

The **K-12 and Pre-College Engineering Division** invites submissions for the 2015 ASEE Annual Conference to be held June 14 – 17, 2015 in Seattle, WA. The Division provides a rich and vibrant forum for the exchange of ideas, research, and experiences in the K-12 pre-college engineering and technology education arena.

This call contains information on Paper, Special Session, and Workshop Submissions.

I. Paper Submissions

Papers should be submitted to these five main categories:

1. Research-to-practice Studies (*Include in Title - RTP*)

Research-to-practice studies are assessed/evaluated outreach and/or education initiatives; therefore, we expect that these papers will present robust data and evaluation and provide ***a literature review that situates the results in the existing body of work***. Because of the recently released Next Generation Science Standards, we are seeking papers that will offer practical supports to classroom teachers and are particularly interested in work that falls into the following strands:

- STRAND 1 - Addressing the NGSS: Supporting K-12 Teachers in Engineering Pedagogy and Engineering-Science Connections.
 - Papers in this strand will connect their research on an outreach and/or educational initiative to NGSS standards in engineering and/or science.
- STRAND 2 - Engineering across the K-12 curriculum: Integration with the Arts, Social Studies, Science, and the Common Core
 - Papers in this strand feature research on an outreach or education initiative that meaningfully integrated engineering with another discipline or multiple disciplines.
- STRAND 3 - Principles of K-12 Engineering Education and Practice
 - Papers in this strands contain research focusing on developing engineering habits of mind in teachers and students. These engineering habits of mind include learning from failure, teamwork and collaboration, and engaging in physical testing.
- STRAND 4 - K-12 Engineering Resources: Best Practices in Curriculum Design
 - Papers in this strand focus on research that evaluates practices in K-12 engineering curricula design, including, but not limited to, problem framing, materials, scaffolding, teacher professional development, and student support materials.
- STRAND 5 - Papers focusing on research on other topics such as pre-service teacher preparation, K-12 out-of-school-time programs and curriculum, partnerships, etc. are also welcome.

Accepted papers in this category will either be presented as an oral presentation and discussion during a themed session OR as a poster during a 90-minute poster session.

2. Fundamental Research in K-12 Engineering Education (*Include in Title - **Fundamental***)

Fundamental research studies add to foundational knowledge in K-12 engineering education about students, teachers, materials, settings and more. Studies in this category do not focus on a particular intervention and the impacts of its outcome, but instead add to our understanding of underlying phenomena and ideas. Examples of studies appropriate for this category include: studying the relationship between children's planning and final artifacts, elementary teachers' perspectives on failure, and students' uses of mathematical modeling in a design task.

Accepted papers in this category will either be presented as an oral presentation and discussion during a themed session OR as a poster during a 90-minute poster session.

3. Program/Curriculum Evaluation (*Include in Title - **Evaluation***)

Papers in this category share the details of implementation and the evaluation results of a particular program or curriculum. Examples might include a district level implementation of 5th grade engineering activities or a city wide informal robotics competition. Papers in this category do not address a research question but rather share rich, detailed implementation information and robust evidence and data related to successes and challenges.

Accepted papers in this category will either be presented as an oral presentation and discussion during a themed session OR as a poster during a 90-minute poster session.

4 . Curriculum Exchange (*Include in Title - **Curriculum Exchange***)

Resources presented in the Curriculum Exchange should be lesson and activity examples that show how you can incorporate engineering into the K-12 curriculum. Abstract submissions to the Curriculum Exchange should include a brief description of your program (approximately 100 words or less) and a description of the activity or curriculum (grade level, learning goals, materials, time, procedure) that you are proposing to share at a special session. Paper submissions will be the 1-2 page handout that you would like to distribute at the session that includes a specific activity as well as your contact information and any additional links or resources. Please see the 2014 Curriculum Exchange Session for examples

www.asee.org/public/conferences/32/registration/view_session?session_id=3603.

Accepted abstracts in this category will be presented in a round table format at a special session. A 1-2 handout to be distributed at the exchange should be submitted in lieu of a paper. This handout should summarize the curriculum, the target grade level(s), and your contact information.

5. Work in Progress (*Include in Title - **Work in Progress***)

Work in Progress should describe an innovative study or program for which only preliminary data and results are available.

These papers will ONLY be presented at the conference during a 90-minute poster session.

6. Other – Authors are invited and encouraged to submit other ideas that may be of interest to the K-12 Engineering Education community but it is strongly recommended that you propose ideas to the Program Chair (mportsmo@tufts.edu) prior to submitting an abstract so that the chair can identify appropriate reviewers.

SPECIAL NOTE - If you submit an abstract, you will also be expected to review at least one abstract and paper.

Preparing Your Abstract: A Checklist

Please remember the following points when preparing your abstract:

- Title/Category: In parentheses, indicate the category in which your submission falls in the abstract's title.
 - Examples
 - Long-Term Impact of Attending Engineers-In-Training (RTP, Strand 1)
 - Students' spontaneous use of novel materials in an informal engineering workshop (Fundamental)
 - Fish tank Engineering (Curriculum Exchange)
- Length: Abstracts should be 250 – 500 words long.
- Content: Abstracts should provide sufficient description of the research question, program details, observations, and (preliminary) results. It should not include citations.
- Format: PLEASE refer to the Author's Kit for guidance on formatting your abstract. Do not use formats from other conferences, such as AERA and FIE.
- Blind review: Reviewers must be able to conduct a blind review of your abstract and paper.
 - Please use a pseudonym or placeholder for institutional, department, and other identifying names. (Ex: University of _____)
 - Anonymize references (Ex: author ASEE 2008 paper)
 - Do not use identifying information, such as last names, in the file name (Ex: ASEE13_K12abstract.pdf)

Please Remember:

To help place your research and experiences in context, we encourage you to review past ASEE proceedings and other literature sources to identify previous work done in your area. By reviewing

these other papers, you may also find information and instruments that may be helpful in conducting and assessing your work.

Please contact the K-12 Division's Program Chair, Merredith Portsmore, mportsmo@tufts.edu, if you have any questions or require more information.

II. Special Session Submissions

If you wish to organize a Special Session through the K-12 Division, please request a Special Session Proposal form and submit it to the K-12 Program Chair (mportsmo@tufts.edu) by September 15, 2014. Special Session Proposal requests are **NOT** submitted through the Monolith system and are reviewed by a special group of reviewers. Authors submitting individual abstracts that will be part of a Special Session should follow the guidelines outlined in the Abstracts for Papers section above.

III. Workshop Submissions

If you wish to organize a Workshop and have it sponsored by the K-12 Division, please request a Workshop Proposal form and submit it to the K-12 Program Chair (mportsmo@tufts.edu) by September 15, 2014. Workshop Proposal requests are **NOT** submitted through the Monolith system and are reviewed by a special group of designated reviewers.

IV. Final Notes

Additional information on the Division's plan for ASEE 2015 and how you can participate as author, reviewer, and/or moderator will be communicated through the Division Chair's regular reports, updates from the Program Committee, and on the Division's website at www.k12division.asee.org. We look forward to your submission(s)!

Merredith Portsmore
K-12 Division Program Chair 2015
Tufts University
Center for Engineering Education and Outreach
474 Boston Ave, Medford, MA 02155
mportsmo@tufts.edu
617-284-6611