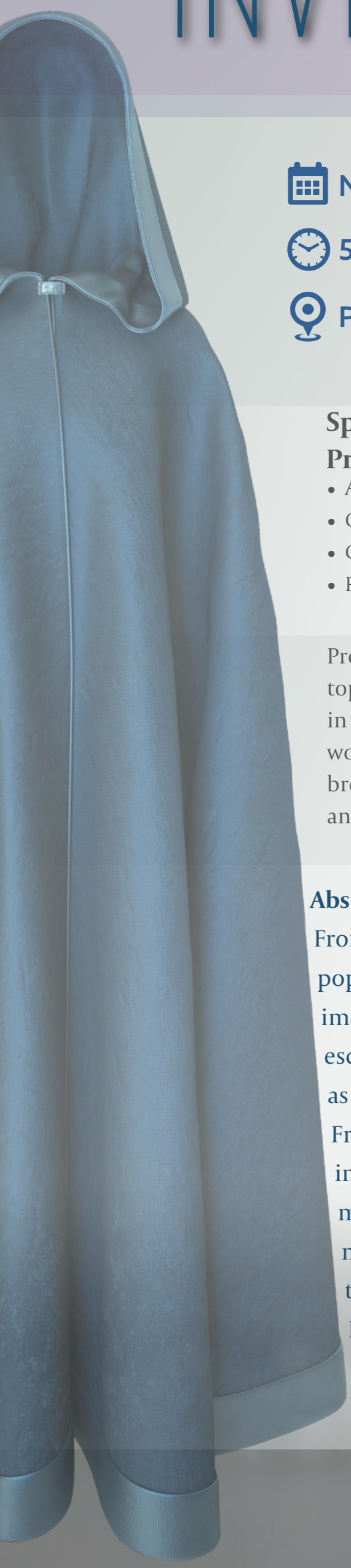
FACULTY OF SCIENCE
THE UNIVERSITY OF HONG KONG
香港大學理學院

SCIENCE Public Lecture Series

How INVISIBILITY CLOAKS Work



November 5, 2021 (Friday)

5:45 – 6:45pm

P3, Chong Yuet Ming Physics Building, HKU

Register at bit.ly/3oDe4CC

Speaker:
Professor Shuang ZHANG

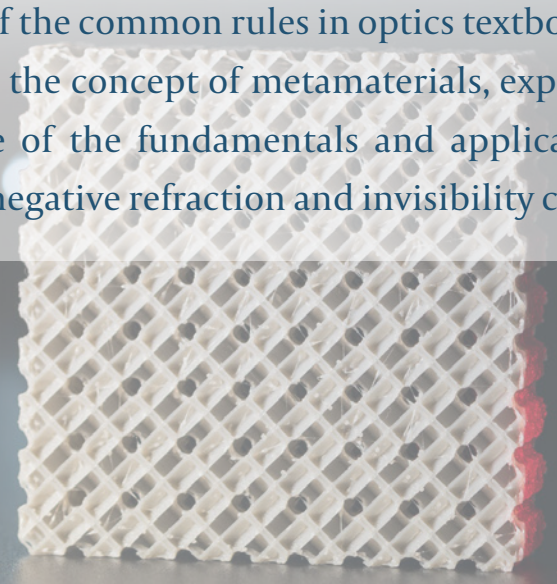
- Associate Dean (China & Global), Faculty of Science, HKU
- Chair Professor, Department of Physics, HKU
- Global Highly Cited Researchers, Clarivate Analytics in 2018-2020
- Recipient of Royal Society Wolfson Research Merit Award, Royal Society, UK in 2016

Professor ZHANG's research covers metamaterials, nanophotonics, topological photonics and nonlinear optics. He published more than 200 papers in journals including *Science*, *Nature*, *Physical Review Letters*, etc. Professor ZHANG's work on macroscopic invisibility cloaking of visible light was selected as 'top 10 breakthroughs for 2010' by *Physics World*, "top 100 stories in 2011" by *Discover Magazine*, and received numerous media coverage including BBC News.

Abstract:

From the cap of invisibility in ancient Greek mythology to the invisibility cloak in the popular children's fantasy book series *Harry Potter*, invisibility has captured human imagination for many centuries. However, it was only very recently that the invisibility cloak escaped the realm of science fiction and turned out to be something quite realistic, at least as a proof of concept in laboratories, thanks to a fast growing research area – Metamaterials. From a negative refractive index material that bends light in the wrong direction at its interface, to invisibility cloaks that make things disappear from sight, the field of metamaterials never fails to create new wonders. Metamaterials are structured composite media that exhibit highly unconventional optical properties distinct from those of each of their constituent materials. They defy some of the common rules in optics textbooks.

In this talk, Professor ZHANG will introduce the concept of metamaterials, explain how they interact with light, and present some of the fundamentals and applications of metamaterials such as the aforementioned negative refraction and invisibility cloaks.



For details and registration,
please visit: bit.ly/3oK22Ye

3917 2683 science@hku.hk science.hku @hku_science @hku_science /hkufacultyofscience