Chitambar Research Group Operating Paper

The following outlines the general guidelines and operating procedures for the Chitambar quantum information research group. It applies to all post-docs, graduate students, undergrads, and visitors working in the group. Of course, all group members and guests are also subject to any applicable University rules and regulations; in any case where this operating paper conflicts with such University policies, University policies shall take precedence.

Code of Conduct

This is a diverse research group welcoming people from around the world and from different backgrounds. We are united in the goal of pushing forward the frontier of quantum information science while growing as human beings in the process.

Group members are expected to maintain a spirit of collaboration by regularly discussing research and helping each other learn new material. Disparaging attitudes or actions toward anyone in the group will not be tolerated.

Hard work should be balanced with fun play. You are encouraged to organize regular social activities, and when doing so please try to include as many group members as possible. I will also try to organize a group event at least twice a year.

Work Expectations

This group will use Microsoft Teams as the primary method for making announcements and messaging each other. As theorists, we have relatively large flexibility on when and where we do our work. While you are not required to be on campus every day, you are expected to at least be dependably reachable over Teams chat within standard business hours, Monday through Friday from 9AM – 5PM. On my end, I can be contacted via chat 24/7, and I should be able to respond within 1 minute to 24 hours (depending on what I'm doing and the nature of the question).

Every graduate student in the group should have an assigned desk either in CSL or Loomis. It is currently not feasible for all these desks to be in the same office due to CSL limitations.   But I will continue to try to consolidate our desks as much as possible.

Graduate student employees are subject to the rules and agreements of the University, which are summarized in the [Graduate College Handbook](#). When taking vacation, sick time, or other leave, advance notice is expected when possible.

Group Meetings and Presentations

There is an all-hands group meeting each Monday during the academic semesters from 10AM-11AM in CSL 141. Everyone in the group should attend these meetings, if possible. We will try to keep this as the permanent time for our group meeting, so please try to plan around this when scheduling classes and other appointments each semester. Unfortunately, course conflicts are unavoidable at certain cases, and please let me know when this arises.

Every graduate student and postdoc is expected to give a group meeting presentation once a semester. This presentation should include some original research results or at least a clear formulation of the problem you're studying. The first part of the talk should carefully motivate the problem and provide a high-level introduction that is accessible to undergraduates in the group. Relevant background material and results should be covered. The second part of the talk focuses on your own work, including new ideas and technical results or calculations. Finally, the talk should close with a list of open problems or outline of ongoing work. Undergraduates are also encouraged to present a topic of their choice if there are remaining slots in the schedule.

One-on-One Meetings

Each graduate student in the group will have a bi-weekly meeting scheduled with me. Please take these meetings seriously and plan to lead each one by providing an update of your work. At the same time, I recognize that life can be unpredictable, and some weeks are more productive than others. In the event that you've had a particularly rough week and have no updates to make, please let me know and we can cancel our meeting. It's also inevitable that I will need to cancel some meetings along the way due to sick kids or work travel.

Shared Resources

There is a group laptop computer that can be used by anyone in the group for research purposes. It is a Windows PC with Matlab and Mathematica installed. Additionally, there is a group GitHub for posting sharing software at https://github.com/ChitambarLab. Many thanks to Brian Doolittle for setting this up!

Order of Authorship

For papers written in this group, the default practice is to order student/postdoc authors according to the amount of contribution, with myself and other PIs listed last. This is a standard convention in the quantum information community.

Conference and Workshops

Conferences and workshops are a very important way to publicize results, meet new people, learn new research problems, and engage in professional development more broadly. As a rule of thumb, you are encouraged to submit your work to all the major conferences in the field. A non-exhaustive list of these conferences is posted in the Teams channel, and other conference announcements will be advertised as they're received. Please also post in this channel if you learn of a relevant conference or workshop.

There is a limited amount of travel money available for the group, so unfortunately you will not be able to attend every conference or workshop you submit to. But since the acceptance rate of talks at good conferences is usually low, you should still try to submit as much as possible. The act of assembling an abstract and working to meet a submission deadline is a good scientific exercise in itself that will help your writing and work management skills. You should get used to the cycle of conference deadlines and plan accordingly.

Roughly speaking, **each paper/project should be presented at just one conference requiring travel, and I structure the research grants to support this pace**. However, there is some flexibility to this rule based on the remaining travel budget for the project as well as the following considerations.

- Is the accepted work a talk or a poster? Given their enhanced prestige and competitiveness, priority will be given to accepted talks over posters. Nevertheless, poster presentations are still important and sufficient for attending a conference/workshop, if funds are available.
- Is the conference/workshop domestic or international? Domestic conferences/workshops are significantly more affordable compared to most international trips. Priority will be given to support travel to conferences/workshops within the US.
- Does the conference/workshop match your research topic or scientific goals?   To maximize the benefits of attending a conference/workshop, priority will be given to programs that best fit your research interests.
- Have you tried to secure supplemental travel support from other means like department or college scholarships? Additionally, each conference/workshop usually offers some sort of travel support which you should apply for.

All airfare, hotel, and conference/workshop registration expenses should be made in advance through CSL office management. Do not charge any of these items to your own credit card. It is expected that you will make your travel plans early, choosing the most economical airfare and registering for the conference/workshop before the early-bird deadline.

Group Website

https://quantum-entangled.ece.illinois.edu/