

**IUSS Philosophy Seminars
L&PIC – Linguistics and Philosophy IUSS Center**

Epistemology & Mathematics Series

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Plausibility and Analogical Arguments: The Case of Emergent Gravity

[abstract]

Emergent Gravity (EG) gravity is a framework in theoretical physics according to which “gravity is not a fundamental interaction” and “spacetime is a composite object approximately like a fluid” (Liberati 2017). Literature on recent attempts at providing robust models in emergent gravity are replete of moves labelled as “plausible” by scientists themselves. After reviewing important contributions in this framework, I show the sense in which plausibility is used in emergent gravity and open the path to the discussion about the limits encountered by this approach by showing that it heavily relies on analogical reasoning. This in turn generates for this approach what I call the “double-gap problem”. By no means this alters the significance that these attempts have within the landscape of theoretical physics, I rather try to provide a toolkit to avoid certain inconsistencies and stimulate the debate about the epistemological questions raised by these approaches.