ICFO

L4G SEMINAR: Attosecond control of electron dynamics in simple and strongly correlated materials

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December 12, 2022
12:00 to 13:00
Blue Lecture Room & Online (Zoom)

Abstract:
Attosecond spectroscopy and strong light fields have boldly ventured into solid state physics about a decade ago.?
During this decade, we have learned to appreciate that strong light fields drive electrons i solids not on the time-scale of the pulse envelope, but rather on the sub-cycle time scal . Control over light oscillations and light polarization on the sub-cycle scale opens t e opportunities to control the electronic response on sub-femtosecond time-scale. I wi l illustrate these opportunities with a series of examples, ranging from PHz valleytronics n grahene to attosecond spectroscopy of the 2D Hubbard mode
. In the unlikely event that I have enough time to prepare new slides for this talk, I will cha ge it completely to discuss our latest results on resolving the mystery of insanely fast 1 fsec dephasing times in strongly driven solids and the very puzzling behavior of n t so massless, massless Fermions in Weyl semimet

Biography:
Born in the USSR and educated in Moscow State University, Misha left Moscow within a year after the USSR ceased to exist.
Since then, he has worked in Canada, Poland, UK, and Germany, where he now heads the Department of Theory at the Max Born Institute for Nonlinear Optics and Short Pulse Spectroscopy in Berlin, together with professorship at the Humboldt University Berlin.
Because Misha likes London, he still manages to keep his professor appointment at th Imperial College London, and because Misha loves Israel, he is also partially localized at th Technion in Haifa, where he now holds a visiting professor appointment.
Hosted by: Maciej Lewenstein and Jens Biegert