

Inspiration document workshop program elements

This is a non-exhaustive list of program elements that have been used in previous Lorentz Center workshops.

State of the art – getting everyone on board

Goals of these sessions: provide everyone with a general introduction of the topic, bridging knowledge gaps, introducing the most interesting questions, warming up the participants before the discussions and breakout rooms. Think about holding these sessions early on in the workshop, so that everyone can optimally contribute to the discussion.

- **Introductory Overview/review talks:** provide the participants with background information on the topic (especially when the workshops are multidisciplinary). The speaker can also present his/her research. *Tip:* when the workshop is multidisciplinary, instruct speakers to prepare their presentation for a broader audience.
- **Crash courses:** introduce topics of each participant, explaining how they relate to other workshop topics. *Tip:* to prepare, the speakers should have some background information about the other participants and their research interests.
- **Plenary/parallel short talks:** further expand on a specific topic. They provide an overview of new lines of research/open questions which can naturally lead the way into discussions and breakout rooms. *Tip:* provide talks from different topics on the same day, to make sure every day has something interesting for everyone.
- **Pre-workshop online program:** to free up time for discussion and interaction during the week, some of the proposed sessions can be offered in a pre-workshop program, to make sure everyone is up to speed and can optimally contribute to the workshop.
- **Interdisciplinary sessions:** purpose is to highlight importance of interactions between different fields brought together by the workshop. The speakers will introduce a field, give an overview of recent developments and summarize research questions that needs interaction with other disciplines.
- **Ad-hoc teaching sessions:** gather in advance (or on the first day of the workshop) few topics for which few people could benefit from a short lecture in small groups.
- **Vocabulary activity:** purpose is to create a shared understanding of the terms and concepts used throughout the workshop. Particularly important when bringing a diverse group of people together that define concepts differently or use similar terms in very ways. Collectively create a list of important terms (+ the definition used in the workshop) and write them on a board/wall.

Looking forward: new contributions

These are the sessions where ‘the magic happens’ and new ideas, lines of research and collaboration are generated.

- **Work groups/Breakout rooms:** smaller group discussions aiming to tackle a specific aspect of a research question, where every participant should contribute. Example of how to structure a work group:
 - Discussion between two areas. Ask two work group guides to prepare presentations of their ideas on the topic and on the goals of the work group.
 - Brainstorm sessions
 - Writing sessions (e.g. making use of effective academic writing principles; 5 min individual speed writing time after discussions, comparing produced texts in small groups, using similarities as starting point for collective text; also an effective strategy to get input from early-career researchers).
 - Case study work (sometimes combined with a field trip)
 - Hacking session
 - Collaboration proposal
 - Implementation of theoretical idea on experiment
 - Search for theory proposal for given experiment
 - Pooling expertise to push research area
 - Discussion of technical details
 - Collaborative data analysis and sense-making
 - Behind the scene company/institution

Ideas for developing breakout rooms when specific questions are not yet defined: have a blackboard in the breakout room, and encourage participants to write down their questions for the specific topics presented.

- **Walk-in sessions:** useful to make coffee corner discussion more accessible to junior participants. 2-4 sessions in parallel, with open doors. One main presenter/guide, and people can join in as they like. Presenters can discuss their research topic with a presentation/blackboard.
- **Panel discussions (parallel/plenary):** experts in a specific topic guide the audience through a discussion. A short introduction is followed by a discussion and main findings are noted by a moderator.

Opening and Connecting

Sessions specifically aiming to connect people from different disciplines, level of seniority and expertise.

- **Plenary introduction round:** invite participants to briefly introduce themselves at the beginning of the workshop. Ask them to prepare one slide where they can summarize few facts about themselves and their research. *Tip:* you can think of creating couples where each participant will be in charge of presenting his/her partner. *Tip:* After the flash talks, think of allocating some coffee time, where participants can connect based on interest. Other ideas for an introductory activity:
 - **Introduction with objects:** Let participants bring an object (e.g post card, picture of an artwork, an object from their work environment) or present a selection of random objects from which each participant can pick one, and ask participants to use the object to tell something about themselves/their motive to join the workshop etc.
 - **Stand Up quiz**– let everybody stand up - ask some general quiz questions about the workshop topic. Those who answer incorrectly sit down again, until there is a winner. Activates participants physically at the start of the workshop.
 - **Mentimeter:** Particularly nice in large groups, if you don't have time to let everyone introduce themselves at the start of your workshop. Helps you to paint a picture of the group that you have in front of you. Ask the group to answer questions on the Mentimeter website/app like: what is your first language? Main expertise etc.. Mentimeter will create word clouds or other visual summaries that give an idea of the group composition and some casual conversation starting points.
 - **Speed-dating:** before the workshop, slides of each participant with their recent work/articles/ideas will be shared. Based on interest, create small groups of 2-3 people discussing in details each other's work (or you can discuss more informal information about each other).
 - **Positioning game:** Ask participants to stand up and organize themselves across the room according to e.g. 1) where they live, 2) their field of study/expertise, 3) methods they apply, etc. Requires people to talk to each other + helps everyone to get an overview of the group composition. Does not require too much time. (was for instance done 5 June 2023 – worked very well 😊)
 - **Impromptu networking:** Ask participants to stand up and pair up with someone they don't know yet. Participants interview each other for 4 minutes with the following questions: 1) What do you intend to bring to this workshop? And 2) what do hope to take from it? Do 3 rounds of 4 minutes, so everyone has met at least 3 new people.
 - **Response to statements:** a number of statements connected to the workshop topic are prepared by the organizers and placed in different rooms. In groups of 3-4 the statements are discussed and reactions/solutions recorded on a (Flipover) sheet that stays in the room. After 10-15 min change rooms and continue the discussion based on the notes there. Change rooms ca 4 times. The room you end up in is the discussion you'll share with the larger group. Bring sheet with you (or take picture of whiteboard/wall to share). (A version of a World Café)
 - **Think-pair-share:** Ask participants to reflect on a question related to the workshop for a couple of minutes (can be combined with the first point, bringing an object). Then then share this with one other person, and listen to the reflections of the other person (5-7 minutes each). After this they form larger groups (for instance 8 participants) and each present what they learnt from/about their partner. Before the 'pair' round participants should know: that they will present the other and that they can always indicate to their partner if there are things they don't want shared in the larger group.
- **Cross-disciplinary questioning:** sessions in which participants from a different field are encouraged to ask questions to experts. Useful to reach basic level of mutual understanding and potentially find new lines of interest.
- **Poster sessions + flash talks:** participants who are not speakers can present and discuss their result in a poster session. *Tip:* think about ways of making this different from a regular poster session (e.g. encourage presenters to focus on open questions/challenges/needs for multidisciplinary perspectives).
- **Junior researchers review (or 'giveback' session):** this is a safer space for junior researchers to ask questions about the research discussed in a plenary. Junior researchers will have time to talk to each other, discuss questions, doubts,

and ideas about topics discussed in plenary. Then junior researchers will have time to discuss these questions with the senior researcher(s).

- **Site visit:** excursion outside the Lorentz center to sites of particular relevance (e.g., laboratories, archeological sites, museums, etc.).
- **Tutorials:** hands-on discussion where methods developers teach how to use a technique (e.g. computational techniques) through explanation and exercises. *Tip:* works well for online participants.
- **Career lunch:** during lunch, a few senior researchers will talk to junior researchers about their career choices, highlights, struggles. This can help break the ice in a less formal and less scientific setting and trigger interactions between junior and senior participants.
- **Social media reporting:** report highlights of the day on social media channels
- **Social activities:** moments to connect and relax. Coffee-breaks, lunches, workshop dinner, welcome reception.

Wrapping up – summarizing

Sessions of the workshop aiming to recap and summarize, plan for the outcome of the week, end the workshop.

- **Planning moment:** it can be useful to schedule a few of these during the workshop, to agree on how to work towards the outcome of the week (e.g. planning the writing of a whitepaper).
- **Day start/day end:** you can plan short sessions at the start and the end of the day to recap what has been discussed/achieved previously and what the goals for the next day are. Or:
 - *What kept you awake? (question you could ask on one or several mornings)*
 - *Morning stand up: 1) what have you been working on yesterday? 2) what do you plan to work on today? 3) What obstacles are impeding our progress?*
- **Reporting back session:** plan sometime after the breakout sessions where a participant of each breakout session will report back the findings to the rest of the participants.
 - *Alternative format: Touring Groups. Let all break out groups shortly write their main outcomes on the wall/flip over, creating several out “break out stations”. Form tour groups with at least 1 participant from each break out group. Let the groups walk by each of the stations (5 min per station) with the touring group members presenting to each other what they’ve worked on. (Advantage: less passive, more room for interaction and discussion of outcomes).*
- **Summary perspective:** on the last day of the workshop. Make a recap of what has been discussed during the week, highlight the most important findings, sketch a roadmap and plan future steps to keep the momentum.
- **End with a bang:** end the workshop with an exciting talk by a talented speaker to leave the participants inspired and motivate them to stay until the end of the week

Some more elaborate conversation methodologies, formats and approaches that have been used at the Lorentz Center

- **Open Space Technology:** a guided conversation methodology that builds on self-organization of the group to collectively generate ideas. Allows for maximum input of the participants and freedom to move with what the group feels most passionate about at that moment in time (see: <https://genuinecontact.net/open-space-technology/>). External facilitator required, please contact the Lorentz Center for more information and possibilities.
- **World Café:** simple, and flexible methodology to host group dialogue in informal setting (see: <https://theworldcafe.com/key-concepts-resources/world-cafe-method/#>)
- **Liberating Structures:** menu of 33 easy-to-learn microstructures/exercises that enhance relational coordination and trust and that quickly foster lively participation in groups of any size (see: <https://www.liberatingstructures.com/>)
- **Unconference format:** a meeting format in which participants build the meeting agenda themselves and take leadership on the topics they find important. (See: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4310607/>)
- **Ynnovate methodology:** Method to collectively formulate problem definitions and solutions with help of creative exercises that do not only yield group energy and fun, but also quick and useful results (see: <https://ynnovate.it/methodiek/>).