

Photothermal Spectroscopy and Other Interesting Topics: My 40+ Years in Science

4 Sept | 4-5 PM

Refreshments will be served at 3:45 PM

ESLC 046



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Abstract: This seminar constitutes a summary of my 40+ years of science. Of all the topics pursued in my career, my work in photothermal spectroscopy stands out. I will present an overview of photothermal spectroscopy, how I became interested in this topic and how my background allowed advances in the area. As a graduate student I found a way to do time-resolved laser pump-probe experiments for energy content mapping of gas phase molecules dissociating through infrared multiphoton absorption. I proposed to do total energy content mapping to NRC and subsequently did postdoc at the National Bureau of Standard and did the total energy map of CF_2CFCl . I continued to work with chlorofluorocarbons until the discovery of the Antarctic Ozone Hole. Since questions there were cut short, I turned attention to alternative fluorocarbons (AFC), energy transfer in liquid solution, and last to solids. Spinoffs of my work in photothermal included works on optics, holography, digital and optical signal processing, statistics, impedance spectroscopy, and finally quantum electrodynamics. The presentation will be conceptual, not detailed, perhaps allowing some understanding of the motives of my various diversions and derivatives leading to inventions, books and the first U.S. patent on optical computing. The talk will include the more interesting anecdotes. The presentation will also touch on the unanswered questions and some important experiments I wanted to do. But time ran out.

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