



## The 174th HENPIC seminar

# Jets and heavy flavors in heavy-ion collisions

Speaker: Prof. Guang-You Qin, CCNU

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### ABSTRACT:

When the matter is heated up to 2 trillion degrees Kelvin, the quark-gluon plasma (QGP) can be formed. Such new state of matter consist of deconfined quarks and gluons, which are ordinarily confined inside nucleons or other hadrons. It is believed that shortly after the Big Bang, the early universe was filled with hot and dense QGP. The primary goal of relativistic heavy-ion collisions is to create QGP in the laboratories, to study its novel properties and to explore the phase structure of strong-interaction matter under extreme conditions. Jets and heavy flavors provide very important tools to probe the macroscopic properties and microscopic structures of quark-gluon plasma created in high-energy nuclear collisions. In this talk, I will present some recent theoretical and phenomenological studies on jet quenching, medium response and heavy flavor dynamics related to the Relativistic Heavy-Ion Collider and the Large Hadron Collider.

### ABOUT THE SPEAKER:

Guang-You Qin is currently a professor of physics at Institute Of Particle Physics (IOPP) at Central China Normal University (CCNU). He received his bachelor degree from Shandong University in 1999, his master degree from Peking University in 2002, and his Ph.D. degree from McGill University in Canada in 2008. Then he moved to the U.S. and did his postdoctoral research at The Ohio State University, Duke University and Wayne State University. In 2013, he joined CCNU. Qin's research focuses on the theory and phenomenology of high-energy nuclear physics. His current research interests include dynamical simulation of relativistic heavy-ion collisions, hard probes and collective properties of quark-gluon plasma, and the phase structure of strong-interaction matter.



**HENPIC website:** <https://indico.ihep.ac.cn/event/11115>

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