

Society Agility Council Meeting

June 5, 2023, 2:30 pm Eastern

Able to Participate

Susan Trolier-McKinstry, SAC Chair

Babu Chalamala, Chair, Topical Staging Subcommittee

Paul Drzaic, Chair, Industry Engagement Subcommittee

Al Hurd, Incoming Chair, Topical Curation Subcommittee

Gopal Rao, Chief Editor for Technical Content

Elizabeth Kocs, Chair, Focus on Sustainability Subcommittee

Bryan Huey, Topical Differentiation

Linda Schadler, Chair, Publications Committee

Lincoln Lauhon, Chair, Meetings Committee

Eileen Kiley, Director of Programs

Natalie Larocco, MRS Liaison, Industry Engagement Subcommittee

Unable to Participate

Julia Phillips, Chair, Topical Curation Subcommittee

SAC Chair Susan Trolier-McKinstry opened the call.

Meetings Committee Update

- MTGC Chair Lincoln Lauhon met with Program Development Subcommittee Chair Ken Haenen and Topical Staging Subcommittee Chair Babu Chalamala.
The key to the topical staging groups maturing and graduating is to educate the Meeting Chairs.
- Lincoln and Bryan Huey met to discuss Spring and Fall differentiation.

Lincoln is meeting with Eileen Kiley and Gopal Rao to identify the support that MRS IT can provide for data analysis, and develop an onboarding process to communicate SAC's intentions.

S23 Meeting Chair Debriefing

Very positive feedback on S23 experience.

Not clear on the roles of the Society Agility Council subcommittees.

S23 Meeting Chairs noted that biomaterials is differentiated in both Meetings.

Lincoln hopes that tools can be used to identify overlap in symposia, but this is still early stages.

Publications Committee Update

- Chair Linda Schadler reported that Pubs is working on finding a new Editor-in-Chief for *MRS Energy and Sustainability*.
- A new Books Committee chair has been named and recruiting for that committee is underway.
- Efforts are underway to grow the Pubs Committee.
- Pubs is working to more actively to engage its editorial boards to bring in more papers covering a broader set of topics.

Capturing Metals in MRS Publications

Susan noted *JMR*'s success in capturing metals content. Is there a subset of authors Linda can recommend to Babu, identifying key people in the field who could connect Pubs to MTGC to reinvigorate metals as a topic in Meeting content? Can TSSC be a conduit to bring some form of foundational research in metals to capture in MRS programming?

Linda advised careful thought on what area of metals MRS intends to occupy. If the focus makes sense and isn't trying to compete with TMS, she can ferret out authors.

- Springer Nature can pull keywords.

- Babu confirmed that staging has been active with the *Bulletin* and *JMR*. Quantum and AI need to be more strategic. Can special issues be developed?
- Linda hopes that more Meeting content will end up in publication as new folks are brought into emerging areas.

Topical Staging Subcommittee

TSSC Chair Babu Chalamala provided updates on the topical staging groups. He met with Lincoln, Ken Haenen of PDSC, Eileen and Gopal on the process for staging a topical group on metals, and how to develop a 5-year timeframe to make it happen.

Metals

Other researchers in the metals field need to be brought in.

Susan suggested contacting Alison Beese or Douglas Wolfe of Penn State for additive manufacturing.

Other topics:

New metals for interconnects

Entropy stabilized materials

New alloys; this was a special *JMR* issue and Babu sees a possible seed group here.

Gopal reported that a symposium on interconnects was approved for S24; he suggested pulling names from the symposium organizers and invited speakers.

Action Item: Babu will present a framing document the next SAC meeting on how to bring the metals topic into Meeting programming

Biomaterials

Jonathan Rivnay will be a Meeting Chair, then a PDSC member. Jonathan proposes continued focus on synthetic bio. Susan congratulated the biomaterials staging group on its progress. She advocates follow-through on programming with the graduating task forces.

As long as the right people are Meeting Chairs or in PDSC, Lincoln doesn't think a representative is needed for Topical Curation. If future Meeting Chairs lack sufficient expertise in biomaterials, SAC needs to determine how to help. The request would be to always have a Meeting Chair with expertise in biomaterials for the immediate future.

Action Item: Susan will let Topical Curation Subcommittee Chair Julia Phillips know that biomaterials is covered through PDSC and won't disappear in the short run.

Quantum and AI

Quantum and AI are programming broadly. The Staging Group chairs are in place for the next two years. Quantum still has work to do; it's a difficult field. There are sufficient symposia but some areas are having a hard time.

Autonomous Materials

The Task Force hasn't met recently with the Topical Staging Group chair, and the chair needs help in taking a leadership role. There's a lot of interest. This group will be Babu's next focus.

Focus on Sustainability Subcommittee

MRS Liaison to FoS Natalie Larocco reported that the biggest F23 initiative is the 2050 Panel.

FoS is working with the Industry Engagement Subcommittee on a sponsorship prospectus or document defining success and discussing what MRS can offer.

A webinar series will take place in August-September. Each webinar series might be a different theme.

Lincoln reported on the conversation at S23 with Elizabeth Kocs, FoS chair, and Paul Drzaic, IES chair. Sustainability is of high interest to industry and students. There's little follow-up with the Executive Committee on students and industry engagement. How do the threads come together at MRS Meetings?

Babu suggested that the number of MRS symposia on batteries might be something to consider: it's applied, so of interest to industry.

How to incorporate sustainability into some symposium sessions? Lincoln recommends a top-down nudge and suggests a light touch such as recommending invited speakers.

Action Item: Natalie will plan a meeting on this issue with Elizabeth, Lincoln, and Susan. The timing should be when the Meeting Chairs are putting the program together.

Differentiation Report Submitted by Bryan Huey

Bryan Huey is focusing on the Meetings data from 2015 to 2022 to identify Spring/Fall differentiation. His analysis isn't yet at the point where the data will drive the decisions but it will drive the questions.

Statistical analyses of word usage in symposium titles, primarily visualized by word clouds but underpinned by the rank ordered list, are useful for more broadly considering the data MRS has long collected about meeting attendance (supplied as attendee counts per session per day per symposium per Fall or Spring conference across roughly the last 10 years).

We are focusing on 2 analyses: i) top words used in all symposium titles overall (interpreted as what topics or themes the organizers believe are most important/interesting to offer at any given meeting), and ii) weighting this same data by attendance (interpreted as what topics/themes the attendees believe are most important/interesting). Which topics show up the most? Are there Fall vs. Spring trends (intended, or unexpected)? Are certain keywords on the rise or diminishing, and should we take action to support or correct that?

General observations:

- The wordcounts, and separately the attendance-weighted-wordcounts, likely provide insights into the perspectives of the symposium organizers vs. the attendees. Both are important—but probably the attendee weighted data is most crucial.
- To gain confidence in this approach to analyzing topic/attendance data, does it correlate with known trends? Can the impact of the SAC's (or similar) targeted efforts to promote certain topics be detected? Can topical gaps be identified?
- Possible caveat: attendance weighted data is ideally a metric of what's most important to the attendees. But it must also correlate to some degree [big or small, very hard to identify] with other factors such as the 'neighborhood' in which a given symposium is located, 'big-name' talks and other major draws in the vicinity, the scheduled day(s) for the topic (most likely normalizing attendance to any given morning or afternoon session is the best we can do on this last point), etc.

Other questions we might ask in the future:

- Does having "applications" or some other keyword in a symposium title actually translate to the accepted abstracts or titles
 - The title/abstract content is a much bigger dataset that may exist, but has not been supplied. That may push this effort towards needing a true text-data-scientist.

- Can this approach to topic and attendance data become sufficiently mature as to help inform future meeting organizers about which proposed symposia to accept (especially including any purposeful Fall/Spring differentiation)?
 - MRS offered to provide similar data for all symposium applications. Again, though, this may sufficiently broaden the scope that we really need a text-data-scientist.
- Similarly, can this approach help inform the SAC in deciding which new topics to solicit/promote?
- Are there certain keywords (like “applications”) that may be more attractive to industry and result in their increased attendance and/or participation as speakers? If so, that would bring in more industry.
 - We would need data that identifies respectively: the proportion of those from industry in each session; and whether each talk is from industry.

Next steps:

Bryan will look at Fall versus Spring to get a better sense of where they are and are not differentiated. He’ll also look for feedback on where SAC wants them to be differentiated in the future. There are some kinks in the datasets still to be worked out as well—this is still a work in progress.

Susan asked for an explanation of the change in Meeting attendance from 2015 to 2019. Bryan explained this has to do with how they’re weighted. He’s trying to normalize the data based on each Meeting; **Action Item: Bryan will have an explanation on attendance variations for the next SAC meeting.**

CHIPS and Semiconductors

Susan reports a major funding trend worldwide in active research regions that will have a CHIPS-like program.

Semiconductors are underrepresented at MRS in both symposia and attendance. This may be because 2D isn’t bundled together, but has a lot of attendees. Before deciding what to throw out, Bryan wants to see all the data. Semiconductor isn’t a prominent word but electronics is. He welcomes an offline conversation on this.

Success at MRS is linked to whether the top people in a topic attend. Topical Curation can notice what MRS Meetings don’t have that we used to have. How are these symposia clustered? Where do we want representation that we don’t have?

While MRS can’t recreate what the MRS Spring Meetings used to be, SAC can examine what’s coming in the next 5 years. How can programs be established so this happens in the coming years?

Lincoln recommends asking people from NIST; they tend to know what is happening regarding funding.

Phoenix for Spring was a location to push semiconductors.

Seattle has robust display companies.

Bryan didn’t find aerospace in any of his analysis although it’s strong in other societies. MRS could capture aerospace, which is a hot topic and is encouraging to students.

Bryan will write words out, rather than abbreviating them, for future differentiation presentation slides.

Industry Engagement Subcommittee

IES Chair Paul Drzaic praised Focus on Sustainability Subcommittee Chair Elizabeth Kocs for the subcommittee’s programming effort at S23. DuPont’s Chief Climate Officer attended virtually and seems open to continued engagement with MRS.

One of Paul's goals is to look at a pool of multinational companies for some level of engagement. He's currently working to get a background paper targeting specific people in large companies regarding engagement in future MRS sustainability efforts; this could be a launching pad for industry to MRS.

Work has begun on iMatSci. Natalie welcomes recommendations from Paul on adding volunteers.

Paul discussed semiconductors in industry with MRS Past President Carolyn Duran. They discussed finding a way internally to learn what companies could be interested in and taking a more active role in directing programming. If Carolyn can't do it, she may be able to help MRS set its sights on the semiconductor industry and changing the model to other fields.

Susan can provide names of VP-level people in the field.

Babu noted that a lot of announcements on semiconductors are coming out. Having more semiconductor-savvy MRS members would define what's possible.

How strong has the semiconductor presence at MRS been recently? If admin support were available, Lincoln would recommend going to SRC grantees to check against MRS attendees as a starting point.

Partnerships

The Partnership Task Force met with the Executive Committee at S23

The Task Force suggested that SAC should be engaged but not pinch-point in terms of productivity on partnerships with other organizations.

Make sure that SAC is involved in reviewing existing collaborations.

A reasonable pathway going forward resulted.

Action Item: Eileen will follow up to confirm that the charter is up to date and confer with Susan on any necessary changes..