

## **Hard probes 2020: A major nuclear physics conference, moved online**

R.J. Fries, Michael Kordell, Arjun Sengupta, and collaborators

R.J. Fries was a co-chair of the 10th International Conference on Hard and Electromagnetic Probes of High-Energy Nuclear Collisions (Hard Probes 2020). The Conference took place June 1-5, 2020, with a student day preceding the conference on May 31. Hard Probes is one of the largest conferences in high energy nuclear physics, focusing on electroweak probes, jets and high-momentum hadrons, heavy flavor probes, quarkonia, and initial state physics in ultra-relativistic nucleus-nucleus collisions and related systems. It was originally planned as an in-person conference to showcase the vibrant and successful groups at Texas &M University and other universities in Texas (Rice University, the University of Houston and UT Austin were partners in organizing the conference). However, it turned out to be one of the first large conferences to be affected by the COVID-19 crisis. With just enough time to spare the co-chairs worked successfully to convert the full conference schedule to an online format. A decision was made to move the entire conference to Zoom, keeping the original dates. CERN graciously provided technical support (licenses and manpower) to manage the online aspects. A session format was designed with two lead persons per session, a session manager and a session chair, which allowed a separation of technical and scientific aspects of the session. Detailed manuals for chairs, managers and speakers as well as training sessions for session managers were devised. The poster session was organized with one Zoom room per poster. All rooms could be accessed easily from a hub on the conference Indico website. Poster presenters were allowed to upload a 3-minute teaser video before the session, leading to a surprisingly creative array of videos.

By all measures the conference was a success with more than 400 regular participants in the plenary sessions, more than in previous in-person editions of this conference series. The student day reached an unprecedented number of students and was attended by more than 200 participants from around the world.

Scientifically, Hard Probes 2020 featured a number of new results in heavy ion physics from the experimental collaborations at both RHIC and LHC as well as new insights from a diverse field of theory contributions. The online format was optimized to allow, over a period of 5 days, for participation across many time zones with daily plenary and parallel sessions. In total 37 plenary, 152 parallel, and 67 poster presentations were scheduled. The spotlight was shone on the next generation of scientists who were given an opportunity to present their award winning posters in 8 flash talks.