

**Oklahoma AMO Physics Research Day**  
Starlight Terrace of the Student Union, OSU, Stillwater, OK  
March 15, 2013

10:30 - 10:35 am: **Opening remarks**, *Bret Danilowicz*, OSU Dean of CAS

10:35 - 11:00 am: **Using Molecular Spectroscopy to Search for the  $e$ -EDM**  
*John Moore-Furneaux*, OU

11:00 - 11:25 am:  
**Feshbach Optimized Photoassociation Spectroscopy of Excited Electronic States of Rb<sub>2</sub>**  
*Eric Abraham*, OU

11:25 - 11:50 am:  
**EIT Analogs using Orthogonally Polarized Modes of a Single Whispering-Gallery  
Microresonator**, *A. T. Rosenberger*, OSU

11:50 am - 12:10 pm:  
**Phonon Mediated Electromagnetically Induced Absorption in Hybrid  
Opto-electromechanical Systems**, *Kenan Qu and G.S. Agarwal*, OSU

12:10 - 12:35 pm: **21st Century Rydberg Atom Physics**, *James Shaffer*, OU

12:35 - 1:00 pm: **Rearranging the Exponential Wall**, *Deborah K. Watson*, OU

1:00 - 1:50 pm, **Lunch**

1:50 - 2:15 pm:  
**Time-Dependent Quantum Reactive Scattering in Three Dimensions Using Hyperspherical  
(APH) Coordinates. Theory and Results**  
*Gregory A. Parker, Jeff Crawford, and Zachary Eldredge*, OU

2:15 - 2:40 pm:  
**The Off-resonant Ratchet: a Study of the Crossover between Classical and Quantum  
Dynamics**, *Wa Kun Lam, Rajendra K. Shrestha, Jiating Ni, and Gil S. Summy*, OSU

2:40 - 3:05 pm: **Generation and Control of Quantum States of Light**,  
*Alberto M. Marino*, OU

3:05 - 3:30 pm: **Nature of Anti-correlations in Gaussian Electromagnetic Fields**  
*Xuele Liu and G. S. Agarwal*, OSU

3:30 - 3:55 pm: **Quantum Phases of Bosons in Optical Lattice Geometries**  
*Barbara Capogrosso Sansone*, OU

3:55 - 4:15 pm:  
**Sodium Spinor Bose-Einstein Condensates and Their Applications in Quantum Metrology**  
*Lichao Zhao, Jie Jiang, Micah Webb, and Yingmei Liu*, OSU

4:15 - 5:30 pm: **Poster session (coffee & cookies)**

5:00 - 5:30 pm: **Lab tours**

5:30 - 7:30 pm: **Dinner (French Lounge of the Student Union)**