Material Advantage MS&T Student Poster Competition Guidelines

Overview and Eligibility

The Material Advantage student program sponsors two distinct student poster contests at MS&T: an Undergraduate Poster Contest and a Graduate Poster Contest. These are judged as separate competitions, and students are only eligible to participate in the contest that matches their academic status at the time of the conference. Postdoctoral researchers are not eligible to participate in either competition.

Each contest will recognize three winners, with prizes awarded in the amounts of $250 for first place, $150 for second place, and $100 for third place. Winners will be announced at the MS&T Student Awards Ceremony.

To maintain fairness and clarity:

- Participants may only submit their abstract to one location at MS&T. Abstracts submitted to this poster contest should not also be submitted to other MS&T symposia for oral or poster presentation.
- Undergraduate posters may include work done at the student's home institution or through summer internships, REU programs, or co-op experiences.

General Information

Each student poster will be reviewed by at least two (2) post-graduate, non-student volunteer judges. Judges should represent the four Material Advantage partnering societies and will evaluate both the content and presentation of the student's work.

Poster Size Limit: Posters should not exceed 3' x 4' (landscape) or 4' x 3' (portrait). If a poster exceeds this space, it will not be presented or eligible for the competition. Posters will not be printed on site. All students are responsible for bringing their printed posters to the conference and posting them in the assigned location prior to the judging period. Display numbers will be assigned in advance to indicate where each poster should be placed.

Posters should remain on display throughout the assigned session. The judging period will typically last two hours. During the first hour, judges will review the posters without the presenters present. During the second hour, student presenters must be at their posters to discuss their work and answer questions from judges. **Students must be present during this second hour in order to be eligible for awards.**

Student Presentation Guidelines

Students should be prepared to give a brief (approximately 5-minute) overview of their project. During this time, students should:

- Introduce themselves, their university, collaborators (if any), and their year in school.
- Clearly state the research hypothesis or objective and provide relevant background.
- Describe the research approach and summarize any results obtained.
- Share conclusions, noting whether the hypothesis was addressed. If not, describe ongoing or future work.

Guidelines for Judges

- Judges should introduce themselves and explain that they are part of the judging team.
- Use the Q&A period to clarify elements of the project and assess the student's understanding.
- If a student omits a scoring criterion (e.g., hypothesis), judges are encouraged to ask about it directly.
- Consider whether the student's level of understanding is appropriate for their current stage of study.
- Allow flexibility in assessing technical scope based on the student's institutional resources.

Scoring Criteria (50 points total)

Each of the following categories is scored on a **0–10 point scale**:

1. **Hypothesis or Objective (10 points)**
   - **Excellent (9–10):** Clear, well-articulated hypothesis or objective, presented both verbally and on the poster.
   - **Good (6–8):** Clear objective, hypothesis may require clarification; student articulates it when asked.
   - **Fair (3–5):** Vague or underdeveloped objective; limited explanation of research importance.
   - **Poor (0–2):** No clear objective or hypothesis; lacks understanding of the research's purpose.
2. **Research Approach (10 points)**
   - **Excellent (9–10):** Logical, well-explained methods appropriate to the student's level; student anticipates technical questions.
   - **Good (6–8):** Mostly clear and appropriate; minor gaps in explanation.
   - **Fair (3–5):** Lacks clarity or omits key steps in the research process.
   - **Poor (0–2):** Incomplete or unclear description of methods.
3. **Results (10 points)**
   - **Excellent (9–10):** Clearly explained results, supported by well-captioned figures or data; student understands limitations.
   - **Good (6–8):** General understanding; may lack some detail or nuance.
   - **Fair (3–5):** Presents results but shows limited understanding or context.
   - **Poor (0–2):** Data unclear or unexplained; minimal comprehension of results.
4. **Conclusions and Impact (10 points)**
   - **Excellent (9–10):** Conclusions logically follow from data; student addresses research question and articulates future directions.
   - **Good (6–8):** Generally sound conclusions with minor issues in interpretation or future work.
   - **Fair (3–5):** Some disconnect between results and conclusions; limited future outlook.
   - **Poor (0–2):** Conclusions unsupported or missing; no reflection on broader significance.
5. **Poster Appearance and Presentation (10 points)**
   - **Excellent (9–10):** Poster is visually clear, error-free, well-organized, and professionally presented; student is articulate and confident.
   - **Good (6–8):** Minor issues in layout, visuals, or delivery; mostly clear and engaging.
   - **Fair (3–5):** Cluttered, inconsistent, or difficult to follow; student presentation lacks clarity.
   - **Poor (0–2):** Disorganized or illegible poster; unclear or ineffective verbal delivery.
     Note: Do not deduct points for posters printed on multiple sheets or for print quality.

Score Submission and Award Finalization

Judges should return completed score sheets no later than 30 minutes after the judging session ends to ensure the award results can be calculated promptly. Score sheets should be returned to the designated contest coordinator on-site.

Final scores are compiled by the Material Advantage staff team. Winners are selected based on the highest total average scores from all submitted score sheets. In the event of a tie, the staff will confer with available judges to determine award placement based on qualitative comments and overall impression. Judges are therefore encouraged to include brief comments on their score sheets whenever possible.

Professional Interaction and Feedback

All participants, including students and judges, are expected to engage with one another in a respectful and professional manner. Student presenters should be prepared, courteous, and open to discussing their work. Judges should foster a positive learning environment by asking questions in a thoughtful and constructive tone.

The **MS&T Meeting Policies** apply to all participants and volunteers involved in the student poster competition. These include codes of conduct and anti-harassment policies from the MS&T organizing societies. By participating in the contest, both judges and students agree to uphold these policies.

Judges play an important role in helping student participants feel welcomed, respected, and encouraged to continue engaging with the scientific community. Aggressive or dismissive questioning is not appropriate and can discourage early-career participants.

Feedback for Students:

Judges are encouraged to provide brief, constructive comments in the space provided on the score sheet. After awards are determined, the organizer may share completed score sheets with students who request feedback. Judges may also offer verbal feedback during or after the session if students ask for it directly.