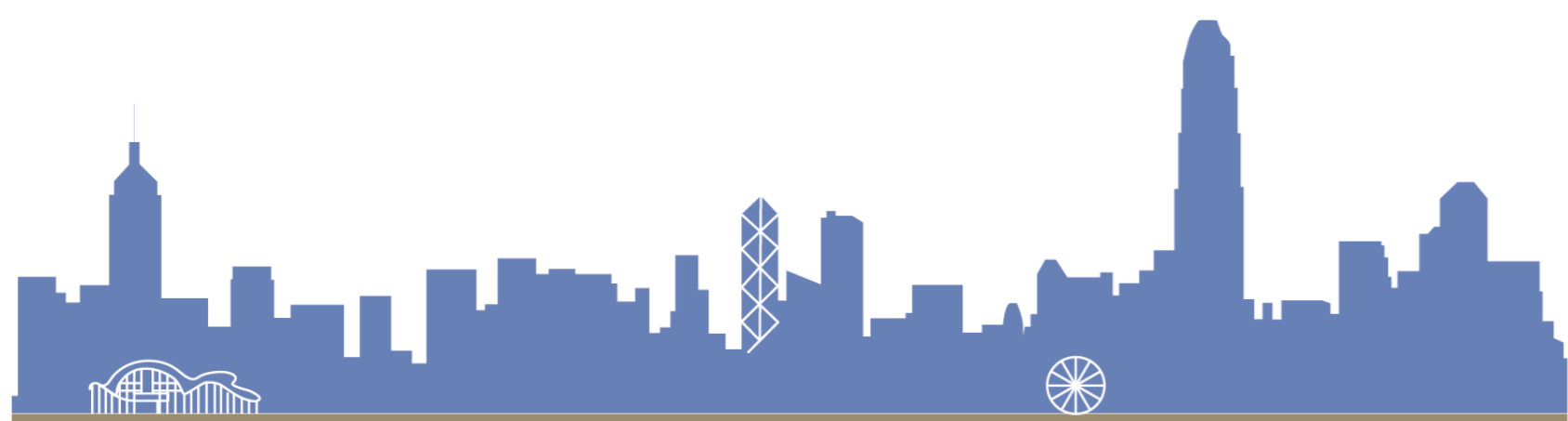




Department of Physics
The University of Hong Kong



HONG KONG COMPUTATIONAL
and THEORETICAL PHYSICS
STUDY GROUP 2023

The cuprate phase diagram: theory of the pseudogap metal, d-wave superconductivity, and charge order

ABSTRACT

I will begin with an introduction to the phase diagram of the hole-doped cuprates. The pseudogap metal will be described as a FL* phase of the single-band Hubbard model, with small pocket Fermi surfaces, and an underlying π -flux spin liquid with an emergent SU(2) gauge field. Such a theory provides a good description of the photoemission spectrum at intermediate temperatures. I will present a theory of the confinement transition of this SU(2) spin liquid as temperature is lowered. This theory leads naturally to d-wave superconductivity and charge order.

SPEAKER



**Professor
Subir Sachdev**

Herchel Smith Professor of
Physics, Department of Physics,
Harvard University

Registration



Time: March 15, 2023 (Wednesday) 16:30-18:30
Venue: CPD - 3.29 (Central Podium Levels)
Moderator: Prof. Zi Yang Meng (Department of Physics,
Faculty of Sciences, The University of Hong Kong)
Zoom: <https://hku.zoom.us/j/6510731643>
Meeting ID: 651 073 1643 Password: 786060
Enquiry: xxran@connect.hku.hk zhengyan@hku.hk