Prof. Salil Agrawal

from Rajasthan University, Jaipur, India.

Visiting Professor

Posgrado en Ingeniería, Centro de Investigación en Energía, Universidad Nacional Autónoma de México, Temixco, Morelos.

Prof. Agrawal will deliver the following four lectures in CIE-UNAM:

1. Igneous-rock classification: Geological and mathematical conceptualization.

Monday, October 4, 2010, 10 AM.

In this talk I will discuss the general concept of rock classification with symbolic arbitrary conventional classes (cluster analysis) and canonical or natural classes (discriminant analysis) by comparing IUGS systematic of igneous rocks with classification of sedimentary and metamorphic rocks (IUGS–International Union of Geological Sciences).

2. Eye-fitted versus probability based field boundaries in tectonic discrimination diagrams.

Tuesday, October 5, 2010, 10 AM.

In this talk I will discuss and criticize the traditional approach in most discrimination diagrams and present my proposal to use probability theory to objectively obtain boundaries in tectonic discrimination through the multivariate technique of linear discriminant analysis.

3. **Tectonic classification of basalts.**

Wednesday, October 6, 2010, 10 AM.

This talk will deal with our experiments in building new tectonic discrimination schemes for basalts using raw major-elements, log transformed major-elements and trace-elements, the validity of geological and statistical assumptions will be examined and possibility of identifying transitional tectonic settings will be presented.

4. Virtual Petrological Microscope.

Thursday, October 7, 2010, 10 AM.

In this talk I will discuss an innovative approach for teaching petrography and mineralogy courses at both undergraduate and graduate levels, in which a personal computer and software developed at Rajasthan University, Jaipur, can be used to complement, if not replace the expensive microscopic setup; frequently too many such units are required to fulfill the growing teaching demand.