



Report of Webinar on 'Nanostructured metasurfaces and fiber based devices via controlled fluid Instabilities'

We are very happy to inform you that **IEEE MTT-S SBC IIT BHU Varanasi** and **IEEE Photonics SBC IIT BHU Varanasi** have jointly organized a Webinar on 'Nanostructured metasurfaces and fiber based devices via controlled fluid Instabilities' dated 30 October, 2021 at 11:00 hours (IST). The event was organized by the Society during the global Covid 19 pandemic. The speaker of the webinar was **Dr. Tapjyoti Das Gupta, Assistant Professor, Department of Instrumentation and Applied Physics, IISc Bangalore, India** and attended by more than 30 participants from various renowned research institutes from India (several IITs, NITs, Universities and Research Organizations).

On behalf of **IEEE Photonics Society Student Branch Chapter**, at the onset of the webinar, the **faculty advisor, Dr. Santanu Das and Mr. Sambit Ghosh** had welcome all the audience. After this, **Dr. Somak Bhattacharyya, faculty advisor of IEEE MTT-S SBC** had formally introduced the speaker. **Dr. Tapajyoti Das Gupta** has started his talk by introduction of the research work based on the domain soft Electronics and Photonics. He talked about the demonstration of an unprecedented control over the fluid instabilities of thin glass films as a simple approach for the self-assembly of advanced dielectric metasurfaces. Then, modelling has been discussed to tailor the position, shape, size and inter-particle distance of nano-objects with feature sizes below ten nanometers. This approach can generate optical nanostructures over tens-of-centimeters sized rigid and soft substrates, with better optical performance and a resolution on par with advanced lithography-based processes. To fabricate the metasurfaces on stretchable substrates without undergoing any lift off process finds application in mechano-chromic sensor Lastly, by having an unprecedented control over the lattice and particle size, he discussed about the demonstration of sharp Fano resonances with the highest Quality factor ~ 300 in the visible to date. The talk was followed by some fruitful discussions, where audience had raised a few clarifications, and expressed their gratitude to the speaker as well as the organizer. Finally, the event was concluded with a formal vote of thanks by Dr. Bhattacharyya.

**IEEE MTT-S & IEEE Photonics Society Student Branch Chapter,
IIT (BHU), Varanasi**



Presents



Webinar on :

**Nanostructured metasurfaces and fiber based devices via controlled
fluid Instabilities**

Date : 30th October, 2021



Time: 11:00 Hours (IST)

Dr. Tapajyoti Das Gupta
Assistant Professor
Department of Instrumentation and Applied Physics
Indian Institute of Science Bangalore