



Applied Physics & OSA  
*Optics Seminar*

## **Engineering Optical Space with Metamaterials: from Magnetics to Negative-Index and Cloaking**

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***Abstract:***

Metamaterials are expected to open a gateway to unprecedented electromagnetic properties and functionality unattainable from naturally occurring materials. We review this new emerging field and recent progress in demonstrating metamaterials in the optical range. Specifically, we describe artificial magnetism across the whole visible, negative-index in the optical range, and approaches and challenges for accomplishing optical cloaking.

***Brief Biography:***

Vladimir Shalaev, the Robert and Anne Burnett Professor of Electrical and Computer Engineering and Professor of Biomedical Engineering at Purdue University, specializes in nanophotonics, plasmonics, and optical metamaterials. Dr. Shalaev has several awards for his research in the field of nanophotonics and metamaterials. He is a Fellow of the American Physical Society, Fellow of The International Society for Optical Engineering (SPIE), a Fellow of the Optical Society of America. Dr. Shalaev is editor/co-editor for a number of journals and book series in the area of nanoscale optics. He authored and edited 7 books, published 20 invited book chapters, and over 250 research papers.

***Wednesday, October 31st, 2007.***

***4:00pm-5:00pm.***

***Watson 104***

*Refreshments will be available in the Watson Lobby at 3:45pm*