

## ICTS String Seminar

- Title : Near-Extremal Fluid Mechanics
- Speaker : Upamanyu Moitra (Tata Institute of Fundamental Research, Mumbai)
- Date : Wednesday, 14 October 2020
- Time : 03:00 pm (IST)
- Abstract : This talk concerns fluid mechanics corresponding to near-extremal black branes in anti-de Sitter spacetime, in an unconventional regime. In this regime, in contrast with the conventional one, the temperature of the fluid is much smaller than the spatial and temporal rates of variation of the various fluid parameters. It turns out that Einstein-Maxwell equations admit a systematic perturbative expansion even in the new regime. There are interesting new features for fluid dynamics at low temperatures – non-localities in the constitutive relations beyond first order in derivatives, for example. My talk will focus on a simple model which will illustrate the essential features of the near-extremal fluid-gravity correspondence. I will also describe some key results for the actual fluid system dual to the gravitational theory.

[ICTS virtual seminar](#) : Please register at <https://docs.google.com/forms/d/e/1FAIpQLSf0jLgoqiOgDnxbEBGiuIWiOmh9WX8caH-pr13qDBZOO91img/viewform>

(Links to join the seminars will be sent to your registered email address)

Recordings of past talks can be found here:

<https://www.youtube.com/channel/UCw9LdPQ5t7Q7muD0qzn70TA>