

IU Calendar

Event Information		Konopinski Physics Colloquia IUB
Title:	F. William Hersman, Professor of Physics, University of New Hampshire Founder and CEO, Xemed LLC, "Hyperpolarized Xenon MRI of Lungs and other applications of optical pumping"	
Sharing:	Public	
Start Time:	Wednesday, January 16, 2013 4:00 PM	
End Time:	Wednesday, January 16, 2013 5:00 PM	
Location:	The Joseph and Sophia Konopinski Colloquia Series - Swain West 119	
Url:	http://www.indiana.edu/~iubphys/index.shtml	
Free/Busy:	busy	
Description:	<p>Spin-Exchange Optical Pumping transfers angular momentum prepared in circularly polarized laser light first to the vapor of an alkali metal and subsequently to the nuclei of noble gases ^{129}Xe and ^3He. I will describe how advances in optical pumping technology have enabled multiple order-of-magnitude scale ups in the production of hyperpolarized xenon, allowing a transition from lung imaging demonstrations in small animals to larger-scale clinical trials with humans. I will provide an overview of the investigations into lung function that were recently accomplished with magnetic resonance imaging of the gaseous and dissolved state of xenon in vivo. I will conclude with the status of our other optical pumping projects: production of helium-3 for polarization analysis in neutron scattering and development of high-power alkali vapor lasers for missile defense.</p>	
Contact Email:	anfoley@indiana.edu	
Cost:	FREE	
Other Info:	Please join us for refreshments in SW113 at 3:30 pm	