

SEMINAR | Phase change materials: from data storage to photonics

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10:00 to 11:00

Seminar Room

Chalcogenide phase change materials (PCMs) display radically different properties between their amorphous and crystalline states. The property contrast has been exploited in commercially successful data storage systems, such as DVD-RW and Intel's Optane memory, and now similar materials are being studied and developed to steer laser beams, compute using optical neural network schemes, and form 2D and 3D displays. This talk will start by introducing how we design and optimise these materials and their devices, and then I will show our latest results exploiting partial amorphisation (rather than partial crystallisation) to create devices with a multilevel optical response, and our work beyond PCMs developing chalcogenide-based sensors and detectors. Finally, I will wrap up with a discussion on the suitability of PCMs for different optical and photonics applications.

Hosted by: Prof. Dr. Valerio Pruneri