

CS Seminar

HKU CS QICI (Quantum Information and Computation Initiative) online seminar

On Reduction and Functionalism about Space and Time

Date:

**April 2, 2020
Thursday
11:00 pm (HK Time)
[GMT 3pm]**

Date: April 2, 2020 (Thurs)
Time: 11:00 pm (HK Time) [GMT 3pm]
Zoom Link: <https://hku.zoom.us/j/728065144>

Title: On Reduction and Functionalism about Space and Time

Speakers: Jeremy Butterfield and Henrique Gomes, University of Cambridge

Abstract:

Various programmes and results in the philosophy/foundations of spacetime theories illustrate points about reduction and functionalism in general philosophy of science. I will focus on some programmes and results about how the physics of matter contributes to determining, or even determines, or even explains, chrono-geometry. I will say something about most of the following examples: the Helmholtz-Lie theorem on free mobility implying constant curvature; and in the philosophical literature, Robb (1914), and Mundy (1983). I also hope to mention from the physics literature: Barbour and Bertotti (1982), Hojman, Kuchar and Teitelboim (1976); Dull, Schuller et al. (2012, 2018); and Gomes & Shyam (2016: 1608.08236 = J. Math. Phys. 57, 112503 (2016)).

QICI Online Seminars:

The idea

Topics will range from fundamental theory to experiments and the philosophy of science to help with cohesion and exchange of ideas in the context of The Quantum Information Structure of Spacetime initiative. The goal is to engage discussions across disciplines, rather than presenting incremental technical results pertinent only for specialists in a sub-field. For this reason, we suggest talks to be relatively short (~30 mins) and pedagogical. One or two commentators will first engage the speaker(s) for ~15mins to get the discussion going. After this stage, questions and comments will be open to all participants.

How to join the seminar

You can join the seminar via Zoom by downloading the Zoom Client for Meetings <<https://zoom.us/download>> (free of charge). To join a QISS Virtual seminar click on the link <https://hku.zoom.us/j/728065144> <<https://hku.zoom.us/j/728065144>> or use the *meeting ID 728 065 144* at the corresponding time and date for the seminar (link and meeting ID will remain the same for following seminars). The zoom meeting capability is provided by The University of Hong Kong and the Quantum Information and Computation Initiative.

Online archive and announcements

We will be announcing follow up seminars at the group webpage <https://qift.weebly.com/events.html>. All talks will be recorded and will become available on the QISS youtube channel <https://www.youtube.com/channel/UC6vFBhoZGqaPqXJ0CE_yjlg>.

All are welcome!
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