



*2024 GEM Summer Workshop
Fort Collins, Colorado
June 23-28*



NSF-Sponsored Conference

Discussion on How to Run a GEM
Workshop Focus Group Session

Friday Session

Historical Background and Motivation

- GEM used to lack agendas and polished presentations
- GEM was (is?) flexible, allowing for free-flow discussion
- Roughly 10 years ago, agendas were requested so people could choose which sessions to attend. This started a motion towards a more structured science program.
 - Sessions started focusing on current results (what has been done) rather than future progress (what can we do).
- Feedback from community since then has consistently been a request for a more “workshop style” meeting, not like AGU sessions. (~2019 & 2023 surveys)
- **What does “Workshop style” mean to YOU?**



What does Workshop Style Mean to You?



GEM
Geospace Environment Modeling

- People discussing problems and how we're going to solve them. Not reporting on prior research.
- People jumping up making thoughts on the fly as the conversation evolves.
- Sessions are focused on discussion rather than listening to a talk without chance to provide feedback/argument with the speaker.
- People arguing.
 - How can we get to a place where people are safe/comfortable "arguing"?
- Sense of collectiveness towards a problem
- Brainstorming session—how can we address a common problem?
- Identify what is the controversial question
- How do you get a larger GEM to feel smaller? A need to expand the number of Focus Groups? More conflicting sessions, but not so many people in one. Spread out community.
 - Much nicer to have smaller groups
 - Over 50 people in a room, it's impossible to have a workshop style session. Hard for everyone to contribute. Think of ways to break people into smaller groups, even WITHIN the Focus Group—smaller groups within each session.
 - We're all friendly and inclusive, but sometimes something has to give...Several breaks. 30 people and 100 people, dynamics change.
 - The demographic of the people at GEM is not representative of the community. Lots of student participation, so ~50% are students.
- Even when students are encouraged to talk, they feel intimidated/don't often talk.
- Some have recommended an anonymous comment box:
 - It is a crutch, it's not helpful. We don't get to know people, we don't discuss.
 - Organizers are working to include it in the VGEM App. Anon questions make it easier. The first Q is the hardest to ask. Once you see a response it can be easier to step into the conversation.
- Practical aspect: How many rooms we have available limits the number of Focus Groups/Extra Things. If we maintain the current structure, it requires work ahead of the meeting. FG leads keep conversations going year-round.
- Invite a guest "listener" so the students guide and lead the conversation, but the listener provides feedback when require.
- At AGU they require/suggest EC conveners. Push students at GEM to help run sessions. Students could be a FG leader in each FG to connect better.

Examples



- **Session Formats (examples—there can be more!)**

- **Challenge Events:** Choose an event to study that folks work on together, showing results and analysis at the session.
- **Panel-led discussion** (or single speaker-led like SHINE): Few people start off the discussion, and audience joins in.
 - Note that the DIP FG did this focused around “debate” questions.
 - Session was focused on answering a specific science question (e.g., is the SCW one big current system or is it comprised of multiple small current systems?)
- **No agenda:** Announce a topic/question in advance, and allow the discussion to be completely free-flow.
 - Consider no projector! :-O
- **Mixed session types:** One session is free-flow, one is a panel, one allows for 5 min talks/updates, etc.
- **Focused Poster Session:** Use a concurrent session to all go to posters instead of trying to have “50 3-minute talks”.

Discussion



- **What has worked for you?**
- **What have you enjoyed as a participant?**
- **What ideas do you have for a successful GEM Focus Group session?**
 - **Session format?**
 - **Best practices?**
 - **Example:** Open the floor to people who have been quiet: Ask, “Are there any students who have a question?”
 - **Example:** Plan your sessions well in advance and give the community a heads-up in the GEM Messenger
 - **DIP example:** GEM Messenger announcement that Session 1 would discuss [insert science question] and we are looking for folks to share their thoughts

Discussion



- Ask “Do any early career folks have questions?”
- Need to value voices of all career levels, including senior career.
- 4-10 papers people read ahead of time. Authors get 2-3 minutes to remind people, then discuss. Like a mini-journal club.
- Have people bring work that isn’t done yet
- What **didn’t** work:
 - GEM is so often focused on modeling. If your data set isn’t covering that day, you feel left out. If there’s some way to have big QUESTIONS not just events.
 - Interactive discussions: People can go to phone, scan QR codes, provide questions. Tried sending surveys ahead of time, but no one filled out the survey.
 - Template of a slide to force ONE slide. ONE figure, what question was about...But only 1-2 people actually used the slide format.
- End a slide or a talk with a question: What do you want to get out of this community? Generated a lot of good discussion.
- Even before announcing format, we started receiving talks/slides. Hard to enforce a format.
- As a student it’s hard to speak up if you don’t have the expertise yet. Improve student tutorials?
- Don’t see an age preference. Duty of moderators/chairs to maintain a balance of each speaker’s time.
- Encourage senior scientists to ask “stupid” questions
- Devote one session to Early Career session. Run by ECs, presentations by ECs, but not too successful because ECs still don’t talk. But ECs like senior feedback because that’s useful.
- Because of multiple reasons, it’s hard to attend more sessions than the one you are running yourself. So this discussion today is great!
- Good to have sessions dedicated just to discussions/modeling challenges to give people a chance to talk.
- Discussion helps. When the discussion can’t go further, bringing the more senior folks into the conversation helps. Direct question to senior folks to get the discussion going.
- Have a session 100% for the students to discuss their research with the audience.
- Having a student leader help lead the discussion—ask the questions with us. Treat them like a peer. Good training for them.
- Made a partnership with a DRIVE center—Challenge, how to work with the data, how to communicate between data and models? Worked really well!
- Training session for new datasets this GEM (MESO).
- Explicitly ask the audience to ask “stupid questions”? Van Allen didn’t care, he just asked questions (embarrassing even). Wasn’t trying to give an example.
- Best sessions were when we had a scene setter followed by discussion. There is a segment of the community that does want AGU style talks. Over the years we’ve had those kinds of sessions and people would contact FG leader to do so.
 - Converged to a model that has one session that is contributed, one that has discussions, a hybrid model.
- Posters: All posters will be available for the entire week with lots of space to encourage discussion outside of the poster session evenings. At TESS they had an open space with posters by the coffee, so people could get coffee and go to posters. How do we bring people to the poster room during breaks? During sessions ← Focused session just on posters
 - Give them prime spot.

Examples and Suggestions



- **Good practices**

- Learn to say “no” to folks who want to present their work in your session that doesn’t align with the FG.
- Be okay with long pauses—allows folks who need more time to think to respond!
- Open the floor to people who have been quiet: Ask, “Are there any students who have a question?”
- Use apps that allow shy/quiet people to ask questions: Slido, Zoom chat, written on a piece of paper and submitted to a FG leader...
- Plan your sessions well in advance and give the community a heads-up in the GEM Messenger
 - DIP example: GEM Messenger announcement that Session 1 would discuss [insert science question] and we are looking for folks to share their thoughts
- “Take the reins” as a session organizer.
 - Kindly guide the discussion—if someone talks too much, gently interrupt, thank the speaker, and ask if someone else has thoughts or questions—or say “We will have to move on to let others have a chance to show their slides”.
 - Be prepared with follow-up questions in case the audience needs a warm-up. It doesn’t have to be a monumental awesome question, just something to keep the discussion moving. It can even just repeat a finding the presenter shared, like, “I liked the result you showed on slide 4. I guess it really shows the importance of electric fields in this instance.”
- Be innovative with the session formats: try something new.

Discussion



- **How do we improve Diversity, Equity, and Inclusion during the Sessions?**

Examples and Suggestions



- **How do we improve Diversity, Equity, and Inclusion during the Sessions?**

- Have a designated person monitoring the online chat. Make sure to make the virtual voices heard!
- “Take the reins” during the Q&A and discussion time: Make sure one loud voice doesn’t dominate the discussion.
- Ask if there are any students who have a question.
- Use gender-neutral terms (e.g. “Hey folks” or “Hey everyone” instead of “Hey guys”)
- Microphone timers for discussion—sometimes we get back and forth about one niche topic no one else can break into.
- Sometimes we hear an insult—we should address that, don’t sweep it under the rug.
 - New students don’t feel able to defend themselves.

From the Chat

- I'm new to being a focus group leader, but for what it's worth, I find that having an atmosphere where asking naive or even "stupid" questions feels completely comfortable.
- Not sure how to facilitate that, though, since it's a group dynamics thing.
- Particularly for early career members, where it's hard to know whether a question is stupid when it's adjacent to your expertise.
- Larger number of people is also more intimidating for those who want to ask questions. Including having feelings that asking questions is at the cost of somebody more knowledgeable speaking.
- Honestly, the only "stupid" questions are the intentionally dishonest ones (e.g., someone with a non-objective agenda asking a loaded question to support their belief or pick a fight)
 - No disagreements there, Still, even somebody as shameless as me has felt concerned when the audience has 50+ folks that are more knowledgeable.
- Good point - it's kind of like the pizza ratio. If you have 50 people in a 60 minute session, then everyone gets less than a minute to talk. - not really a discussion.
- We should also remind students that a lot of the "experts" really don't know that much (or at least not as much as some of them try to portray)
- *it looks like student population was ~38% last year. 50% was an over
- Case in point, many of my first author papers came about because I was at a meeting like GEM and some "big name" said, "We all know XYZ..." and I look around seeing everyone nodding and seeming to agree. I feel stupid because I see no reason why XYZ should be true, so I decide to go back to work and learn why they said XYZ was true. I find no data supporting XYZ so I initially think I screwed up the calibration or I screwed up the analysis or something equivalent. After several months of stumbling around I eventually realize XYZ is probably not the best answer, WUV fits better.
- One minor follow up on what was just said: students with mics sometimes seem more likely to hand the mic to people they know to be experts. I'm not sure how reliable a perception that is, though.
- Is there some way to further incentivize young people to feel comfortable talking and asking questions? I guess I wonder about early career folks still feeling uncomfortable taking time from those who they feel contribute more. And I do think more experienced folks speaking more is often helpful, so it's a bit hard to know how to optimize that balance.

From the Chat

- Controversy sessions were my favorite. This suggestion sounds really fantastic to me, because it helps us to know what the relevant literature is:-- Push to read things beforehand sounds great!
- Big questions were good, too
- Is it worth having a plenary talk or student day discussion/lecture/talk about how to get up and ask a question? I remember shaking after the first time I asked a question in a science conference... and continued to have similar experiences for most of my career. I wonder if talking with the students about how we have science discussions would be valuable.
- That would be a good question to pose to the Student Reps, if they want to have some time during student day to talk about this
- Also - forgot to add that there was a study that showed if you called on a person from an under represented group (women, PoC, etc) first, then you often had a more diverse group of question askers than if you initially called on a white male presenting person.
- It might be interesting to have questions presentations. For example, I think it would be nice to just have a ppt with a few questions that seem fundamental, and get some comments on what questions are known, not known, obvious, framed incorrectly, etc.
- That's great to hear! I love to know that was a quality of Van Allen.
- It might be interesting to have questions presentations. For example, I think it would be nice to just have a ppt with a few questions that seem fundamental, and get some comments on what questions are known, not known, obvious, framed incorrectly, etc.
- Finding consensus in the field as to what the open questions are would be good progress
- Xu, Zhonghua Great to hear that! Asking questions should be encouraged. To get instructive suggestions through discussions at the meeting is my understanding of "workshop style".
- As for students being anxious about asking questions: There is only so much we can do to alleviate anxiety in other people. We can do what we can but as Alexa notes, sometimes even more experienced folks still get nervous.

From the Chat

- One thing that has helped me is that I make the question/comment about learning and I care only about figuring out the answer, which kind of removes me from the equation. It's not about my reputation or anything, just trying to learn. Not sure if that would help others but it definitely got rid of my anxiety when asking questions...
- (Honestly, for me, it was just time. And getting to know people. And I still hate the prospect of looking stupid with my questions - I don't think well on the fly... But running sessions has forced me to get over some of this anxiety)
- same for me. Time and having conversations with people outside the session room to get to know individuals better
- For posters, if people upload their powerpoint or pdf files, that would also be really helpful
- Mic timers for questions/discussions?
- They can do that using our GEM App. We encourage them every year to do so.
- Yeah, so FG leads encourage as well
- With regard to DEI, do we have statistics from surveys about which subgroups feel particularly uncomfortable and why?
- A paper was just accepted with some of these data!
- Do you happen to know the paper title?
- <https://www.frontiersin.org/articles/10.3389/fspas.2024.1395896/abstract>
- This was a super helpful session! Thank you all!
- This is great! Thank you!



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- Engagement from the audience
- Informal presentations. No drawn out introductory slides
 - Getting speakers to highlight questions that they don't know how to solve to try to generate more discussion
- Collaborations—people in a similar field/topics can continue discussions after the meeting
- Break time with coffee that allows for more discussion
- DISCUSSIONS!!!
- Emphasize that FG sessions have SCIENCE questions...they are Question-Driven. Drop the word “presentation” and replace with “contributions to the discussion”. So you have a science question that the leaders have identified as important, they advertise those questions, then avoid the psychological barrier using the word “presentation”—change the tone by asking “who wants to contribute to the discussion”
- We have a focused topic and everybody is trying to contribute. Can include informal slides to bring up the question and break into detail. Major intensive discussion. Try to get results/progress on the topic.
- Varied contributions from a wider set of folks. Making sure we get a diverse group—young people, new people, etc. stay away from AGU like sessions that are biased towards the same set of people.
- How do you think about the outcomes of the session? Do we leave the community with action items?
 - COMP session: Get people from different communities to write a paper and share ideas

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- **Machine Learning Session: in wanting it to be student-centric, thought less about science and more about what students will be doing with their careers. Organized talks with industry with Q&A afterwards. Small percentage of physics PhD stay in academia, but ML is a strong bridge between academia and industry—so it was really interesting to students.**
 - Before going to GEM, students should identify people they want to talk to, read a paper by them, then come up with 3-4 questions to ask those people. Forms a meaningful question that links their research with the person, gives them talking points to carry on a 10 min conversation.
 - Networking opportunities in mind.
 - Helps with potential post doc discussions.
- **Not all FGs are in our research area. If we walk into a discussion with NO VISUALS, it can feel not helpful. Hard to learn something outside your area without slides.**
 - No titles, but context and motivation is helpful to follow along.
- **GEM App: Information brought in ahead of time helps everyone have a better time. For each FG session, participants can go through the app ahead of time and put in their intent of participating. FG leads can have a preview, can rearrange all contributions to create a better flow.**
 - Posters: Want people to upload posters. Once it's printed, the PDF could be uploaded to the app.
 - Questions in the App: people can see the questions in the app. Kind of like what we had with Slack in the past. Allows discussion to continue after the session. FG leads need to monitor it for any live questions.
 - Remote attendees were disappointed that no one was paying attention to their questions in some of the FG rooms.

Examples and Suggestions



- **Good practices**

- Learn to say “no” to folks who want to present their work in your session that doesn’t align with the FG.
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Discussion



- **How do we improve Diversity, Equity, and Inclusion during the Sessions?**

- **Ensuring the panels and speakers reflect a broad group of people**
 - Helps audience speak up if they see a panelist look like them
- **Gender[etc.] diversity in the leadership of the FG**
- **Encourage undergrads/students to join in the meeting**
- **Let people from different groups to talk**
- **Participation is not just asking a question during a session. It has many forms. In the room, outside the room, in the posters, etc. Successful participation doesn't have to mean asking questions during the session—can be getting good feedback at a student's poster**
- **Will SC let FG leaders know good ideas?**

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