

[Scdt] SCDT seminar on Tuesday, 20th October at 5:00PM

Anshu Gaur <agaur@iitk.ac.in>

Mon, Oct 19, 2020 at 1:18 PM

To: scdt@lists.iitk.ac.in

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Dear all,

On behalf of SCDT/NCFlexE, I would like to invite you to join for online seminar (zoom) as per the details given below.

Title: Opto-electronics in 2D materials

Speaker: Dr. Sudipta Dubey, Physics, IIT Kanpur

Date and Time: Tuesday, October 20th at 5:00PM (online on zoom, detail below)

Abstract:

Atomically thin materials with honeycomb lattice have intriguing opto-electronic properties due to strong carrier interactions and the presence of additional electronic degree of freedoms such as the valley pseudospin. Recently, single photon emitters (SPE) in atomically thin transition metal dichalcogenides such as WSe₂ have been reported which, possibly arise from excitons trapped in shallow potentials. We perform low-temperature magneto-optical spectroscopy on WSe₂ quantum dots (QD) in field effect transistor geometry. We observe entanglement of neutral SPE with in-plane chiral phonon modes of WSe₂. In addition, we demonstrate optical initialization of single spin with the helicity of incident light. Our findings open up ways for valleytronic based optical spectroscopy in 2D materials.

Brief bio-sketch of the speaker:

Dr. Sudipta Dubey completed her B.Sc. degree in Physics from Presidency College, Kolkata in 2009. She successfully defended her PhD thesis in 2015 from TIFR, Mumbai. Her PhD thesis was on bandstructure modification in graphene with one dimensional lateral superlattice. She pursued postdoctoral research in Institute Neel (France), Emory University (USA) and RWTH Aachen (Germany). Her current interest includes opto-electronic properties of atomically thin materials.

Zoom Details:

Topic: SCDT-Seminar

Time: Oct 20, 2020 05:00 PM India

Join Zoom Meeting

<https://zoom.us/j/97060787646?pwd=eUFCM29YblpOem5nSGd1RlRqQk53Zz09>

Meeting ID: 970 6078 7646

Passcode: 415468

All interested are welcome to join.

Regards,
Anshu Gaur