



# San Antonio Nano Tech Forum

## SANTF Networking Lunch Series

**Title:** Photonic Metamaterials  
**Speaker:** Dr. Andrey Chabanov, Ph.D.  
Associate Professor, Department of Physics and Astronomy, UTSA. San Antonio  
**Venue:** MLH104, Northwest Vista College, 3535 N Ellison Drive,  
San Antonio, Texas 78251  
**Date:** Wednesday, October 16, 2013  
**Time:** 11.30 – 12.45 PM - Free Pizza will be served\*\*

### ABSTRACT:

The development of the full potential of photonics, with revolutionary influence in many areas of science, technology, and everyday life, strongly depends upon the availability of advanced materials. Novel engineered photonic materials, or photonic metamaterials, are expected to open a gateway to unprecedented electromagnetic properties and functionality unattainable from naturally existing materials. The structural units of metamaterials can be tailored in shape and size; the composition and morphology can be artificially tuned, and inclusions can be designed and placed at desired locations. At the same time, the clarification of challenging questions regarding optical propagation in naturally existing and synthesized materials can lead to enhanced imaging and communication, and control over the natural environment. We will present the understanding of the electromagnetic properties of photonic metamaterials and consider a broad range of structures, from layered to three-dimensional periodic assemblies.

### Speaker Biography:

Dr. Andrey Chabanov is an Associate Professor of Physics, in the Department of Physics and Astronomy at UTSA. He obtained his M.S. Physics (Hons.) in 1986 from the Kharkov State University, Ukraine. He completed his Ph.D. in Physics from the City University of New York in 2002. He has published in distinguished journals such as Nature, Appl. Phys. Letters, and Phys. Rev. Letters. His areas of specialization include advanced photonic materials and wave phenomena in periodic and random media. His research includes microwave properties of magnetic photonic crystals and their applications in microwave engineering, propagation and localization of microwaves in random cavities and waveguides, fabrication and optical properties of photonic band gap materials for photonics applications, photon localization and lasing in disordered microstructures.

**Directions: Please visit:** <http://www.alamo.edu/mainwide.aspx?id=10648#campus>.

Guests will park right in front of MLH (parking lot#3) first row up front or any other visitor's parking. If you don't find any space in the visitor's parking, you may park anywhere in the new garage.

\*\*Please RSVP to: [info@santf.net](mailto:info@santf.net). Please check our website ([www.santf.net](http://www.santf.net)) for complete program details and upcoming meeting schedule.

**\*\*Lunch will be provided with prior registration ONLY.  
Last date for registration is October 14\*\*.**