

MONDAY

COLLOQUIUM

Halide perovskites and related compounds: What is so exciting about them?

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12 Aug 2024 (Monday) | 16:00 Hrs (Tea / Coffee 15:45 Hrs) | Venue: TIFRH Auditorium

The last fifteen years have seen the most spectacular rise of a class of materials initially known as the hybrid halide perovskites, with the field quickly evolving to include all-inorganic halide perovskites and low-dimensional hybrid halide materials derived from the perovskite structure. Their photovoltaic, light-emissive, and detection properties have reached superlative performance levels within this exceptionally short period and have taken the world by surprise. Along with the intense effort to further improve efficiency, stability, and other technological aspects, there is a considerable effort in understanding the origin of such exceptional attributes. I shall discuss some historical aspects of this field of study and some of the recent results identifying the underlying scientific issues and then follow it up with some discussions based on our efforts to understand the physical properties of these materials, with a few examples, some of which will go beyond the usually discussed optoelectronic and electro optical properties.