Subject: [Scdt] SCDT-FlexE Centre Weekly Tuesday Seminar-24.08.2021 at 7:30 PM
Date: 2021-08-20 16:05
From: "SCDT, IIT Kanpur" <scdt@iitk.ac.in>
To: scdt@lists.iitk.ac.in

Zoom Meeting for joining the webinar:
https://zoom.us/j/99863678964?pwd=ZVJvdFN5T1UyQjdZbmxwS0htRUJOUT09

Meeting ID: 998 6367 8964
Passcode: 064022
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Dear Colleagues,

I would welcome you to attend the SCDT-FlexE Centre Weekly Tuesday Seminar by Dr. Sumeet Kumar, an alumni of our institute who is currently an entrepreneur in Italy. He is exploring opportunities to collaborate with researchers in India for synthesis of materials for energy solutions, especially with researchers from IIT Kanpur.

The seminar should be a good opportunity to know about the idea he is pursuing. The details of the seminar (to be given in webinar format) are:

Title: "New methodologies to render more efficient the state of art materials and power generators."

Date: 24th August, 2021 (Tuesday)
Time: 7:30 PM to 8:30 PM
Presentation will be on zoom. The link is given above.

The seminar abstract and a brief bio of the speaker are given below.
Please join the talk if you are in a position to do so.

With regards
S.K.I.

Abstract of talk by Dr. Sumeet Kumar:
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[More details with schematics are provided on the SCDT seminar site for this talk. <https://www.iitk.ac.in/scdt/PDF-files/Abstract-Dr.SumeetKumar.pdf>]

A hybrid composite nanomaterial comprising a hydrotalcite like layered double hydroxide compound provided with one or more lanthanide elements inserted into the 2D layers and one or more organic-inorganic (DONOR/ACCEPTOR) compounds, or acids or salts thereof, intercalated between them. The innovative co-axial design for encapsulating the active layer(s) of a hybrid organic-inorganic solar cell, along with the nanocomposite, for light energy conversion, not only provides the

active material more convertible energy, but also the opportunity to incorporate insitu or envisage a standalone pair of a Photoelectrochemical (PEC) and Fuel cell (FC). The hydrotalcite like nanomaterials, are projected to be dispersed inside the co-axial PEC/FC, whereby they can also convert the excess hydrogen electricity. The potential to use the co-axial, hybrid (PEC/FC) as standalone driven by any other power source, is also envisaged upon.

About the Speaker:
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[More information can be obtained from the link provided on the SCDT seminar site <https://www.iitk.ac.in/scdt/PDF-files/Bio-Dr.SumetKumar.pdf>.]

Dr. Eng. Sumeet Kumar is a researcher and entrepreneur who is the CEO/CTO of 1SUN S.R.L., a company located at Ronchi dei legionari between Gorizia Trieste in north-east Italy. He is building material that will help build higher efficiency power generation photoelectrochemical and fuel cells.

Dr. Kumar received his Ph.D. degree in Chemistry in February 2010 from the Department of Advanced Science and Technology, University of Eastern Piedmont "A. Avogadro", Alessandria, Italy. He is an alumni of IIT Kanpur where he received his B.Tech. in Materials and Metallurgical Engineering in 2005.
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