

## Lecturer L1: Prof. Julia Velkovska

### **First lecture: Roadmap on the quest to quark gluon plasma**

This lecture will discuss the facilities, and experiments which perform relativistic heavy-ion research, the key observables of the quark gluon plasma (QGP) and some of the key experimental discoveries in this research field.

### **Second lecture: Bulk properties of QGP**

This lecture will cover measurements of the bulk properties of the systems produced in relativistic heavy ion collisions and the amazing emergent behaviors. Contrary to most early expectations, the experiments found that QGP behaves as a liquid, and not just any liquid but one with extremely low specific viscosity, which makes it the most perfect liquid in nature. We'll discuss how this near-perfect liquid leaves imprints in the data.

### **Third lecture: Hard probes of QGP**

This lecture will concentrate on measurements that use particles produced in hard-scattering processes as probes of QGP.