HQOC

HARVARD Quantum Optics Center

INSTITUTE FOR THEORETICAL ATOMIC, MOLECULAR AND OPTICAL PHYSICS
at the Harvard-Smithsonian Center for Astrophysics and Harvard Physics Department, Cambridge MA USA

Joint Atomic Physics & Quantum Optics Colloquium

Wednesday | April 25 | 4:00
Maxwell Dworkin G115

Prof. Matthias Weidemueller

University of Heidelberg

"Electromagnetically Induced Transparency in an Ultracold Rydberg Gas"

Due to the long-range character of the interaction between highly excited atoms, the dynamics of an ultracold gas of Rydberg atoms is entirely determined by van-der-Waals and dipole-dipole interactions. One outstanding property is the tunability of the strength and the character of the interactions with static electric fields. This allows one to explore the transition from a weakly coupled two-body system to a strongly coupled many-body system. The long-range interaction leads to many-body entanglement and has possible applications in quantum computing. In my presentation I will give an overview over the field, and then address some of recent advances achieved by our group.

Student Presentation by Stéphanie Valleau

Graduate Student, Aspuru-Guzik Group

"Exciton Transport in J-aggregates of Cyanine Dyes and Hybrid J-aggregate – Photonics Structures"

Student Presentation will begin promptly at 4:00 PM
Guest Presentation will begin promptly at 4:30 PM