



Centre for Advanced Research in Sciences(CARS)  
University of Dhaka, Dhaka 1000

Office of the Director

Ph: 966 1920-59/Ext. 4616  
Email: [coe@univdhaka.edu](mailto:coe@univdhaka.edu)  
FAX: 880-2-8615583

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## CARS SEMINAR

The 5<sup>th</sup> seminar of the Centre for Advanced Research in Sciences (CARS) will be held on Wednesday, 27 July, 2011 at 11 am.

**TOPIC: X-RAYS: FROM ASTRONOMY TO BIOMEDICINE**

**SPEAKER: Dr. Sultana N Nahar**  
Senior Research Scientist  
Department of Astronomy  
The Ohio State University, USA.

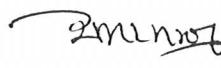
**DATE & TIME: Wednesday, 27 July, 2011 at 11 am.**

**VENUE: CARS, Conference Room.**

All faculty members, research scientists, post-graduate students are invited to attend the seminar.

Thanking you,

With best regards,

 23 JUL 2011

Prof. Dr. Altaf Hussain  
Director

### Abstract of the Seminar

X-ray spectroscopy has been used to study astronomical objects. For example, the superhot atoms spiraling into the blackholes give out  $K_{\alpha}$  X-rays. The same X-rays have been widely used in biomedical applications. Nanoparticles of heavy elements with X-rays have been found to be more effective in reducing the cancerous tumors. Using Auger process of heavy elements, we have found the new method Resonant Nano-Plasme Theranostics (RNPT) where at resonant energies of nanoparticles and targeted monochromatic X-rays destruction of cancerous cells is much more effective and in reduction of harmful overexposure of irradiation.