

## Section Officers Discussion on Outreach

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*Breakout conversations about involving high school students, teachers, undergraduates, graduate students, and the general public in Section Meeting activities*

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Thanks to the Section Officers who took notes for their breakout groups! Some of these notes list sections by name, others don't, so not all sections will be represented by name below. If there are some errors, don't worry – we are just looking for big-picture ideas.

**Iowa** has a math competition for undergraduates, an active Section NExT where they encourage graduate students to attend at section meetings, a math teaching circle for middle school teachers, but no high school teachers attend.

**Northeastern** has undergraduates attending all section meetings and participating in a challenging math competition, but it is rare for high school students or teachers to attend. They've held a career fair twice. There are two-year college faculty who attend, but no graduate students. They have dinner meetings where all who come are welcome. They have mini-grants for outreach, broadly defined.

**Wisconsin** has a high school math contest; the undergraduate student attendance is growing exponentially, there is a competition for undergraduates at every meeting with a \$5 fee for the banquet for students, and occasionally there is a session for undergraduate/graduate students. About 10-15 retired faculty come. Local teachers are honored at section meetings – the teachers are nominated by the local high schools – the honorees attend a dinner but tend not to stay for the conference.

**Allegheny Mountain** has a contest problem session for undergraduates followed by pizza, but students do not stay for the talks. They don't have graduate students or general public attend. They hold a job panel for undergraduates every four years.

**Southeastern** has limited success with high school attendance, but half of their attendees are college math students. They have very popular undergraduate activities at the meetings (treasure hunt, math jeopardy). They have a career fair for undergraduate and graduate students, an undergraduate poster session, and graduate student presentations at every section meeting, with monetary awards for the best presentation in each session. They also sponsor five regional events throughout the year with their own undergrad conferences.

**Metro New York** has an undergraduate student paper session, research session, and poster presentation, and sometimes Math Jeopardy. Between 150-180 students attend every year, some of whom are high school students. They sent out over 100 flyers to high school teachers to take teams of students to AMC with monetary incentive, but got only 4 responses.

**EPaDel** has a careers-in-math conference every other year held at a different date than the section meeting. They have undergraduate and graduate student presentations at every meeting. Retired faculty attend, and they host a student math competition.

**SoCal/Nevada** gives slots for papers, posters, by undergraduates and graduates: no awards but free registration and meals for these participants. Some math circles (high school and middle school) do present. They have tried for joint meetings with California AMATYC schools.

**Nebraska/SE South Dakota** has an undergrad conference in conjunction with the meeting.

**Louisiana/Mississippi** has a paper session for graduates and undergraduates and PhD students are especially invited. A science magnet high school is very active. There is an integration bee.

**Golden** has offered math wrangles for high school students.

**Pacific Northwest** has one public lecture per meeting; attendance varies. They organize the international Kryptos challenge. Every third year their meeting is around the summer solstice and events are planned for families as well.

**Intermountain** occasionally has joint meetings with other sections.

### **General Comments:**

- Sections are doing a lot and feel over-extended so while they aren't opposed to K-12 outreach, it is a stretch. However, they would show films and such for this group developed by the national MAA.
- We don't have a good database for inviting teachers and their students. It's great that teachers can join because of the AMC8, AMC10, AMC12 but what about other teachers? If they don't join we cannot track and invite them to join in the future.
- Other ideas for reaching teachers: contacting them through the AP Calculus group, asking our undergraduates for teachers who inspired them, through Math circles (that is a hook where we go way beyond what NCTM does), we could be a forum for high school teachers and students to talk with industry about being career and college ready.
- Several sections noted that there is overlap with NCTM (and its local branches). At least two sections noted that the local NCTM meetings regularly drew far more participants than the MAA section meetings. Some sections have traditionally had joint meetings with the local NCTM, but nobody indicated that joint meetings were still done.
- Perhaps getting too many high school teachers involved in the MAA section meetings could change the nature of the meetings. After all, high school teachers generally outnumber college and university teachers.
- For some, most of the time any sort of outreach was discussed at the section leadership level, high school teachers didn't even come up. Outreach was generally focused on students and/or faculty at institutions that were traditionally underrepresented.
- Give student talks an option of a shorter time than faculty talks. Faculty talks would be (say) 25 minutes with 5 minutes for passing, but student talks would be 10 minutes with five minutes passing. In an hour, you would get two faculty talks with two breaks, or four student talks with four breaks. This takes the pressure off of students who have a hard time filling a longer period.
- A key is to get a "critical mass." If you have a few institutions – even a few instructors – who make a big deal of participation in the section meeting, it can lead to the word getting around that this is a good thing to do.
- Several sections have popular competitions for undergraduates in conjunction with the section meetings.
- Career panels can be a big draw for undergraduate students.
- Several expressed frustration about being unable to find out who is actually in the section – which colleges and universities and contact information for them. How do we know if there are schools or groups that are underrepresented if we can't even find out who is part of the section?

- Geographically spread-out sections have to limit outreach to the vicinity of where the meetings are held.
- Most sections have good undergraduate attendance, but few/no graduate students and few/no high school students and teachers.
- Some have tried sessions for graduate students with little success.
- General ideas: outreach mini-grants, sessions for students, activities like problem-solving competitions and Jeopardy and scavenger hunts for students, joint meetings with AMS or AMATYC or NCTM, career fairs.
- Some sections have Student Activities Coordinator.
- We could get Math Circles more involved in section meetings.
- Saturday is a better day to get high school teachers and their students involved.
- Other thoughts about BIG issues:
  - Invite Companies to run a career fair.
  - Ask schools to tell us what their grads are doing.
  - Ask section members for contacts.
  - Get help from national to make contacts with BIG folks in the section.