

The Department of
Mechanical Engineering
PRESENTS

Juan Hernández-Cordero, Ph.D.

Instituto de Investigaciones en Materiales, UNAM
A.P. 70-360, México D.F. 04510, México



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WCH Room 205/206
11:10-12:00PM

Photonics Applications of Photothermal Polymer Media

Abstract:

Interaction of laser radiation with metallic and carbon nanoparticles has shown to provide optically triggered responses of otherwise transparent media. As an example, incorporation of these materials in polymers has led to generation of plasmonic and photothermal effects through the enhanced optical absorption of these nanoparticles. This presentation will cover our recent research on the thermal effects attainable with polymer media with embedded carbon nanoparticles. I will focus on photonics applications of these composite media, and more specifically, on their use for developing optical fiber and optofluidic devices.

About the Speaker:

Juan Hernández-Cordero received his BSc. degree in electrical engineering from the National Autonomous University of Mexico (UNAM) in 1992. He earned a Master's and Ph.D. degrees from the Division of Engineering at Brown University in 1996 and 1998, respectively. He then spent a year as a Postdoctoral Research Associate at the Laboratory for Lightwave Technology in Boston University. He is currently a full time tenured researcher at the Materials Research Institute (IIM) of the UNAM, where he has established the Laboratory for Fiber Lasers and Optical Fiber Sensors. His fields of interest include optical fiber sensors, fiber lasers and fiber devices.