FAQ on the "Conjecture track" at FOCS 2023

Question: I have been working hard on a very difficult open problem, and with my collaborators, I have identified a new conjecture that if true would help resolve the open problem. I've assembled some evidence for the conjecture. Should I write this up and submit it to the Conjectures Track?

Answer: Yes!

Question: During a lively discussion at a Simons program, myself and a group of researchers and started discussing new open problems. Should we write these up for the conjectures track?

Answer: It depends.

> Scenario 1: The discussion was wonderful and led to the formalization of some conjectures that if true would help resolve the open problem:
> Answer: Yes! And it should likely be a big group effort including whoever is willing to participate from the original group.
>
> Scenario 2: The discussion was wonderful but never quite resulted in any formalizable conjectures.
> Answer: No, because it didn't reach the conjecture formalization stage.
>
> Scenario 3: The discussion was wonderful but never quite resulted in any formalizable conjectures. However, later on, on your own, you were able to formalize some conjectures about these new directions.
> Answer: Yes, and you should think about inviting some or all of those researchers that led to this conjecture as co-authors.

Question: Would the track welcome survey-type papers about conjectures that have circulated in a smaller community for a while, or should the conjectures be completely novel?

Answer: This new track is still a "research" track. However, we definitely encourage researchers to use this track to talk about conjectures that are circulating in a small community, where it is outside the reach of those who aren't "in the know", while still giving due credit. We envision this process as being similar to writing a paper that has been slow-cooking for a while. For example: If you want to write such a paper, you might reach out to the people from whom you heard the conjecture first, and ask if they might be interested in co-authoring the paper. If they decline, you could acknowledge them in a manner similar to how one acknowledges early-stage collaborators, e.g. "We thank X for early discussions regarding conjecture A. We thank Y, from whom we first heard a form of Conjecture A, although the exact origins of Conjecture A are unknown to us."

Question: Is that new track meant to incentivize researchers rather than accept papers which won't be otherwise accepted in FOCS?

Answer: Yes. We expect that conjecture papers that will appear in the conjectures track of the upcoming FOCS *could* in principle have been accepted as regular submissions in a previous FOCS, assuming the PC would have taken a slightly different attitude in terms of the usual acceptance criteria. The motivation for creating a special track is to be specially open and receptive to the fact that even if these papers are technically simple, we can appreciate the significant value they might add in terms of addressing a fundamental question, or opening up new avenues of research.

Question: How does the conjecture track compare to calls for open problems that have appeared at other conferences, e.g. COLT?

Answer: The bar for a conjecture paper is significantly higher than that for an open problem. A conjecture not only proposes a question – not necessarily a problem, but a question — but also formulates a tentative answer to it, and exposes its consequences. When an author makes a conjecture, they are putting their "skin in the game" and pointing the finger to a novel, potentially interesting, direction for research. In that sense a conjecture is broader than a problem. While conjecture papers may be relatively short, we expect them to generally be longer than the 1-3 pages required to properly expose an open problem.

Question: Will conjecture submissions be anonymous.

Answer: Yes, all submissions to FOCS are anonymous. The conjecture(s) proposed in the submission can be novel to the paper, or they can be conjectures that have been formed in the past within a certain community. In the latter case, the origin of the conjecture(s) should be described in the submission: it is not required that authors of the paper are also at the origin of the conjecture(s), but if they are not, they should attribute them appropriately to the extent possible. In all cases, the authors should describe the origins of the conjecture, including naming contributors when they are known, to the extent that is reasonably possible (i.e. we are not asking authors to be historians).