Abstract: We investigate the production of ground and excited states of bottomonia in high energy heavy-ion collisions within a rate equation approach. The bottomonium transport parameters include several recent improvements: in-medium binding energies based on microscopic T-matrix calculations with pertinent dissociation rates, effects of B-meson resonance formation near hadronization in the bottom chemistry, and realistic (non-thermalized) b-quark spectra to model the transverse momentum spectra of regenerated bottomonia. The bulk medium evolution is based on a parametrization of the equation of state computed in lattice QCD, using an expanding fireball with a collective flow guided by hydrodynamic simulations. We calculate the centrality and transverse-momentum dependent nuclear modification factor $R_{AA}$ of $Y(1S)$ and $Y(2S)$, and compare the results to experimental data at RHIC and the LHC. We also provide predictions for the elliptic flow $v_2$ and discuss its sensitivity to different production and suppression mechanisms. The sensitivity of observables to various modelling components is studies in order to quantify the significance of in-medium binding energy of bottomonia. We argue that the $Y(1S)$ suppression is a promising observable for quantifying the color screening effect on the in-medium QCD force.

The seminar will be held at 1:30 pm in 2214 SES.