Great Lake — Great Ideas — Great Time!
by Turi Suski, Milwaukee Local Events Coordinator

The 45th Annual AMATYC Conference is going to be GREAT! With keynote speakers Francis Su and James Tanton and featured speakers Michael Steele and Alan Zollman, the sessions will be absolutely energizing. The great ideas you’ll encounter will be more than enough to make the conference worth attending! The conference location is also outstanding: Connected to both hotels by convenient skywalks, the Wisconsin Center’s straightforward layout will make it easy to find your sessions. You’ll enjoy its beautiful spaces and public art, and the large Hospitality and Professional Networking Area has palm trees and floor-to-ceiling windows with a great view of downtown Milwaukee.

Networking and meeting new colleagues are some of the best parts of the conference. With dozens of restaurants and breweries within walking distance of the conference hotels, downtown Milwaukee makes it very easy to take that socializing into the evening hours. It’s just a few blocks to the Milwaukee Riverwalk where you can take a selfie with the Bronze Fonz before enjoying a great dinner and heading over to the Safehouse for some spy-themed late-night fun.

While you’re in Milwaukee, make sure you try some of Wisconsin’s favorite foods: fried cheese curds, brats, frozen custard, Friday fish fry, and cream puffs. Wash it all down with some craft brews...of course Milwaukee has dozens of great breweries and distilleries. Check out the award-winning tour at the Lakefront Brewery. Notable restaurants include Mader’s, Sobelman’s, Leon’s, Odd Duck, and the Milwaukee Public Market, and there are many other great affordable restaurants to enjoy!

Milwaukee has excellent public transportation. The Milwaukee Intermodal Station is just a few blocks from the Wisconsin Center, and it is a central hub to launch you to the rest of the city’s neighborhoods. Go to the Harbor District for tapas, retro Bay View for beer gardens, the Historic Third Ward for boutique shops and art galleries, and the East Side for creative, trend-setting restaurants. Check out all 13 neighborhoods at www.visitmilwaukee.org/neighborhoods.

Want to have an adventure while you’re in Milwaukee? There’s something for everyone. The Discovery World Science and Technology Center will amaze you. The Milwaukee Art Museum’s world-class collection will inspire you. The Milwaukee Public Museum will surprise you. The Marcus Center for the Performing Arts will wow you. Head over to the one-of-a-kind Harley-Davidson Museum, and make sure you visit their Experience Gallery where the motorcycles are there for you to sit on, touch, and admire up close.

And for a truly unique Wisconsin experience, tour the Foamation Cheesehead Factory!

So, come visit our Great Lake, soak up some Great Ideas, and have a Great Time! For more information, explore www.visitmilwaukee.org/amaty2019.

Project SLOPE
by Megan Breit-Goodwin, Principal Investigator

AMATYC is pleased to announce the pilot cohort of the AMATYC Project SLOPE Research Fellows Program (NSF #1726891). The Project SLOPE Fellows will conduct Scholarship of Teaching and Learning (SoTL) projects in their classrooms. The SoTL projects will connect to the pillars of PROWESS (PRoficiency, OWnership, Engagement, and Student Success) presented in AMATYC IMPACT.

The six Project SLOPE Fellows are in the early stages of their SoTL projects, reflecting on their teaching experiences and creating potential research questions grounded in current research and scholarship. The Project SLOPE leadership, mentors, and Fellows look forward to sharing the results of these inquiry projects with the AMATYC community.

AMATYC Project SLOPE Research Fellows
• Rhea Becke, Clark College, Washington
• Vinodh Kumar Chellamuthu, Dixie State University, Utah
• Wendy Johnson, Wake Tech CC, North Carolina
• Anurag Katyal, Palm Beach State College, Florida
• Luke Walsh, Catawba Valley CC, North Carolina
• Brooks Ziegler, Pellissippi State CC, Tennessee

AMATYC Project SLOPE Research Mentors
• Keith Nabb, University of Wisconsin - River Falls, Wisconsin
• John T. Smith, Pellissippi State CC, Tennessee
I am not an expert on issues related to equity. Most of us are not. However, we do have some expertise in interpreting data and evaluating data sources. Data make it evident that inequities exist related to education, incarceration, poverty, income, wealth, and other areas. For example, consider the graph below displaying the completion rates of a cohort of students who began their post-secondary education in two-year colleges in Fall 2011. [1]

As the graph shows, there are numerous disparate six-year completion rates among students who begin college in a two-year college. White students who begin at a two-year college are almost twice as likely as black students to complete a degree within six years. The dropout rates for black students are significantly higher than students of other races and ethnicities.

There are also differences in the faculty composition at institutions of higher education. While blacks make up about 13.4% of the U.S. population [2], only about 7.5% of two-year college full time faculty are black [3]. Similarly, while Hispanics make up about 18.1% of the U.S. population [2], only about 6.5% of two-year college full time faculty are Hispanic [3].

An initial reaction to data such as these is to seek ways to make the situation more equitable. Unfortunately, we find it difficult to discuss issues of equity since most of us are not experts, and we are fearful that we might say the wrong thing.

Equity is a topic in the forefront of many national mathematics education and policy organizations. At the recent Association of Mathematics Teacher Educators conference, speakers at a keynote session on equity shared the following advice when discussing the topic of equity.

- The first step in addressing inequities is to acknowledge that they exist.
- Mistakes will be made as non-experts discuss equity issues, and making mistakes occurs naturally as we assimilate new information and evolve in our thinking on these issues. We need to be patient with our collective ignorance on issues surrounding equity.
- We can all do our part to combat inequities in education and society. Inaction is part of the problem. Failing to address inequities sends a signal that equity is unimportant.

I have embraced equity awareness in my own mathematics classes. Part of making my students aware of some of the inequities that exist is to give them an equity IQ test prior to exploring related, real data sets. Here are several equity IQ questions that students discuss prior to deeper study of the data. (Estimates appear at the end of this article.)

a) **Death Penalty.** About 13.4% of the U.S. population is black. What percentage of the U.S. death penalty executions since 1976 were of black defendants? _____

b) **Poverty.** About what percentage of U.S. citizens living in poverty are children? _____ Are black? _____. Are white (non-Hispanic)? _____.

c) **Incarceration.** About what percentage of those incarcerated in the U.S. are black? _____. 39.3% of U.S. citizens are people of color [2]. About what percentage of juveniles serving life without parole are people of color? _____

d) **Wealth.** On average, white households have accumulated wealth equal to about ____ times the accumulated wealth of black households.

In addition to becoming aware of some of the empirical facts about inequities, my students also learn mathematics using data sets highlighting inequities. For example, students create statistical graphs in Excel, calculate conditional proportions and probabilities, and investigate an application of Simpson’s Paradox as they analyze death penalty data. Students create scatterplots and time-series graphs in Excel, compute their 2018 federal tax savings, and compute expected values as they analyze the tax tables from the 2018
An AMATYC Opportunity

AMATYC Project ACCCESS Coordinator

AMATYC is looking for the next Project ACCCESS Coordinator. Project ACCCESS is a mentoring and professional development initiative for two-year college mathematics faculty. The goal of Project ACCCESS is to facilitate current and continued professional growth for a cadre of two-year college mathematics faculty who will become leaders in their profession. The Coordinator plays a key role to ensure that this lofty goal is achieved and is an essential part of running the program.

The AMATYC Project ACCCESS Coordinator leads a team that plans and implements the Project ACCCESS activities for each cohort of ACCCESS Fellows. The coordinator works closely with the AMATYC Board Liaison, the AMATYC office, and the AMATYC Annual Conference planning team.

Interested applicants should email i) a letter of interest, ii) a current resume, and iii) a letter of support from their immediate supervisor to Sarah Pauley, AMATYC Northwest Region Vice President and Search Committee Chair, at spauley@westernwyoming.edu. A review of the candidates will begin April 30, 2019. Please visit www.amatyc.org or contact Sarah Pauley with questions regarding this important position.

Term of Office

The term length is three years. The starting date of each term is January 1 and the ending date is December 31.

General Duties

1. Market AMATYC Project ACCCESS.
2. Chair a committee to select new Fellows.
3. Plan and facilitate a program for the Fellows during the national conference.
4. Work within a budget to plan and implement the annual program.
5. Promote the professional development of the Fellows throughout the academic year by supporting and evaluating their individual projects.
6. Promote communication among the Fellows through a mailing list (or equivalent).
7. Work with AMATYC affiliates to involve the Fellows in affiliate conferences.
8. Involve the post-Fellows in the planning and implementation of programs for future cohorts.
9. Work with the AMATYC Grants Coordinator to develop proposals to secure outside funding to support the program.
10. Develop an evaluation tool to determine the impact of the program on the organization.
11. Regularly monitor and keep current the AMATYC Project ACCCESS webpages on the AMATYC website. Send updates of these webpages to the AMATYC Website Coordinator as needed.

Qualifications

1. Good written and verbal communication skills.
2. Experience as a workshop presenter.
3. Experience in planning and implementing workshops, meetings, or conferences.
4. Experience in program evaluation.
5. Experience in writing grants.
6. AMATYC member with a Regular or Life membership.
7. Well organized and able to work on a prescribed schedule and timeline.
8. Ability to respond to requests and questions from Fellows promptly.
9. Ability to communicate, work with others cooperatively, and provide leadership to colleagues and Fellows.

Support

This position is a supported position. This means travel to the AMATYC Annual Conference, half the cost of room accommodations, and meal per diem are covered.

New AMATYC News

Editor Appointed

The AMATYC board has appointed Jennifer Travis to serve as editor of the AMATYC News. Since 2005, Jennifer has been teaching mathematics full-time at Lone Star College - North Harris in Houston, TX. When she discovered AMATYC in 2015, she dived in enthusiastically, attending the conference, presenting and presiding at sessions, and serving on committees. Jennifer wants to do her part as an ambassador for AMATYC, so that other mathematics faculty do not wait ten years before discovering what AMATYC has to offer. (Yes, Jennifer had heard of AMATYC earlier in her career; but as with our students and mathematics, there is a difference between knowing about something, and really knowing it and appreciating its value.)

While working on her Ph.D. at Texas A&M University, Jennifer discovered that she loves writing and editing – especially editing. She gets a kick out of playing with sentences. She finds joy in reorganizing paragraphs and cleaning up ambiguous phrases. The AMATYC News editor position is a perfect job for Jennifer, as it combines her love for AMATYC and her love for editing.

Jennifer is thrilled to serve as the News editor and thanks the AMATYC board for appointing her. She would also like to extend special thanks to publications director Christine Shott, board liaison Sarah Pauley, and previous editor Diane Koenig for their guidance and for making the transition as seamless and stress-free as possible. Jennifer looks forward to helping AMATYC use the News to build a stronger community, celebrate members’ accomplishments, and share information about valuable resources and exciting opportunities available to two-year college mathematics faculty.
Got ACCCESS?
by Christy Hediger, Project ACCCESS Coordinator

Project ACCCESS is getting ready for another round of applications to be reviewed. Mathematics faculty for whom the 2019-2020 academic year will be their first, second, third or fourth year of their first full-time renewable position are eligible to apply. This year, eligibility requirements were extended to the first four years. So if you missed applying last year and thought you wouldn’t be eligible this year, you just might be! Approximately 30 Fellows will be selected for Cohort 16. The application deadline is May 15, 2019.

Conference planning for the AMATYC Conference in Milwaukee is actively underway for both Cohort 15 (2018-2019) and Cohort 16 (2019-2020). Cohort 15 will follow the tradition of participating in the Poster Session to present projects they have implemented in their classrooms.

Mathematics Excellence Award Nominations Now Open
by Jane Tanner, Past President

Every two years, AMATYC honors a mathematician or mathematics educator who has made outstanding contributions to mathematics in the first two years of college. Michelle Younker, chair and associate professor of mathematics at Owens State CC, was the recipient of the 2018 award presented at the Annual Conference in Orlando.

It is not too early to begin thinking about the 2020 Mathematics Excellence (ME) Award. Nominations are now open for the award that will be presented in November 2020 in Spokane. The deadline for submitting a nomination is November 1, 2019. Specific information about the nomination process, including the criteria, can be found at www.amatyc.org/MathExcellenceNomin.

The Mathematics Excellence Award Committee members were selected at regional meetings at the 2018 annual conference. You may also contact one of them for more information.

Members of the ME Committee are as follows:
- Patty Zabel (zabelp@sunyocc.edu), Northeast
- Lisa Feinman (lfeinman@ccbcmmd.edu), Mid-Atlantic
- Anne Magnuson (asmagnuson@waktech.edu), Southeast
- Paul McCombs (p.mccombs@rockvalleycollege.edu), Midwest
- Mike Lueke (hlueke@stlcc.edu), Central
- Anne Reynolds-Garza (anne.reynolds-garza@cgc.edu), Southwest
- Peter Wildman (peter.wildman@sfc.spokane.edu), Northwest
- Reina Ojiri (mojiri@hawaii.edu), West
- Jane Tanner (tannerj@sunyocc.edu), Chair

Please consider nominating a deserving colleague for this prestigious award.

Who Will Be the Next Margie Hobbs Award Recipient?
The Margie Hobbs Award is given annually to an AMATYC member who has been selected for the first time to present a regular session or workshop. The $500 award is used by the recipient to offset AMATYC conference expenses.

This award honors the memory of Margie Hobbs, a long-time AMATYC member who served as program chair, regional vice president, treasurer, and conference coordinator. It is made possible through contributions to the AMATYC Foundation. Rusandica (Sanda) Manole of Pemneter College at Georgia State University was the first recipient of the Margie Hobbs Award at the 2018 AMATYC Annual Conference.

Have you received an acceptance letter to present a regular session or workshop at AMATYC’s conference in Milwaukee? Will this conference be your first time presenting at an AMATYC conference? Will you be the sole presenter for your presentation? If you can answer “yes” to all of these questions, then consider submitting your name for consideration to receive the Margie Hobbs Award.

Nominations for the 2019 Hobbs award are due by June 1 to the AMATYC Foundation. For more information, visit www.amatyc.org/MargieHobbsAward.

Anyone interested in mentoring the newly selected Fellows should email Maureen Maikner, Project Assistant, at mmaikner@lccc.edu.

For more information about Project ACCCESS, go to www.amatyc.org/ACCCESS. If you have additional questions, contact Christy Hediger at chediger@lccc.edu.

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For more information about Project ACCCESS, go to www.amatyc.org/ACCCESS. If you have additional questions, contact Christy Hediger at chediger@lccc.edu.
**Hear and Share Great Ideas in Milwaukee**

by Judy Williams, Program Coordinator

Hear Great Ideas and share your own at the 45th Annual AMATYC Conference in Milwaukee, WI, November 14 - 17, 2019. On Thursday morning from 8:00 am - 10:00 am, choose from 36 different speakers giving 15-minute presentations in Themed Sessions hosted by the following ANets and academic committees:

- Equity Committee: Equity-Minded Mathematics Instruction
- International Mathematics ANet: Global Learning in Mathematics
- Joint Pathways Subcommittee: Math Pathways: Exploring the Present and Envisioning the Future
- Statistics Committee: Engaging Introductory Statistics Students with Real Data
- Teacher Preparation Committee: Engaging Future Teachers with Concepts of Number Sense
- Mathematics Intensive Committee: A Non-Empty Set of Intensive Mathematics Presentations

With the conference app, it is easy to check the topics and move from room to room for whatever talk catches your interest.

During those same hours Thursday morning, consider joining a 50-minute tour of the Wisconsin Center to learn more about AMATYC and meet leaders from the Executive Board, Professional Development, and Conference Committee along the route. These AMATYC 101 walking tours will leave at 8:00 am, 8:20 am, 8:40 am, and 9:10 am.

Mini sessions (25-minute presentations), introduced in Orlando, return from 11:30 am to 12:25 pm, with time for a quick lunch break between presentations. Before the Keynote Session at 3:00, join your colleagues for Chat & Chew, with three 15-minute visits to different table discussions. Corporate Partners McGraw-Hill and Hawkes will supply cookies; bring your own beverage.

And all this is happening on Thursday!

Even more exciting sessions are planned for Friday through Sunday, including a panel discussion on equity with Presidential Exchange Speakers from AMTE, NADE, NCTM, and TODOS. Keep your eyes open for additional program details for future editions of the AMATYC News. Watch for sessions about corequisite courses, IMPACT, Open Educational Resources, and Pathways, with new speakers and returning friends sharing those Great Ideas.

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**A New Great Idea for Milwaukee**

by Nathalie Vega-Rhodes, Assistant Conference Coordinator

See it at the 2019 Poster Session – “Great Lakes, Great Ideas, Great Posters” – Friday 2:00 pm - 4:00 pm in the Ballroom CD Foyer, with browsing starting at 11:00 am. Each poster will have its own easel, giving you more room to speak with the presenters while others look at the poster.

Also a reminder for those who have been invited to present their posters: the 2’ X 3’ foam board is not a trifold. Be sure to bring all your display materials for mounting on your board and any handouts you may want to share. As usual, no electrical support or Internet connections are available in this area.

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**Register Early for Milwaukee!**

Are you looking forward to the next AMATYC Conference? Will you be there? Make plans now to attend the 2019 AMATYC Conference in Milwaukee, WI. If you or your college have professional development funds in your current budget that can be used for your registration fee, there is an offer available for you.

To pay the registration fees from your current budget, please email Beverly Vance at amatyc@amatyc.org and put “Conference Registration Now” in the subject line. Beverly will send you the necessary information so that conference registration can be paid NOW! The miniprogram that will be received in August will include many details of the conference. Until then, information will continue to be added online at the conference website, on AMATYC’s Facebook page, and the conference microsite.

You can reduce your costs, and stay at the conference hotel, by sharing your hotel room for the AMATYC Conference. Ask a colleague to be your roommate or send an email to Sarah Miller, AMATYC’s Roommate Network Director, at smiller10@ccbcmd.edu and ask her to help pair you with another conference attendee to share a room. The email should include your name, gender, email address, telephone number, room type, arrival and departure dates. While AMATYC does not guarantee a roommate pairing, this process has been successful in the past.

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**Breaking News**

AMATYC and Corporate Partner McGraw-Hill Education are pleased to announce that on Friday, November 15, at 8:00 am, John Urschel will be speaking at the 2019 AMATYC Annual Conference in Milwaukee. His love for math and football led him to bachelor’s and master’s degrees in mathematics at Penn State, three seasons with the Baltimore Ravens football team, then an early retirement from the NFL to pursue a Ph.D. in mathematics at the Massachusetts Institute of Technology.

Please consider presiding at the Milwaukee conference in November! To volunteer as a presider, go to http://confreg.amatyc.org/PRESIDE-2019.php. Good things come to those who volunteer!
**Find Free Statistics Resources at StatPREP.org**

by Kathryn Kozak, President-Elect

MAA StatPREP is a project supported by National Science Foundation (DUE-1626337). Through a series of regional summer workshops, faculty learn the data-science skills needed to teach introductory statistics with a data-centered approach. Materials created for the workshops have been posted at the project website, http://statprep.org/, and are peer-reviewed and free to use.

The Webinar Series portion of StatPREP focuses on helping instructors develop data-centric teaching practices, and includes recordings of past webinars. The Resources area of the StatPREP site features three types of materials: Little Apps, Class Lessons, and Tutorials.

- **Little Apps** are interactive apps that engage students with statistical concepts by letting them use real data to explore specific statistical techniques. The site currently has five Little Apps: Center and Spread; Two-Sample t; Linear Models; Proportions; and Resampling and Bootstrapping. These web-based apps use R Studio, but no R Studio knowledge is needed because R Studio runs in the background. The R commands are visible, allowing students and instructors to learn the commands.

- **Class Lessons** are intended for class use with students to explore data concepts and to show how data can be incorporated into statistics. The six Class Lessons are: A First Day Lesson; Collecting Data: Globe Toss; A River Boat Card Trick; Accessing In-Class Data; An Experiment: What's Normal?; and Detecting Diabetes. The Class Lessons were developed using R Studio, but no knowledge of R Studio is needed. The Class Lessons ask the students and teachers to fill in R commands in particular places, providing the opportunity to learn the commands.

- **Tutorials** are designed to help faculty learn modern data-centric methods of teaching statistics. Tutorial topics include tables, basic R vocabulary, graphics, classical statistical calculations, sampling variation, and confidence intervals. The tutorials are fairly quick lessons that can be reviewed prior to teaching the topic. They can also be used as lessons for students.

As the StatPREP project continues through 2021, additional resources and webinars will be posted on http://statprep.org.

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**Student Mathematics League**

by Steve Hundert, Coordinator

In the fall semester about 5,500 students from 155 colleges participated in Round 1 of the AMATYC Student Mathematics League competition. The Round 2 competition ended on March 2. If your college has not yet participated, please consider forming a team and joining the league for the 2019/2020 academic year. Here are highlights of the Round 1 results:

**Top Teams**

1. De Anza College (CA) 160.5 points
2. Los Angeles City College (CA) 139.0 points
3. Brookdale CC (NJ) 136.0 points
4. West Valley College (CA) 131.5 points
5. Foothill College (CA) 123.5 points
6. Laney College (CA) 120.5 points
7. East Los Angeles College (CA) 113.5 points
8. Bellevue College (WA) 113.0 points
9. Evergreen Valley College (CA) 108.5 points
10. Schoolcraft College (MI) 108.0 points

**Top Regional Teams**

Northeast – LaGuardia CC (NY)
Mid-Atlantic – Brookdale CC (NJ)
Southeast – Durham Technical CC (NC)
Midwest – Schoolcraft College (MI)
Central – Johnson County CC (KS)
Southwest – Tarrant County College NE (TX)
Northwest – Bellevue College (WA)
West – De Anza College (CA)

**Top Individuals**

1. Steven Liu – Brookdale CC (NJ) 40.0 points
2. Yixin Chen – De Anza College (CA) 40.0 points
3. Kaiwen Bian – De Anza College (CA) 36.0 points
4. James Shi – Foothill College (CA) 35.5 points
5. Austin Lei – West Valley College (CA) 35.0 points
6. Edward Jin – Los Angeles City College (CA) 35.0 points
7. Eva Quitzman – Montgomery College (MD) 35.0 points
8. Ajay Arora – Schoolcraft College (MI) 32.5 points
9. Freya Edholm – College of San Mateo (CA) 32.5 points
10. Junyu Zhu – City College of San Francisco (CA) 32.5 points

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**Future AMATYC Conferences**

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<tr>
<th>Year</th>
<th>Location</th>
<th>Dates</th>
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<tbody>
<tr>
<td>2019</td>
<td>Milwaukee, WI</td>
<td>November 14-17</td>
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<tr>
<td>2020</td>
<td>Spokane, WA</td>
<td>November 12-15</td>
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<tr>
<td>2021</td>
<td>Phoenix, AZ</td>
<td>October 28-31</td>
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<td>2022</td>
<td>Toronto, Canada</td>
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<td>2023</td>
<td>Omaha, NE</td>
<td>November 9-12</td>
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For additional information, contact the AMATYC Office at amaty@amatyc.org or 901.333.5643.
In response to the growing interest in data science education at two-year colleges, the American Statistical Association (ASA) hosted the Two-Year College Data Science Summit (TYCDSS) in May 2018. The project was led by Rob Gould (UCLA) and Roxey Peck (Cal Poly SLO). With support from the National Science Foundation (NSF) and Booz Allen Hamilton, the summit assembled 72 educators, researchers, and practitioners in statistics, mathematics, computer science, and data science. Participants included faculty from two- and four-year colleges, along with representatives from industry, government, and non-profits. Along with the AMATYC members who participated in the summit, the steering committee and writing teams consisted of AMATYC members Julie Hanson, Brian Kotz, Kathy Kubo, Mary Rudis, Brad Thompson, and Rebecca Wong. Additional support was provided by the AMATYC Statistics and Data Science subcommittees.

The summit produced a report with curricular guidelines and recommendations to assist two-year colleges in establishing and maintaining data science programs. Here is a link to the TYCDSS webpage, which includes a link to the final report, as well as other resources: www.amstat.org/ASA/Education/Two-Year-College-Data-Science-Summit.aspx.

The TYCDSS considered three different types of potential data science programs: associate degree programs for students who intend to transfer to a four-year institution, associate degree programs for students aiming to go directly into the workforce, and certificate programs for professional development. For each program type, the report describes recommended outcomes in various categories, including computational thinking, statistical foundations, and data management and curation. It also discusses the different challenges that each type of data science program may encounter. Challenges include faculty preparedness and professional development, establishing partnerships with local industry, and a general lack of consensus on what exactly data science is and what specific qualifications are necessary to work in the field.

Key recommendations from the TYCDSS report include:
1. Create courses that provide students with a modern and compelling introduction to statistics, including exploratory data analysis, simulations, and an introduction to confounding and causal inference.
2. Ensure that students have ample opportunities to engage with realistic problems using real data.
3. Explore ways of reducing mathematics as a barrier to studying data science, possibly including a “math for data science” sequence that emphasizes applications and modeling.
4. Design courses so that students solve problems that require both algorithmic and statistical thinking.
5. Expose students to technology tools and require students to develop fluency in at least one programming language used in data science.
6. Infuse ethical issues and approaches throughout the curriculum.
7. Foster active learning and use real data in realistic contexts and for realistic purposes.

All certificate or associate degree programs in data science share a common goal: the employability and marketability of graduates. While many job postings in data science and analytics may still list a bachelor's or graduate degree as a minimum requirement, an encouraging outcome of the summit was the consensus among industry professionals that there is definitely a need for “entry-level” data scientists and that two-year colleges have a role and opportunity to help meet this demand.

Data science education at two-year colleges is a new and relatively unproven endeavor, and also an exciting opportunity with huge potential benefit for students. If you have an interest in data science, please look at the work from the TYCDSS and consider whether your institution could begin implementing a data science program.

If interested in joining the Data Science Subcommittee of the Statistics Committee, contact Ambika Silva at Ambika.Silva@canyons.edu.
Adjunct Faculty Issues (AFI) ANet
by Judy King, Leader

Although adjunct faculty may be up to 75% of instructors on a community college campus, they make up only a small percentage of AMATYC members and conference attendees. How can AMATYC increase the number of active adjunct members and become more representative of the population of collegiate educators? How can AMATYC help to support adjunct faculty, considering adjuncts may not have access to travel funds or paid days off? A recent email suggested mini-conferences for adjunct faculty, held on weekends in regions where there are many adjuncts. Does this idea have potential? Would adjunct faculty from your institution attend? Suggestions on this idea, or on other matters of interest to adjunct faculty, are appreciated. Please post your ideas and comments in the AFI ANet group on the AMATYC website.

While you’re at it, give some thought to two topics that are perennials at AFI ANet meetings: how to inexpensively acknowledge the work of adjuncts, and how to improve mentoring for adjuncts. Should the AFI ANet prepare a traveling workshop? Should members be encouraged to present sessions or posters on these topics at future AMATYC conferences? Other places to share ideas include writing short articles for the AMATYC News or longer ones for the MathAMATYC Educator.

For more information, contact Judy King at turkcay@comcast.net.

Teacher Preparation Committee
by Mark Kuhlman, Chair

The AMATYC Teacher Preparation Committee examines issues relating to the preparation of prospective teachers. Issues include teacher preparation curriculum, sharing of effective classroom practices, and professional development for faculty who teach these courses at two-year colleges.

The Teacher Preparation Committee will be sponsoring the themed session Engaging Future Teachers with Concepts of Number Sense during the 2019 conference in Milwaukee. This themed session will be engaging and enlightening. The following are the presenters and their respective topics:

- Abigail Bailey – Literature to Promote Early Number Sense.
- Judy Werner – What is Number Sense and How Can It Be Applied at Different Levels?
- Abigail Brackins – Inventing the Number System: The Cinconia Project.
- Cynthia Griffin Ediger – Reversing the Effects of the “Multiplication Mad Minute.”

The Teacher Preparation Committee continues to add links and materials to our external teacher preparation website. One of the links on our website is “It Worked for Me: Activities from the Classroom,” an AMATYC member-sourced electronic collection of innovative lessons, activities and best practices for use in mathematics courses for prospective teachers. The committee encourages you to submit a lesson or activity for the website to help it grow into a wonderful repository for teacher preparation courses. Visit wwwsites.google.com/site/amatyctprep/home to contribute ideas and keep up with all of the new activities of the Teacher Preparation Committee.

Connect with other passionate AMATYC members to improve the mathematical preparation of future teachers. For those interested in joining the Teacher Preparation Committee please contact Mark Kuhlman at mkuhlman@caspercollege.edu.

Mu Alpha Theta
by Rita Ralph, Liaison

Mu Alpha Theta, a national mathematics honor society for high schools and two-year colleges, continues to seek ways to increase the number of active two-year college Mu Alpha Theta Chapters. More information is available at www.mualphatheta.org. If you are interested in starting a math club or mathematics honor society at your two-year college, or you have questions, contact Rita Ralph at ralph@cscc.edu. Help is available with the application process as well as advice on how to run and maintain a chapter at your school. Benefits of Mu Alpha Theta include recognition for your talented math students, honor cords to wear at graduation, scholarships, grants, awards, free competitions, and an annual national convention. Recently, Columbus State CC was awarded a $1,000 grant to pay for expenses related to hosting math club meetings such as food and speaker fees. Additionally, if your AMATYC region or state affiliate is hosting a conference, please allow Mu Alpha Theta to provide informational flyers and small giveaways for attendees. Simply email your conference date and address to info@mualphatheta.org with the subject line “AMATYC Conference” at least two weeks prior to your conference.

The AMATYC News is the official newsletter of the American Mathematical Association of Two-Year Colleges and is published four times per year in January, April, August, and October. Your articles, announcements, comments, and letters to the Editor are welcome. Submit all materials by November 25, February 25, June 1, and August 15 for the respective issues.

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**Equity Committee**
by Benjamin Aschenbrenner; Anders Jasson Stachelek; and Dorota Zak, Chair

The new Equity Committee held its first face-to-face meeting at the 2018 AMATYC Conference in Orlando. It was very well attended and attracted new members, connecting them to the group and informing them of the goals and ongoing work of this committee.

The committee created a flyer to highlight presentations focused on equity, enabling AMATYC members to easily identify such presentations. There were nine presentations, with topics ranging from micro-aggressions to the consideration of intersectionality in contextualized word problems.

Discussion of utilizing IMPACT Live! as a platform for sharing resources on equity has begun, and a subcommittee has been formed to manage this work. The goal of such a platform is to provide a means to share information electronically and to give people interested or already deeply invested in equity a place to find scholarship and articles on both theory and practice.

At the Milwaukee conference in 2019, the Equity Committee will present a themed session and will host a panel discussion featuring leaders from influential mathematics and mathematics education organizations (AMTE, NADE, NCTM, and TODOS). The committee will create another conference flyer to assist attendees in quickly identifying equity-based presentations, while we continue to work on obtaining an official indicator in the program to be included in 2020.

It has been a busy beginning for the committee, but there is much work to be done to address the long-standing inequalities in our field, both in classrooms and in our larger organizations. If you would like to join the Equity Committee, please contact Dorota Zak at mathequity1@gmail.com.

**International Mathematics ANet**
by Steve Krevsky, Leader

The International Mathematics ANet has been rather busy on many fronts. At the AMATYC Conference in Orlando, the ANet held a preliminary hearing on its draft position paper and received very useful feedback. The writing team is working to revise it further, including the addition of references to strengthen the arguments.

At the AMATYC Conference in Milwaukee, the ANet will host a themed session on International Mathematics. Six speakers have been recruited for this special event. Each will speak for 15 minutes. The presentation topics and speakers are:

- Wendi Morrison – *Learning Diversity: Examples from a Global Classroom*.
- Clarence Baney – *Islamic Art and Geometric Design*.
- Jim Roznowski – *Monumental Mathematics – La Sagrada Familia*.
- Barbara Leitherer – *First Steps to a Service Learning Project with Global Impact*.
- Rehana Yusaf – *A Global Perspective on Income Inequality – Using Business Calculus*.

The ANet also held a teleconference over the winter, which helped formulate future plans. Topics discussed included the creation of a website linked to the AMATYC site, and generating a logo.

Stay tuned for more from the International Mathematics ANet in the future!

**Grants Update**
by Dennis Ebersole, Grants Coordinator

In response to the increased interest of AMATYC members in grant-writing, some grant-savvy AMATYC members and National Science Foundation (NSF) program officers have put together three proposals for talks in the Grant Series. The first will be an overview of NSF grant programs that are seeking proposals involving community colleges. The second will be a workshop that will help participants become successful grant writers. The third presentation will focus on grants involving AMATYC as a partner. Partnering with AMATYC can provide expertise that you may not have locally and also help with the dissemination portion of the grant. AMATYC’s NSF IUSE writing team continues their work on a large grant to propagate the ideas in the IMPACT document that was unveiled at the 2018 AMATYC Conference in Orlando.

Grant Writing Tip #10: The Evaluation section of a grant proposal is one of the most important sections for most reviewers. This is where the proposer tells the grant reviewers how it will be determined whether the goals and objectives are being met. Reviewers want to see that there is a plan to measure the extent to which each objective is met and a planned response if an objective is not met. For small or short-term grants an internal evaluator is often acceptable – someone from your institution with experience in gathering and analyzing data. For larger grants, the use of an external evaluator is normally expected. Although the Evaluation section is often near the end of the grant proposal, it should be treated as a critical component, not as an afterthought.

**AMATYC Traveling Workshops**
**Bringing Ideas to You!**
by Mari Menard, Coordinator

How can you be a part of an AMATYC Traveling Workshop? Are you ready to share your knowledge with faculty from across the United States? Would you like to share your experiences with corequisite implementation, a new statistics course, teacher preparation, or another topic of current interest? If you answered yes, then you should explore how to become an AMATYC Traveling Workshop Facilitator! A college or AMATYC affiliate can

> Continued on page 10
Innovative Teaching and Learning Committee
by Dan Petrak, Chair

The AMATYC Innovative Teaching and Learning Committee (ITLC) is glad to help promote the new IMPACT (Improving Mathematical Prowess and College Teaching) document and its online companion website IMPACT Live!, http://myamatyc.org/. Faculty are encouraged to read the document and interact with others on the site.

Beyond the annual conference and the Ignite event, professional development can happen throughout the year through the ITLC Google Group. There are so many great people with ideas to share, so please make it part of your professional learning network: https://groups.google.com/d/forum/amatyctilc.

Minor revisions to the position statement on The Use of Technology in the Teaching and Learning of Mathematics in the First Two Years were accepted by the AMATYC Board in 2018. The position statement on Distance Education in College Mathematics Courses in the First Two Years is under final revisions and will be open for commenting by the AMATYC membership in the spring of 2019. The hope is for the statement to be accepted at the 2019 annual conference. This document is posted on the ITLC Google Group page and members are invited to view and comment on it there.

Student Research League
by Karen Gaines, Coordinator

At the time of this publication, the 2nd Annual Student Research League competition will be underway. While it is too late to register a team for this year, you still have time to volunteer as an Evaluator. For more details, visit amatyc.org/StudentResLeague or contact Karen Gaines at srl@amatyc.org.

The results for the national prizes were announced at the AMATYC Annual Conference in Orlando. Congratulations are in order for the National Finalists of the 1st Annual Student Research League competition.

Grand Prize
Joshua Gray, Mikayla Hoyle, and Patience Mitchell (Metropolitan CC - Blue River)
Faculty Mentor – Sherri Peister

Second Place
Jassmine Garcia, Shelby King, and Sao Nguyen (Tarrant CC - Northeast)
Faculty Mentors – Barbara Smith and Karen Pace

Third Place
Luciana Elizarraras and Khang Van Pham (Arizona Western College)
Faculty Mentor – Dahwei Chang

Traveling Workshops, Cont’d from page 9
request a Traveling Workshop. As a Traveling Workshop Facilitator, you decide whether the request is a good fit for you, based on schedule, workshop location, and content (or strand). The Traveling Workshop Facilitator works closely with the requester to plan the workshop based on clear goals. Please go to www amatyc.org/TWFacilitator and complete the Facilitator application.

Content strands for the Traveling Workshops include Developmental Mathematics, IMPACT Recommendations, Inquiry-Based Learning, Quantitative Reasoning, Technology, and more. Details are available at www amatyc.org/TravelingWorkshops.

If you have questions about AMATYC Traveling Workshops, contact Mari Menard, AMATYC Traveling Workshop Coordinator, at tw@amatyc.org.
President's Message, Cont’d from page 2

Tax Cuts and Jobs Act and trends in annual incomes. Students construct statistical graphs, create an infographic, and compute empirical probabilities as they analyze U.S. poverty data. And, in the introductory statistics class, hypothesis testing is also used to analyze these data sets.

Similarly, AMATYC is committed to equity.

- A new academic committee was established in the last two years. The AMATYC Equity Committee is accepting new members and, like all academic committees, membership is free.
- The Equity Committee is creating a position statement on equity that will most likely be finalized in November 2019. The committee is accepting comments on the current draft. [4]
- Equity is a theme at the annual AMATYC conference. The 2019 AMATYC conference in Milwaukee will include an equity themed session, a panel on equity of leaders from several of AMATYC’s partner organizations, and other concurrent sessions on equity.

Join us as we become aware of inequities that exist in education and society and as we learn to overcome some of these inequities in the classroom.

\begin{align*}
  \text{a) } & 34.5\% \quad [5] \\
  \text{b) } & 32.3\%, 21.2\%, 8.7\% \quad [6] \\
  \text{c) } & 40\%, 77\% \quad [7] \\
  \text{d) } & 10 \quad [8]
\end{align*}

References


Celebrate Math at the 2019 National Math Festival in Washington, D.C. on May 4

Math lovers, mark your calendars! The National Math Festival brings together some of the most fascinating mathematicians of our time to inspire and challenge participants to see math in new and exciting ways. All ages will enjoy a full day of hands-on activities, stage presentations, performances, art, films, mathletic events, puzzles, games, children’s book readings, and more.

The National Math Festival is free and open to the public from 10:00 a.m. till 4:00 p.m. on Saturday, May 4, 2019 at the Walter E. Washington Convention Center in Washington, D.C. More than 20,000 children and adults of all ages are expected to attend. Register for free to receive event updates: www.tinyurl.com/ANMFRegister.

Those outside the D.C. area can participate via events at dozens of science museums around the U.S. or explore math games, puzzles, books, videos, and other resources online at http://nationalmathfestival.org/more-math/. For more information or to receive 2019 Festival news, visit http://nationalmathfestival.org.

AMATYC Elections

AMATYC elections will be held this fall. Only individual members, with a regular (current as of June 30, 2019) or lifetime membership, are eligible to vote in this upcoming election. Institutional contacts are not voting members of AMATYC unless they are also individual AMATYC members. AMATYC’s reduced-cost memberships for adjuncts, students, and retired faculty do not include eligibility to vote or hold elected office. Anyone in these categories who wishes to support colleagues by voting in the 2019 election should join as a regular member no later than June 30, 2019.

Go to the AMATYC database and confirm your personal contact information, especially your email address, or join or renew your membership as soon as possible. Electronic voting will be used for the election being held in the fall of 2019. It is essential that email addresses for all individual members are correct, so all eligible members can participate. Please confirm your email address today! Report any problems to Beverly Vance at bvance@amatyc.org.
Focus on Affiliates: FTYCMA
by Rebecca Williams, FTYCMA Newsletter Editor

FTYCMA was founded in 1965, originally called the Florida Junior College Council of Teachers of Mathematics (FJCCTM). The organization was renamed the Florida Two-Year College Mathematics Association (FTYCMA) in the early 1980s, signaling the group’s inclusion of both teachers and other professionals interested in mathematics at two-year colleges.

From the mission statement, the objectives of FTYCMA are:

• to encourage the development of effective mathematics programs,
• to afford a statewide forum for the sharing of ideas,
• to further develop and improve the mathematics curricula,
• to further mathematics-related experiences of students in two-year colleges, and
• to promote the professional welfare and development of our members.

The state of Florida is large, both in terms of land area and population, and FTYCMA aims to serve and represent all 28 two-year colleges in the Florida College System. While FTYCMA meetings have occurred all throughout the Sunshine State, they often take place in central Florida locations to facilitate access for a greater number of members.

FTYCMA hosts a “Mathematics in the Sun” retreat each fall, typically in late September or early October (and occasionally coinciding with hurricanes or tropical storms). The Fall Retreat features discussion groups where educators from across the state of Florida can share everything from successful teaching strategies to concerns about student preparedness. In addition, the Fall Retreat features guest speakers, often state representatives from the Florida College System. Topics reflect current trends in Florida education, with the most recent Fall Retreat focused on corequisite models.

FTYCMA also co-hosts the annual Joint Meetings of MAA – Florida Section and FTYCMA, typically in February. At the beginning of the conference, FTYCMA holds an Officers’ Meeting and a Business Meeting, where FTYCMA presents a Teaching Excellence Award in even-numbered years and an Outstanding Service Award in odd-numbered years.

The organization also had a strong presence at the 2018 AMATYC Annual Conference in Orlando. FTYCMA superstar Penny Morris did an amazing job as the Local Events Coordinator for the conference, and numerous other FTYCMA members presented, presided at sessions, served as delegates, volunteered in the Hospitality Room, and attended various conference activities right in Mickey Mouse’s backyard.

In a state as large as Florida, FTYCMA creates a collegial and collaborative network of teachers and professionals to foster individual relationships and support systems across the many state colleges. Please visit the FTYCMA website at http://scf1.scf.edu/ftycma/ for more information, or to become an annual or lifetime member.