



**Report on One Day Refresher Program On  
“Recent Advancements in Raman Spectroscopy with LASERs” & National Science Day Celebrations  
Organized by Department of Physics - MITS on 28 February 2022**



**Submitted by: Dr. Virendra Kumar Verma, Professor & HOD , Department of Physics, MITS**

The DEPARTMENT OF PHYSICS, Madanapalle Institute of Technology & Science celebrated 36th National Science Day on 28th February 2022 to mark the discovery of the Raman Effect by Indian Physicist Sir C. V. Raman on this day in 1928 for which he was awarded Nobel Prize in Physics in 1930. Also Conducted One Day Refresher Program on the topic “Recent Advancements in Raman Spectroscopy with LASERs”.

Every year, this day is celebrated across the India with scientific temper for spreading the message of importance of science and its applications among the people. Govt. of India also announces a particular theme for it and the current year theme is “Integrated Approach in Science and Technology for Sustainable Future”

### **Program Details:**

The program started with podcasting a documentary on Sir. C. V. Raman followed by welcome address by Dr. G. Shwetha and inviting the dignitaries on to the stage.

The opening remarks were given by Dr V. K. Verma, Head, Dept. of Physics. He briefly described about Sir C V Raman and mentioned the importance of National Science day. He also recalled the contribution of other great Indian scientists who made valuable discoveries and advanced our knowledge about universe. In the view of the theme “Integrated Approach in Science and Technology for Sustainable Future” of this year for science day celebrations by DST, he laid emphasis on students’ innovative mind, and encouraged the students to come forward and approach the faculty at any point of time to learn more about interlinking between the technology and the educational skills.

Prof. R. Thulasiram Naidu, Associate Dean, R & D conveyed his greetings to all and explained how Sir C V Raman have performed the experiment on those days and discovered the scattering phenomenon. His interest in physics was deep and lasting and so he continued his research work in his spare time in the laboratory. He said that Sir C V Raman achieved Bharat Ratan award when there were meagre infrastructural facilities for conducting experiments in the lab. But at present the students are having globe in their hands and they can do miracles. He said that Government of India

also encouraging people by providing more opportunities to contribute themselves more and more in R & D activities.

Prof. Kamal Basha, Vice Principal Administration, spoke on the occasion by encouraging the audience towards science & technology. He told that there are many Indian Scientist who worked in the field of Science and Technology and achieved great success. Sir C V Raman is one such prominent figure in the field of Science and Technology. He also mentioned that the management is supporting people by providing seed money so faculty and students can submit the proposals and utilize these opportunities.

Dr. Chandra Mohan, I B. Tech. Coordinator, spoke about the need of student's involvement and initiation for the development of the society by acquiring knowledge, remaining curious and becoming good observers of daily natural and scientific phenomenon as Sir C. V. Raman has evolved as a Nobel Laureate by making use of the instruments available in his limited vicinity.

In continuation of National Science Day special talks were given by the resource person for the One-Day Refresher Program on "Recent Advancements in Raman Spectroscopy with LASERs" to initiate the faculty for making use of Science, Technology and innovation for improving their skills and work experience in educating the students and the society.

Dr. S. Sreedhar, Asst. Professor, Dept. of Physics, MITS, Former Research Professor, CMSD, Korea University, Seoul, South Korea, presented a very interesting talk on "Coherent Raman Spectroscopy techniques using Ultrafast Lasers". He discussed the latest development like time resolved Raman spectroscopy techniques such as coherent antistokes Raman spectroscopy (CARS) and stimulated Raman Scattering (SRS). The talk detailed about enhancement in Raman Signal with Surface Enhanced Raman spectroscopy techniques with lasers, combustion studies using coherent Raman Spectroscopic techniques.

Now a day, the Raman Effect is being used in many diverse fields from Biology to Material science and Engineering, In the second talk by Dr. S. Sreedhar, explained on the current developments in different fundamental and core aspects of science and technology. Outlined the applications like Stand-off Laser Raman detection technique, quality control of fabricated microchips by Laser Raman Thermometry, Coherent Raman microscopy and imaging of biological and living cells, and Laser Raman spectroscopy in Material science applications.

Keeping in thoughts about his discovery one must go forward for upgrading himself in scientific revolutions.

Dr G. Shwetha, Asst. Professor, Dept. of Physics concluded the programme with closing remarks encouraging students to participate in many activities to develop their scientific temper and knowledge. She conveyed vote of thanks to all who participated and supported for the success of the One-day Refresher program and National Science Day Celebrations and special thanks to resource person Dr. S. Sreedhar for their presentation for One-day Refresher program.

**PAPER CLIPS**

# మిట్స్ లో ఘనంగా నేషనల్ సైన్స్ డే

వైస్ చైర్మన్ డాక్టర్ కమల్ బాషా



మదనపల్లి ప్రొఫెసర్ 28 (కురుక్షేత్రం ప్రతినిధి), ఆంగ్ల కుటుంబ సంస్థలోని ఇన్స్టిట్యూట్ ఆఫ్ టెక్నాలజీ ఆండ్ సైన్స్, మదనపల్లి(మిట్స్) ఇంటింటింగ్ కళాశాలలో నేషనల్ సైన్స్ డే సుఖంగా జరుపుకున్నట్లు కలశాల వైస్ చైర్మన్ డాక్టర్ కమల్ బాషా తెలిపారు. ఈ సందర్భంగా కమల్ బాషా మాట్లాడుతూ సైన్స్

డే సు మన భారతీయ వైజ్ఞానిక ప్రతిభ ప్రపంచానికి తెలిసిన రోజుగా పరిగణిస్తామని, వైజ్ఞానిక రంగంలో నోబెల్ అందుకున్న డేకం మనదేనన్నారు. ప్రతిష్టాత్మక డేక పౌర పురస్కారం భారతరత్న అందుకున్న డా॥ విజ్ఞాన కెరటం, ఒక్క మాటలో చెప్పాలంటే వైజ్ఞానిక శాస్త్రానికే వైద్యురీరా మారిన వైజ్ఞానిక యోధుడు అయిన భారత విజ్ఞాన శాస్త్రవేత్తల పరిశోధనా ప్రతిభను అంతర్జాతీయస్థాయిలో అనుమోదించేసిన వ్యక్తుల్లో సర్ సీవి రామన్ అగ్రణ్యుడన్నారు. వైజ్ఞానిక అవిష్కరణల్లో భారతీయులకు నోబెల్ రావడం గగనమని అలాంటిది సర్ సీవి రామన్ ఆ ఘనత సాధించారని కొనియాడారు. అంతేకాదు, విజ్ఞాన శాస్త్రంలో అభినవ సాధించిన నిత్యక అనియా వాసిగానూ రచిత సృష్టింపారన్నారు. మనం ఆయనను స్మరించుకోవడం మనకు ఎంతో గర్వ కారణం అన్నారు. అనంతరం రీసెంట్ అడ్వాన్స్ మెంట్ ఇన్ రామన్ స్పెక్ట్రో స్కోపీ చిత్ లేనరీస్ అను అంకం పై అవగాహన కార్చుకమం నిర్వహించారు. ఈ సందర్భంగా డాక్టర్ ఎస్. శ్రీధర్, అసిస్టెంట్ ప్రొఫెసర్ రామన్ స్పెక్ట్రో స్కోపీ అండ్ అప్లికేషన్ పై లెక్చర్ సు ఇచ్చారు. రామన్ స్పెక్ట్రో స్కోపీ ఇంటింటింగ్, మెడిసిన్, అయాలజీ, సైన్స్, మెటీరియల్ సైన్స్ వంటి రంగాలలో వాడుకరని అయిన అన్నారు. ఈ కార్యక్రమంలో కళాశాల ఫిజిక్స్ విభాగాధిపతి డాక్టర్ వీరేంద్ర కుమార్ వర్మ, అసోసియేట్ డీన్ డాక్టర్ కులవీరామ్ వాయుడు, డి.టి.కె వర్మ ఇయర్ కోఆర్డినేటర్ డాక్టర్ చంద్ర మోహన్ తదితరులు పాల్గొన్నారు.