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## Overview of the Conference

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The sixth annual Mathematics Teacher Education Partnership (MTE-Partnership) conference was held at Hotel Monteleone in New Orleans, LA, from June 25-27, 2017. With 99 registrants from 32 of the 39 MTE-Partnership teams, the theme for this year's conference was "The MTE-Partnership at Five Years: Growing Capacity for Continuous Networked Improvement."

In support of the partnership aim, the goals for the 2017 annual conference were:

- Partnership/institutional teams would plan next steps in transforming their programs.
- The Research Action Clusters (RACs) would continue their work, including considering how they share their work, in order to contribute to additional teams' transformational efforts.
- The Partnership as a whole would grow its sense of joint purpose and identity as a networked improvement community supporting program transformation.
- A specific focus on equity and social justice would be included throughout the proceedings.

The MTE-Partnership conference opened on Sunday afternoon, June 25, with a joint plenary presentation shared by the Science and Math Teacher Imperative (SMTI) conference; Jennifer Lin Russell from the University of Pittsburgh presented what the field knows about networked improvement communities in her talk, "Organizing for Improvement." Russell has been involved with Networked Improvement Community (NIC) work for over a decade; as more research emerges, NICs appear to be one of the most promising approaches to solving complex problems of practice in education. NICs provide both a technical and social structure for professional learning communities, and go beyond a series of Plan-Do-Study-Act (PDSA) cycles to nurture community norms, connections and identities. The Opening Address section of these proceedings gives the full text of this plenary talk.

During the Sunday dinner hour, MTE-Partnership teams were seated together; Gary Martin of Auburn University shared a brief overview of the new (2017) Association of Mathematics Teacher Education (AMTE) *Standards for the Preparation of Teachers of Mathematics*. Teams were asked to reflect on how close their local teacher preparation programs are to achieving the AMTE standards, and where their teams are in the transformation process. Each team was asked to articulate goals for their attendance at the conference: What information or connections align with desired outcomes?

After the Sunday dinner, Research Action Clusters (RACs) met up informally to share progress with one another and discuss plans for efficiently utilizing RAC work time over the next two days. The Research Action Cluster Reports section of these proceedings provides the history and current work of each RAC.

On Monday, June 26, the MTE-Partnership conference began with a plenary session that first featured Martin sharing more information about the new AMTE standards. Released in February of this year and available at <http://www.amte.net/standards/>, the *Standards for Preparing Teachers of Mathematics* (SPTM) align quite well with the MTE-Partnership Guiding Principles. AMTE decided to write standards after determining that, despite many recent efforts to provide insights into what beginning teachers should know and be able to do (e.g., *The Mathematical Education of Teachers II* [CBMS, 2012], *NCTM/CAEP Standards for Mathematics Teacher Preparation* [secondary, 2012], *Principles to Actions* [NCTM, 2014], and *Common Core State Standards* (2010)), what is missing is a comprehensive description of the preparation of teachers of mathematics. The standards describe a national vision for the initial preparation of all teachers (Pre-K–12) who teach mathematics, including those not necessarily

certified to teach mathematics. The standards are aspirational, rather than describing minimum levels of competency needed by beginning teachers. The standards are grounded in five main assumptions about the goals of teacher preparation: programs have a deep, integrated focus on equity; teachers develop a stance of career-long learning; programs have a central focus on mathematics; teacher preparation is the responsibility of multiple stakeholders; and programs should commit to improving effectiveness. The last chapter of the standards discuss program transformation; the Transformations Working Group (report in the Equity Panel and Working Groups section of these proceedings) is closely aligned with the AMTE vision for program transformation.

Also on Monday morning was an update from Ed Dickey (retired) and Yvonne Lai (University of Nebraska-Lincoln) regarding the National Council of Teachers of Mathematics (NCTM) *Pathways Through High School Mathematics* committee and ongoing work. Both Dickey and Lai are members of the [NCTM High School Mathematics Task Force](#), chaired by Karen Graham (University of New Hampshire), which is charged with the following:

- Identify, describe, and document the range of problems and challenges that are faced in ensuring that grades 9-12 mathematics works effectively for each and every student;
- Develop a set of overarching, specific, and implementable recommendations for addressing these problems and challenges;
- Provide specific options for implementing the recommendations that serve as a framework for discussion by teachers, curriculum and professional developers, and administrators; and
- Build on the following foundational documents such as the Common Core State Standards (CCSS-M, 2010), Principles to Actions (NCTM, 2014), Focus on High Mathematics with reference to Common Vision (Transforming Post-Secondary Education in Mathematics [TPSE Math]), Dana Center Mathways, Guidelines for Assessment and Instruction in Statistics Education (GAISE), and Guidelines for Assessment and Instruction in Mathematical Modeling Education (GAIMME).

To achieve these charges, the task force's goals include: (1) produce a document comparable to *Principles to Actions* addressing the charge; (2) plan for follow-up publications and resources; (3) provide support and guidance for professional development based on recommendations; and (4) provide support and guidance for NCTM Summer Institutes. The task force convened in December 2016, and has had a number of ongoing subcommittee and working group meetings. The goal is to have documents ready for public review and comment in Fall 2017, with final drafts ready for release at the April 2018 annual NCTM meeting in Washington, DC. MTE-Partnership members are encouraged to watch for the release of drafts in Fall 2017 and to provide feedback to the task force. Additionally, MTE-Partnership members can be thinking about how essential standards and various pathways might be implemented.

NCTM has reframed Access and Equity to include Empowerment, to capture the critical constructs of identity, agency, and social justice. NCTM is working collaboratively with many organizations to issue a call for collective action for equity and social justice in mathematics education with the National Council of Supervisors of Mathematics (NCSM), AMTE, TODOS: Mathematics for All, North American Study Group on Ethnomathematics (NASGEm), Journal of Urban Mathematics Education (JUME), and others.

Following the NCTM Task Force presentation was an Equity Panel discussion, in which panelists representing several of the RACs reported their research activity related to equity issues. Each panelist's talk is summarized in these proceedings: Mark Ellis (California State University, Fullerton), Matthew Voigt (San Diego State University), Maria Fernandez (Florida International University), Joleigh Honey (Salt Lake City School District) and Fred Uy (California State University, Los Angeles), with Nicole Joseph (Vanderbilt University) serving as panel discussant.

The remainder of Monday morning was spent with the RACs giving short presentations so that MTE-Partnership conference attendees could learn more about the scope and ongoing work of two different RACs. RAC reports are included in these proceedings. After lunch on Monday and all of Tuesday morning were times for RACs to work on their specific agendas.

Monday afternoon featured three sets of concurrent presentations by MTE-Partnership members, in 15 different presentations. Each of these presentations (abstract and/or full article) are included in these proceedings.

Finally, Tuesday's closing session featured reactions by Dickey, Josh Males (Lincoln Public Schools), and Joseph. These reflections are in the closing section of these proceedings.

Of note, the Equity and Social Justice Working Group stayed one day after the conference to begin to identify the "equity problem" in the preparation of secondary mathematics teacher, and develop a driver diagram to lead a future research agenda. A summary of the Equity and Social Justice Working Group's current work is in the Panel Talks and Research Action Cluster Reports sections of these proceedings.

Overall, evaluations of the 2017 MTE-Partnership Conference were extremely positive. One hundred percent of respondents plan to attend future MTE-Partnership events; over 90 percent of respondents found the 2017 conference to be a good use of their time, with clear goals, and useful and productive interactions with other participants. MTE-Partnership attendees agreed it is important to have common measures and benchmarks across the partnership and approve of the two major areas of focus for the future: pathways to program transformation and equity and social justice.

### References

- Association of Mathematics Teacher Educators. (2017). *Standards for preparing teachers of mathematics*. Available online at <http://amte.net/standards>
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- Conference Board of the Mathematical Sciences. (2012). *The mathematical education of teachers II*. Providence, RI and Washington, DC: American Mathematical Society and Mathematical Association of America.
- National Council of Teachers of Mathematics (NCTM). (2014). *Principles to actions*. Reston, VA: Author.