



Directorate of Outcome
Outcome Report
Event/Activity Organized @ AUH

Event Type: Workshop

Event Title: One Day National Workshop on “Raman and Fluorescence Based Low Cost Indigenous Spectroscopy in India”

Details of Speaker/Resource Persons: Dr. Rajendra Joshi and Er. Kuldeep Patel (*RI Instruments & Innovations India*)

Date: January 14, 2019

Venue: Amity University Haryana, Gurugram

Organized by:

Dr. Ankush Vij, *Convener*

Dr. Shalendra Kumar, *Convener*

Dr. Chander Shekhar, *Secretary*

Dr. Anupam Vyas, *Secretary*

Point wise highlights of the Event:

- The workshop encompassed the latest trends and highlighted the research advancements in the field of Raman & Fluorescence spectroscopy.
- The workshop focused on the hands on training for the better understanding of the subject to participants.
- Spectrometer systems are also the basic instruments for measuring Raman scattering in the chemical components analysis, the researches for the structure, stability and biological properties of various materials. Because there is no interference between Raman scattering and water, Raman spectroscopic method can acquire a lot of information from any solid, liquid and gas materials more easily than any traditional FT-IR methods.
- The workshop started with lecture cum demonstration presentation session on Raman & fluorescence spectroscopy and ended with the experimental demonstration for the same.

Outcome of the Event with Time Line (Proposed/Achieved)

(Provide suitable details wherever applicable)

1. <u>Outcome related to Academia Connect</u>			
a)	Collaborations for Research Papers/Conference Papers/ Book Chapter etc	N	

b) Collaborations & MOU for Research Guidance [PhD, PG & UG (summer training, Dissertation)] & Projects/Use of Instruments etc.	N	
c) Collaboration for Funded Projects.	N	
2. Outcome related to Industry Connect		
a) Placement	N	
b) Collaborations for Research Papers	N	
c) Collaborations & MOU for Research Guidance [PhD, PG & UG (summer training, Dissertation)] & Projects/Use of Instruments.	N	
d) Collaboration for Funded Projects.	N	
3. Outcome related to Society Outreach		
a) Benefit to society in terms of Health & hygiene	N	
b) Benefit to society in terms of Education	Y	
4. Outcome related to Students Learning & Grooming		
5. Any other		

Enclose event report along with glimpses of the event (Photographs)

A one day national workshop on “Raman and Fluorescence Based Low Cost Indigenous Spectroscopy in India” was organized on Jan 14, 2019 by Amity School of Applied Sciences. The resource persons for the workshop were Dr. Rajendra Joshi and Er. Kuldeep Patel (*RI Instruments & Innovations India*). The workshop was inaugurated by Prof. A. K. Yadav, HOI, ASAS with a welcome address. He highlighted the importance of the workshop on Raman spectroscopy and its significance for M. Sc students of Physics and Chemistry in research. Prof. A. K. Yadav acquainted the audience with the theme of the workshop and welcomes the speakers. The technical session began with a presentation by Dr. Rajendra Joshi. He spoke on Raman spectroscopy and incorporated in his talk the basics of Raman scattering, its importance and its difference from fluorescence in detail. He gave vivid examples on the usage of Raman and Fluorescence spectroscopy. His presentation also included a practical demonstration of the instrument. He gave an insight of the two phenomenon and told the students that Raman scattering and Fluorescence emission are two competing processes, which have similar origins. Generally, a laser photon bounces off a molecule and loses a certain amount of energy that allows the molecule to vibrate (Stokes process). The scattered photon is therefore less energetic and the associated light exhibits a frequency shift. The various frequency shifts associated with different molecular vibrations give rise to a spectrum, that is characteristic of a specific compound. In contrast, fluorescence or luminescence emission follows an absorption process. Raman instruments offering the possibility to select the laser wavelength have a great in cases where samples show fluorescence in the visible range.

After that, the second speaker of the day, Er. Kuldeep Patel talked about the method of preparation of the sample for Raman spectroscopy and his presentation included an in-depth description of the instrument. He gave a detailed presentation and demonstrated the use of the instrument along with its utility in research. He also gave an insight into the research work going on in this field and elaborated excellently the difference of his instrument from the other companies. The workshop culminated with a valedictory function presented by Dr. Ankush Vij, Associate Prof, ASAS. The valedictory function ended with certificate distribution to all the participants. All the hard work and tireless efforts from all coordinators and organizers made this event a great success.

