

# Physics Colloquium

## Michigan Technological University

October 26 (Thursday) 2006, 4:00 to 5:00 pm  
Room 139, Fisher Hall

### Improved Luminescence in Porous Silicon through Heavy ion ( $\text{Au}^{+7}$ ) Radiation

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#### Abstract

The investigation of impact of high energy ions-irradiation on properties of light emitting porous silicon (PS) through photoluminescence spectroscopy (PL) will be discussed. Irradiation was performed with 100 MeV ions. The effect was associated with a blue shift and enhancement of the PL intensity in general. The PL dependence on various parameters of porous silicon formation and ion current will be presented. The effect had been a stable structure due to chemical restructuring of surface and reduced crystalline size as a result of irradiation. This provides porous silicon as stable surfaces for the use of opto-electronic and sensor application.

#### Biography

Dr. B.P. Singh is a Professor Emeritus in University of Delhi, Delhi, India. His main research has been in the area of low energy nuclear physics. This is his second visit to MTU. He had come in 1982, on a sabbatical leave from the University of Roorkee. He joined Dr. Potnis and Dr. Agin in an experiment on the multipole mixing ratios in the decay of  $^{133}\text{Ba}$  from triple x-ray directional correlation measurement.