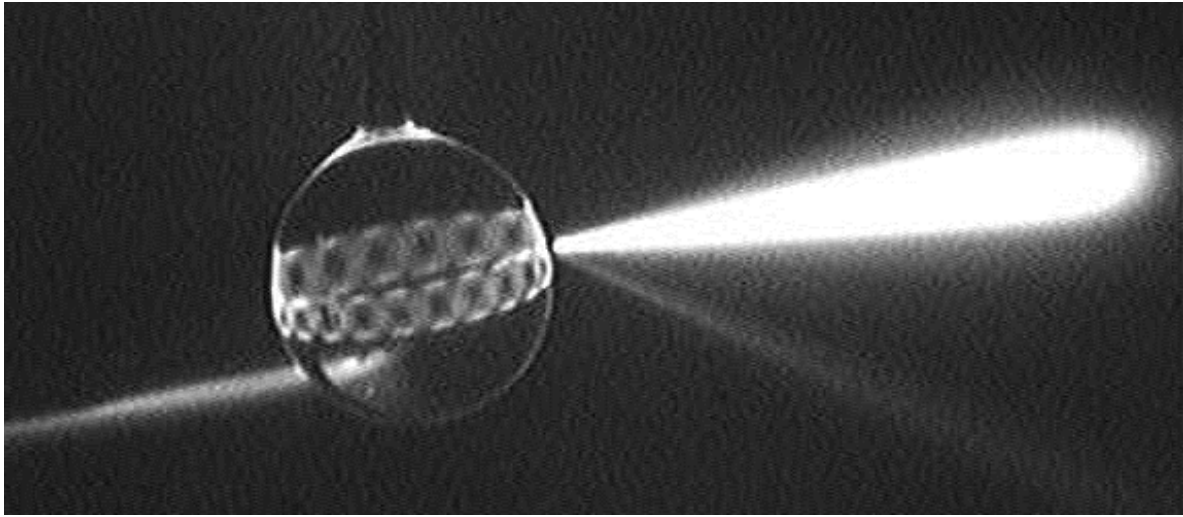


# AMO Seminar



*Thursday, May 10, 2007  
12:00 – 1.00 pm*

*Physics conference room (Small Hall 123)*

## **Nonlinear optics in crystalline micro-resonators**

**Dr. Anatoliy Savchenkov**  
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Whispering gallery mode (WGM) micro-resonators are used for the study of various nonlinear optical phenomena at low optical intensities as well as for the fabrication of novel optical devices. Low threshold Raman lasing, optomechanical oscillations, frequency doubling, as well as hyper-parametric oscillations, based on these resonators have been recently demonstrated.

I will talk about several recent projects of JPL group involving crystalline micro-resonators, such as direct observation of stationary interference patterns of several running optical whispering gallery modes in a fused silica micro-sphere immersed into a dye solution; optical continuous wave parametric oscillations in whispering gallery mode lithium niobate resonator; and new annealing method which leads to significant increase of the quality factors of crystalline resonators.