indiana.edu and allenjr@indiana.edu. We will also be presenting at the AMTE and ASTE conferences in early 2017.

Our work was encouraged by the Community of Practice for Self-Study, a group of graduate students who meet regularly under the supervision of professors Meredith Park-Rogers and Erik Jacobson, for the purpose of supporting each other in our development as science and mathematics teacher educators and researchers.

AMTE StaR Program

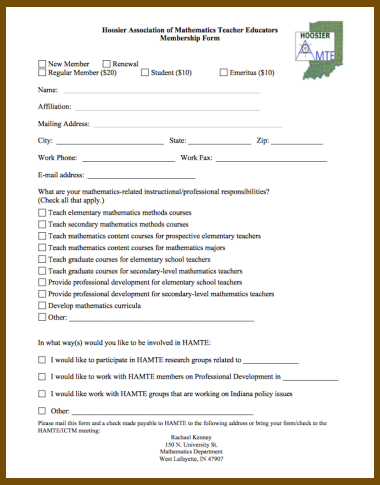
The STaR Program is an induction program for early career mathematics educators working at institutions of higher education. For more information visit: https://www.amte.net/star.

The deadline to apply is December 1, 2016.

Connect with HAMTE!

- The annual **HAMTE Business Meeting** will take place **Sunday, November 6th,** at the ICTM conference with a HAMTE dinner to follow. Further details coming soon via email.
- **Join an Advocacy Team** to connect and collaborate with others across the state to address crucial issues in the field of mathematics education! Contact the facilitators below if you are interested.
    - **Pre K-12 Curriculum Team**
        - **Facilitator**: Gina Borgioli Yoder, gbyoder@upui.edu
    - **Mathematics Teacher Recruitment / Support for Public Education Team**
        - **Facilitators**: David Feikes dfeikes@pnc.edu and Jill Newton janewton@purdue.edu
    - **Teacher Licensure Testing Team**
        - **Facilitator:** Liz Brown, Liz.Brown@indstate.edu
- ***Submit an article and/or teaching methods or ideas to the newsletter,*** *HAMTE Crossroads.* Email your submission to Andrew Gatza, Newsletter Editor, at agatza@iupui.edu. We publish in September, January, and May.
- ***Visit our website:*** www.hamte.org
- ***Travel Grant Awards***. The HAMTE Board is accepting applications for travel grants for graduate students to attend either AMTE ($200) or ICTM ($100). See page four for more information.

BECOME A HAMTE MEMBER!



Hoosier Association of Mathematics Teacher Educators
Membership Form

☐ New Member ☐ Renewal
☐ Regular Member ($20) ☐ Student ($10) ☐ Emeritus ($10)

Name: _____

Affiliation: _____

Mailing Address: _____

City: _____ State: _____ Zip: _____

Work Phone: _____ Work Fax: _____

E-mail address: _____

What are your mathematics-related instructional/professional responsibilities? (Check all that apply.)

☐ Teach elementary mathematics methods courses
☐ Teach secondary mathematics methods courses
☐ Teach mathematics content courses for prospective elementary teachers
☐ Teach mathematics content courses for mathematics majors
☐ Teach graduate courses for elementary school teachers
☐ Teach graduate courses for secondary-level mathematics teachers
☐ Provide professional development for elementary school teachers
☐ Provide professional development for secondary-level mathematics teachers
☐ Develop mathematics curricula
☐ Other: _____

In what way(s) would you like to be involved in HAMTE:

☐ I would like to participate in HAMTE research groups related to _____
☐ I would like to work with HAMTE members on Professional Development in _____
☐ I would like work with HAMTE groups that are working on Indiana policy issues
☐ Other: _____

Please mail this form and a check made payable to HAMTE to the following address or bring your form/check to the HAMTE/ICTM meeting:

Rachael Kenney
150 N. University St.
Mathematics Department
West Lafayette, IN 47907

https://hamte.org/join/

Submit a completed **membership form** and $20 ($10 for students and emeritus faculty) to HAMTE Treasurer Rachael Kenney,

150 N. University St.

Mathematics Department

West Lafayette, IN 47907.

The membership year runs October 15 through October 15 (to coincide with our annual fall meeting).

What's the Word on Campus?

Ball State University

During the summer, Sheryl Stump and Jerry Woodward participated in the Mathematics Teacher Preparation Conference at the University of Delaware. The conference focused on improving content courses for K-8 pre-service teachers using methods of data-based continuous improvement. Sheryl and Jerry are currently collaborating with instructors of elementary content courses at Ball State to design, implement, and revise lessons using these methods.

Indiana University -Southeast

The Indiana University Southeast School of Education is pleased to announce a new course, *EDUC-N 443 Teaching Elementary School Mathematical Problem Solving*. The purpose of this course is to enhance the pedagogical content knowledge of elementary education teachers when teaching mathematics to students in grades pre-K–6.

There are two main goals of this course: (a) helping elementary education teacher candidates diagnose students mathematical learning and prescribe intervention lessons to support learning for all students; and (b) assisting the teacher candidates to infuse mathematical problem solving in their elementary teaching. The goal is for teacher candidates to appreciate the mathematics content they teach while knowing:

- which concepts are easy or difficult to learn and why;
- multiple ways of representing concepts so others can understand them;
- how to connect ideas to deepen them; and
- what students might be thinking or understanding.

This is an additional, required mathematics methods course for the undergraduate pre-K–6 program. Questions regarding the new course can be directed to Dr. Alan Zollman at alanzoll@ius.edu.

University of Southern Indiana

The Department of Mathematics at USI is pleased to welcome Dr. Mark Creager as a new Assistant Professor specializing in mathematics education. Dr. Creager completed his Ph.D. at Indiana University earlier this year.

Dr. Rick Hudson is participating in a team who was recently awarded a $1.5 million grant from the National Science Foundation's IUSE program. The four-year project, entitled Enhancing Statistics Teacher Education with E-Modules or ESTEEM, is led by Dr. Hollylynne Lee from North Carolina State University. Other co-PIs include William Finzer from the Concord Consortium and Stephanie Casey from Eastern Michigan University. The purpose of the grant is to create, design, and implement online resources and modules to enhance teachers' statistical content knowledge.

Rick Hudson from has been nominated to serve as Member-at-Large on the NCTM Board of Directors. For more information on candidates and voting go to https://www.nctm.org/election/.

Indiana University - Bloomington

Math education in Bloomington is multiplying. They have four new graduate students: Rob Matyska, Kemol Lloyd, Pavneet Bharaj, and Fatimah Ahmed, and a new post doc, Amber Simpson. In addition, all the faculty are adding babies! If you haven't heard, Dionne Cross Francis and her husband Ivan welcomed their daughter, Rylie, last September. Enrique Galindo and Jean Lee welcomed their son Daniel in March, Erik Jacobson and his wife Catherine welcomed their daughter Maya in May, and Amy Hackenberg and Erik Tillema adopted a newborn daughter, Amaya, in August.

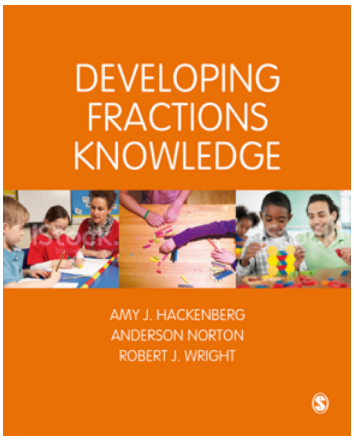
Amy Hackenberg and a team of graduate students continue to work on **project IDR²eAM**, http://www.indiana.edu/~idream/. IDR²eAM stands for **I**nvestigating **D**ifferentiated Instruction and **R**elationships between **R**ational Number Knowl**e**dge and **A**lgebraic Reasoning in **M**iddle School and is funded by the National Science Foundation.

The purposes of this 5-year project are to investigate how to differentiate mathematics instruction for middle school students at different levels of reasoning and to understand how students' rational number knowledge and algebraic reasoning are related. In the first two years of the project (Phase I) they conducted three iterative, after school design experiments with cognitively diverse middle school students. In the third year (2015-2016, Phase II), they conducted retrospective analysis, student thinking and learning, as well as the functioning of differentiated instruction, in these experiments.

During the 2015-2016 school year they also led a Teacher Study Group (TSG) with 15 middle school mathematics teachers from around the state (Evansville, Bloomington, Ellettsville, Indianapolis, and Hammond). Four teachers from the TSG will participate in the last two years of the project (Phase III); Amy will co-teach with these teachers to study how to differentiate instruction in classrooms, as well as to study how teachers learn to differentiate instruction. This phase will begin in January 2017.

This past July the research team presented from the project at the International Congress of Mathematics Education in Hamburg, Germany.

NEW BOOK! *Developing Fractions Knowledge* was published by SAGE in August 2016. This 13-chapter book was written by Amy Hackenberg, Andy Norton, and Robert Wright, and it is intended to help upper elementary and middle school math teachers use research-based methods to assess and support their students' construction of fractional knowledge. The book is a continuation of the series of four books published by Robert Wright and colleagues to support students' construction of whole number knowledge.



Purdue University - West Lafayette

Purdue Mathematics Education faculty and students spent two engaging days with Keith Weber from Rutgers University when he came to present a mathematics colloquium entitled "How Students Perceive Lectures in Advanced Mathematics."

Andrew Hoffman is teaching a special section of Abstract Algebra for pre-service teachers through the Mathematics Department. The course is designed to highlight connections to secondary mathematics when possible and engage students using the pedagogy promoted by their methods courses. The enrollment is 17 and so far students' responses have been positive.

Brooke Max is now the course coordinator for the Math for Elementary Teachers courses at Purdue. She will be presenting at AMTE with Jean Lee, Rick Hudson, Jill Newton, Doris Mohr, Christine Taylor, Winnie Ko, Jodi Frost, and Andrew Hoffman on the HAMTE Indiana MSP Creating Algebra Teaching Communities for Hoosiers (CATCH) grant.

Jill Newton co-edited a special issue of *Theory into Practice,* "Fostering a Democratic Education: Argumentation Within and Beyond K-12 Classrooms" with Megan Staples and Dorothea Anagnostopoulos at the University of Connecticut.

Sue Ellen Richardson is currently teaching EDCI 36400 Mathematics in the Elementary School and EDCI 49800 Supervised Teaching in Secondary Mathematics Education. She is also still doing some work for the Conceptual Model-Based Problem Solving NSF grant, and is presenting an individual session at AMTE (Teacher Voices: What They Might Contribute to the Professional Dialogue about Learning and Teaching Mathematics). In addition, she is excited to be working on the HAMTE advocacy committee investigating the mathematics teacher shortage issue.

Elizabeth Suazo has been hired as a Research Assistant in Engineering Education; she is working with the EngrTEAMS on Evidence-Based Reasoning led by Tamara Moore. She also has a new paper:

> Suazo Flores, E. (2016). Working together: A caring relation between a teacher and a mathematics educator. *Purdue Journal of Service-Learning and Engagement, 3,* 34–37. http://dx.doi.org/10.5703/1288284316172

Mahtob Aqazade, Sherri Farmer, Sue Ellen Richardson, Elizabeth Suazo, and other graduate students around the state, are working with Erik Tillema to plan IMERS 2017!

Several Purdue faculty and students will be presenting at the 2016 PME-NA conference in Tucson, Arizona in November:

- Additive Inverses: Second Graders' Use of "Zero Pairs" (Laura Bofferding, Mahtob Aqazade, & Sherry Farmer)
- Benefits of Analyzing Contrasting Integer Problems: The Case of Four Second Graders (Mahtob Aqazade, Laura Bofferding, & Sherry Farmer)
- Conceptions and Consequences of What We Call Argumentation, Justification, and Proof (Jill Newton)
- Conceptions of Proof, Argumentation, and Justification (Jill Newton)
- Exploring Prospective Teachers' Written Feedback on Mathematics Tasks (Signe Kastberg)

- Leveraging Contrasting Cases: Integer Addition with Second Graders (Laura Bofferding, Sherry Farmer, Mahtob Aqazade, & Kassandra Dickman)
- More and Less: Language Supports for Learning Negative Numbers (Laura Bofferding & Sherry Farmer)
- Supporting Preservice Teachers' Use of Connections and Technology in Algebra Teaching and Learning (Jill Newton)
- Unpacking Teachers' Perspectives on the Purpose of Assessment: Beyond Summative and Formative (Rachael Kenney, Lane Bloome, & Yukiko Maeda)

Indiana University - Purdue University Indianapolis

Erik Tillema and graduate student Andrew Gatza continue to work on the project Generalization Across Multiple Mathematical Areas (GAMMA), a project funded by the National Science Foundation. GAMMA is a 3-year multi-site project that is investigating the kind and quality of generalizations that middle grades through collegiate level students make in the domains of combinatorics, algebra, geometry, and advanced algebra, and the instruction necessary to support these generalizations. Erik is the PI for the Indianapolis site. In the first year of the project they interviewed 32 middle and high school students four times each in order to determine the kind and quality of generalizations that students made. During the 2015-2016 school year they conducted two teaching experiments. The teaching experiments were run with pairs of 10th and 8th grade students in order to understand how the quality of student generalizations develop over time and support their learning. This year the project will include two design experiments with 8th and 10th graders, respectively, each over the course of a semester.

They presented work from the GAMMA project at the International Congress of Mathematics Education in Hamburg, Germany, and have recently published an article related to their work:

> Tillema, E. S., & Gatza, A. (2016). A quantitative and combinatorial approach to non-linear meanings of multiplication. *For the Learning of Mathematics, 36*(2), 26-33.

University of Indianapolis

Jean Lee was promoted and tenured to associate professor. Jean will also be presenting with her Woodrow Wilson Indiana Teaching Fellows at the ICTM Conference. The session is titled " Effectively Starting and Closing a Lesson with Meaning: Making the Connection."

Travis Miller will be running for ICTM Treasurer this year.

Taylor University

The Taylor University Mathematics Department is excited to announce the addition of Dr. Patrick Eggleton to its faculty. Patrick comes to them most recently from Goroka, Papua New Guinea, where he served as a math teacher and administrator at Numonohi Christian Academy through New Tribes Mission. He holds a Ph.D. degree in Mathematics Education from the University of Georgia, and has previously taught at Berry College, Huntington University, and Ball State University. He is currently teaching a variety of mathematics courses at Taylor. Many math educators in Indiana will remember Patrick's excellent work as a former board member and president of ICTM. Welcome back to the Hoosier state, Patrick!