



Goa University
School of Physical and Applied Sciences
And
School of Chemical Sciences
Report on Two-day Workshop on Raman Spectroscopy

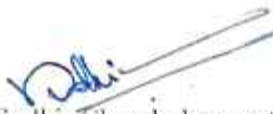
1. Title of the Event/Activity/program	Two-day Workshop on Raman Spectroscopy
2. Date and Time	26-27 th August 2024
3. Mode of conduct (Physical/Online)	Physical
4. School/ Directorate/ Section	School of Physical and Applied Sciences
5. Collaborating Agency/School/Directorate	School of Chemical Sciences
6. Detail of the Resource Person (Brief biodata)	1. Prof. Shankar Ghosh, TIFR, Mumbai 2. Dr. Adithya Lakshman, IISER-TVM 3. Dr. Surajit Saha, IISER-Bhopal 4. Dr. Kaustabh Kumar Maiti, CSIR-NIIST-Thiruvananthapuram 5. Dr. Nakul Chandra Maiti, CSIR-IICB, Kolkata
7. Number of Faculty attended/participated	40
8. Number of Student attended/participated	80
9. No. of external students/faculty/other participants	35 (Including from the industry)

10. The objectives of the Program/activity/event	<p>This two-day workshop focused on introducing the concepts of vibrational spectroscopy with special emphasis on Raman scattering. It is intended to provide the basic theory behind vibrational spectroscopy and its applications in condensed matter physics, materials science, chemical sciences, and life sciences. An introduction to advanced techniques such as surface-enhanced Raman scattering (SERS), surface-enhanced infrared absorption (SEIRA), and Tip-enhanced Raman spectroscopy (TERS) will be given. It is also proposed to have demonstration lectures on the Raman and FTIR systems.</p>
11. Description of the Program/activity/event	<p>The workshop commenced on 26th August 2024 at 9:30 am with a formal inauguration by the Hon. Vice Chancellor of Goa University. This was followed by the first session with Prof. Shankar Ghosh, who introduced Raman spectroscopy. The succeeding sessions included talks on ultrafast Raman spectroscopy and applications for nanomaterials and 2D materials. On the second day (27th August 2024), the session began with the talk of Dr. K.K. Maiti, who presented applications of SERS for cancer diagnosis and treatment. A talk on Raman of proteins followed this. A demonstration session was organized for the external participants on the Raman system at UMCL. After another talk by Dr. Nakul Maiti, a valedictory session was held, followed by the distribution of certificates.</p>
12. Benefit/Key outcomes of the Program/activity/event	<p>The workshop provided a basic introduction to Raman spectroscopy and its applications in material science, chemical sciences, and life sciences. The participants greatly benefitted from the excellent sessions by the invited resource panel and experts in this domain. The participants also got to interact with these experts and share their research ideas/queries. The demonstration session was particularly useful for the participants. The feedback given by the participants was excellent, and the workshop was considered a successful attempt to introduce Raman spectroscopic techniques to students and faculty researchers of the University and colleges.</p>

13. Enclosures with report

Brochure, Geo-tag photos, Attendance of students/faculty/external participants

Signature:



Name of convenor: Dr. Sudhir Cherukulappurath, SPAS / Dr. Rohan Kunkalekar, SCS



PURSE Coordinator



Seal of the School/Directorate/University

Photographs





Panaji, GA, India

Taleigao, Panaji, 403206, GA, India

Lat 15.458866, Long 73.828025

08/26/2024 04:40 PM GMT+05:30

Note : Captured by GPS Map Camera



GOA UNIVERSITY

SCHOOL OF CHEMICAL
SCIENCES (SCS)
AND
SCHOOL OF PHYSICAL
AND APPLIED SCIENCES
(SPAS)

organises

TWO-DAY WORKSHOP ON RAMAN SPECTROSCOPY

Funded by:

DST-PURSE

26 - 27 AUGUST 2024

Chemistry Auditorium,
School of Chemical Sciences (SCS),
Block E, Goa University,
Taleigao Plateau,
Goa 403206 India

ABOUT THE WORKSHOP

This two-day workshop will focus on introducing the concepts of vibrational spectroscopy with special emphasis on Raman scattering. It is intended to provide the basic theory behind vibrational spectroscopy and its applications in condensed matter physics, materials science, chemical sciences, and life sciences. An introduction to advanced techniques such as surface-enhanced Raman scattering (SERS), surface-enhanced infrared absorption (SEIRA), and Tip-enhanced Raman spectroscopy (TERS) will be given. It is also proposed to have demonstration lectures on the Raman and FTIR systems.

PARTICIPANTS

This workshop is mainly intended for research students in physics, chemistry, life sciences, and related fields. The workshop is also open to interested faculty members of the University, institutes, and colleges, as well as from the industry.

ORGANIZING COMMITTEE

PATRON

Prof. Harilal B. Menon

Honourable Vice-Chancellor, Goa University

CONVENOR

Dr. Sudhir Cherukulappurath

School of Physical and Applied Sciences (SPAS),
Goa University

&

Dr. Rohan Keshav Kunkalekar

School of Chemical Sciences (SCS),
Goa University

FACULTY ORGANISING COMMITTEE

Prof. Rajendra S. Gad

(DST-PURSE Coordinator)

Prof. Kaustubh R. S. Priolkar

Prof. Vidhyadatta M. S. Verenkar

Prof. Sunder N. Dhuri

Dr. Bidhan A. Shinkre

Dr. Venkatesha R Hathwar

Dr. Hari K Kadam

Contact Details

Dr. Rohan Keshav Kunkalekar

✉ rohankunkalekar@unigoa.ac.in

Dr. Sudhir Cherukulappurath

✉ sudhir.c@unigoa.ac.in

INVITED SPEAKERS



Prof. Shankar Ghosh
TIFR, Mumbai

Dr. Adithya Laxmanna,
IISER-Thiruvananthapuram



Dr. Surajit Saha, IISER-Bhopal

Dr. Kaustabh Kumar Maiti
NIIST, Thiruvananthapuram



Dr. Nakul Chandra Maiti
CSIR-IICB, Kolkata

ABOUT GOA UNIVERSITY



Goa University was established under the Goa University Act of 1984 (Act No. 7 of 1984) and commenced operations on 1 June 1985. The University took over the enhanced role of the Centre of Post-Graduate Instruction and Research (CPIR) which was set after the liberation of Goa by India in December 1961, by the University of Bombay (now Mumbai), in June 1962. Since 1985 Goa University has offered graduate and post-graduate studies and research programmes. QS University rankings have ranked Goa University in the range of 61-65 among Indian Universities for the year 2022 and among the QS World University Rankings for 'QS Asia University Rankings 2022', Goa University is among the group of 501-550 universities.

THE SCHOOL OF PHYSICAL AND APPLIED SCIENCES (SPAS)

The School of Physical and Applied Sciences (SPAS) is a result of the amalgamation of three correlated departments of Physics, Mathematics and Electronics. The school fosters teaching at postgraduate level and strong research in condensed matter physics, nanomaterials, energy materials, Theoretical Condensed Matter Physics, nanophotonics, embedded systems, instrumentation, machine learning and other interdisciplinary areas. The school is equipped with several modern equipment for material synthesis and characterization along with the University Materials Characterization Laboratory housing analytical instruments such as powder XRD, Raman spectrometer and SQUID magnetometer. The departments constituting the school have been funded by DST-FIST, UGC-SAP in addition to individual research projects funded by the DST-SERB, CSIR, UGC, DoE, ICAR, DST, MeitY, ICMR, etc. which has led to the development of research facilities in the School.

REGISTRATION

Registration Fees:

Students: ₹ 500

Faculty: ₹ 1000

Industry: ₹ 5000

Last Date for Registration is 20/08/2024

To register please click below:

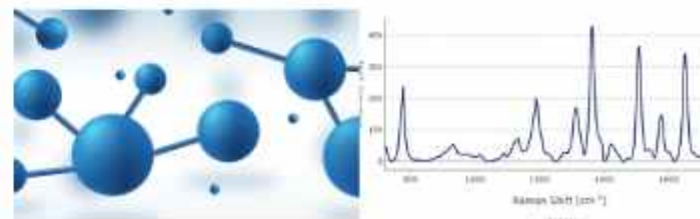
[Registration Form](#)



**The number of participants is
limited to 80!**

THE SCHOOL OF CHEMICAL SCIENCES (SCS)

The establishment of the School of Chemical Sciences took place by transforming one of the existing and oldest (established in 1965 as a part of Centre for Post-Graduate Instruction and Research of the then Bombay University) department (of Chemistry) into a School. The School is currently located in the faculty block E since April 2013, with modern infrastructure, conducive for quality education and research in Chemistry. The School (formerly Department of Chemistry) earlier had Organic, Inorganic, Physical and Analytical Chemistry as distinct streams and since AY 2019-20, the Biochemistry has been added as its fifth stream. The establishment of this School is in line with the reorganization of the institutional architecture that allows us to rebrand and showcase our strengths in research and teaching in various Chemistry streams. The research at this School has been recognized by the award of projects to the individual faculty members and also receiving handsome grants from the University Grants Commission (UGC) and the Department of Science & Technology (DST), Govt. of India in their prestigious programs like UGC-SAP and DST-FIST. The School of Chemical Sciences has various modern sophisticated instruments required for state-of-the-arts research. The school has a rich tradition of excellent research output and the culture of performing better which has resulted, over the years, in the contribution of 30-40 percent of research publications of Goa University, annually.



26-August-2024

Monday

8:45 - 9:30 am	Registration
9:30 - 10:00 am	Welcome
10:00 - 11:00 am	Introduction to Raman Scattering-I Prof. Shankar Ghosh, TIFR-Mumbai
11:00 - 11:15 am	Tea Break
11:15 am - 12:15 pm	Raman Spectroscopy: Steady-state to Ultrafast Approaches-I Dr. Adithya Lakshmanan, IISER-Thiruvananthapuram
12:15 - 1:15 pm	Introduction to Raman Scattering-II Prof. Shankar Ghosh, TIFR-Mumbai
1:15 - 2:15 pm	Lunch Break
2:15 - 3:15 pm	Raman Spectroscopy: Steady-state to Ultrafast Approaches-II Dr. Adithya Lakshmanan, IISER-Thiruvananthapuram
3:15 - 4:15 pm	Raman Scattering: Unravelling the world of Nano-I Dr. Surajit Saha, IISER-Bhopal
4:15 - 4:30 pm	Tea Break
4:30 - 5:30 pm	Raman Scattering: Unravelling the world of Nano-II Dr. Surajit Saha, IISER-Bhopal

27-August-2024

Tuesday

9:30 - 10:30 am	Advancement of Surface Enhanced Raman Spectroscopy in Diagnostic Applications-I Dr. Kaustabh Kumar Maiti, NIIST-Thiruvananthapuram
10:30 - 10:45 am	Tea Break
10:45 - 11:45 am	Advancement of Surface Enhanced Raman Spectroscopy in Diagnostic Applications-II Dr. Kaustabh Kumar Maiti, NIIST-Thiruvananthapuram
11:45 am - 12:45 pm	Raman Spectroscopy in Amyloid Research Dr. Nakul Chandra Maiti , CSIR-IICB-Kolkata
12:45 - 2:00 pm	Lunch Break
2:00 - 4:00 pm	Demonstration Session
4:00 - 4:15 pm	Tea Break
4:15 - 5:15 pm	Understanding Protein Structure by Raman Spectroscopy Dr. Nakul Chandra Maiti , CSIR-IICB-Kolkata
5:15 - 5:45 pm	Valedictory

TWO- DAY WORKSHOP
ON
RAMAN SPECTROSCOPY

Date: 26th and 27th August 2024

ATTENDANCE
(Industry Personnel)

SR. NO.	NAME	ADDRESS	SIGNATURE
1	Sania Pramod Achari	Corlim Tiswadi Goa	<i>Sania</i> 26/8/2024
2	Manabendra Das	Deccan Fine Chemicals (India) Pvt Ltd, Santa Monica Works, Corlim, Goa, 403110, India.	<i>Manabendra Das</i>
3	Girish Gokuldas Jalmi	Deccan fine chemicals India Pvt Ltd, Santa Monica works, Corlim Goa	<i>Girish</i>
4	Tanavi Vinod Tari	Deccan Fine chemicals, corlim	<i>Tanavi</i>
5	Sharan Koulgikar	Old Goa	<i>Sharan</i>
6	Damodar Karuturi	Syngenta Biosciences Private Limited, Santa Monica Works, Corlim, Ilhas, Goa. 403110	<i>K. Damodar</i> 26/8/2024

TWO- DAY WORKSHOP
ON
RAMAN SPECTROSCOPY

Date: 26th and 27th August 2024

ATTENDANCE

(Faculty other than Goa University)

SR. NO.	NAME	ADDRESS	SIGNATURE
1	Jatin Umesh Harmalkar	Ganpat Parsekar College of Education, Vidya Sankul, Bhom Plateau, Harmal, Pernem, Goa 403524	J. Harmalkar
2	Dr. Pratik Asogekar	PES's RSN college of Arts and Science, Farmagudi, Ponda -Goa	
3	Daneca Etelvina da Cruz	Carmel College of Arts, Science and Commerce for Women. Nuvem-Goa	
4	Dr. Luann Romaine D'souza	Chowgule College of Arts & Science (Post Graduate Department in Analytical Chemistry), Gogol-Margao, Goa	
5	Ms. Limora Nionyka D'Souza	Parvatibai Chowgule College of Arts and Science (Autonomous)	
6	Dr. Miskil S. Naik	DCT's Dhempe College of Arts & Science, Miramar ,Panaji, Goa, 403001 Miramar , Goa	
7	Dr. Chandan Naik	Dhempe College of Arts and Science Miramar Goa	
8	Dr. Kapil Yeshwant Salkar	Department of Physics, DCT's Dhempe College of Arts and Science, Miramar Panjim Goa.	
9	Dr Beena Vernekar	Dept of Chemistry, Govt College of Arts, Science and Commerce, Khandola, Goa	


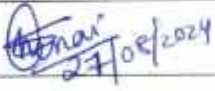




10	Dr. Sudesh M. Morajkar	Dnyanprassarak Mandal's College and Research Centre, Assagao, Goa	
11	Ms. Divya R Sawant	DPM's Shree Mallikarjun & Shri Chetan Manju Desai College(Affiliated to Goa University)	
12	Prof. Dominick Nelson Lobo	St. Xavier's College, Mapusa, Goa	
13	Mathias Bosco Lawrence	St. Xavier's College, Mapusa -Goa	

TWO- DAY WORKSHOP
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RAMAN SPECTROSCOPY

Date: 26th and 27th August 2024

ATTENDANCE

(Research Students other than Goa University)


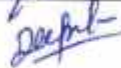
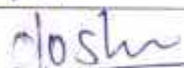
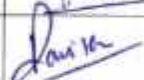

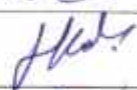




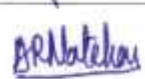



SR. NO.	NAME	ADDRESS	SIGNATURE
1	Ms. Pradnya Suresh Sawant	Cluster Research Centre and Department of Chemistry, Government College of Arts, Science & Commerce, Khandola, Marcel-Goa.	 27/08/2024
2	Saloni Dessai	Culwada cuncolim Salcete Goa	 27/08/2024
3	Prajyot Nandakumar Kerkar	DMS College and Research Centre, Assagao Goa	
4	Ms. Shivta Tushar Mhamal	H. No. 325/1 Deulwada, Mandrem-Goa	 27/08/2024
5	Natasha Da Costa	P.E.S.'s R.S.N. College of Arts and Science, Farmagudi	
6	Ms. Flavia S. Travasso	St. Xavier's College, Mapusa-Goa	 27/8/24



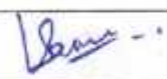
TWO- DAY WORKSHOP
ON
RAMAN SPECTROSCOPY

Date: 26th and 27th August 2024

ATTENDANCE

(Faculty of Goa University)

SR. NO.	NAME	ADDRESS	SIGNATURE
✓1 .	Dr. Shrikant Ramesh Naik	School of Chemical Sciences	
✓2 .	Dr. Deepika Karmalkar	School of Chemical Sciences	
✓3 .	Nitesh Govind Joshi	School of Chemical Sciences	
✓4 .	Dr. Prajesh S. Volvoikar	School of Chemical Sciences	
✓5 .	Dr. Rupesh Anta Kunkalkar	School of Chemical Sciences	
✓6 .	Dr. Hari K Kadam	School of Chemical Sciences	
✓7 .	Dr. Rupesh Patre	School of Chemical Sciences	
✓8 .	Dr Samata Shetgaonkar	School of Chemical Sciences	
✓9 .	Dr. Vinod Mandrekar	School of Chemical Sciences	
✓10 .	Vanita Shanu Kunkalkar	School of Chemical Sciences	
✓11 .	Sandesh Tukaram Bugde	School of Chemical Sciences	
✓12 .	Dr. Amrita Narayan Vetrekar	School of Chemical Sciences	
✓13 .	Dr. Diptesh G Naik	School of Chemical Sciences	
✓14 .	Dr. Digamber G. Porob	School of Chemical Sciences	
✓15 .	Marlon Sequeira	School of Physical and Applied Sciences	
✓16 .	Reshma Raut Dessai	School of Physical and Applied Sciences	

✓17	Dr. Venkatesha R. Hathwar	School of Physical and Applied Sciences	
→ 18	Dviti Lavesb Volvoikar	School of Biological Sciences and Biotechnology	
✓19	Dr. Aditi Venkatesh Naik	School of Biological Sciences and Biotechnology	
⇒ 20	Meghanath Prabhu	School of Biological Sciences and Biotechnology	
21	Varada S. Damare	School of Earth, Ocean & Atmospheric Sciences	

22. Shankar AIFR
Ghosh

23. P. N. Shirgaokar SCS

✓24. Amila Kharangate SCS



on

26/8/2024.



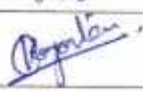



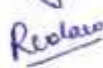
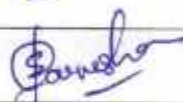













TWO- DAY WORKSHOP
ON
RAMAN SPECTROSCOPY




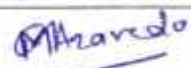










Date: 26th and 27th August 2024

ATTENDANCE

(Research Students of Goa University)

SR. NO.	NAME	ADDRESS	SIGNATURE
✓1	Shubhlaxmi K. Naik	School of Chemical Sciences	
✓2	Siddhi Salgaonkar	School of Chemical Sciences	
3	Sanjali Navelkar	School of Chemical Sciences	
✓4	Vipul Mangesh Ghare	School of Chemical Sciences	
✓5	Milagrina DSouza	School of Chemical Sciences	
✓6	Manasi Ugvekar	School of Chemical Sciences	
✓7	Mangala Ulhas Sawal	School of Chemical Sciences	
✓8	Shefali Santosh Ainkar	School of Chemical Sciences	
✓9	Pranav Valvaikar	School of Chemical Sciences	
✓10	Samidha Narvekar	School of Chemical Sciences	
✓11	Crecia Oliveira	School of Chemical Sciences	
✓12	Deepti Krishna Velip	School of Chemical Sciences	
* ✓13	Upma Gaonkar	School of Chemical Sciences	
✓14	Kanti Mayanikar	School of Chemical Sciences	
✓15	Apeksha Hiru Naik	School of Chemical Sciences	
* ✓16	Nitesh Gurunath Venji	School of Chemical Sciences	
✓17	Sonali Gaonkar	School of Chemical Sciences	
✓18	Namrata Kumari	School of Chemical Sciences	

19 ✓	Ms. Anuja B. Naik	School of Chemical Sciences	
20 ✓	Jeffrey Lauro Viegas	School of Chemical Sciences	
21 ✓	Kanvi Mayanikar	School of Chemical Sciences	
22 ✓	Shubham Gavade	School of Chemical Sciences	
23 ✓	Purva M Kinalekar	School of Chemical Sciences	
24 ✓	Samantha Da Costa	School of Chemical Sciences	
25 ✓	Mr. Leo Francisco Blaise D'Souza	School of Chemical Sciences	
26 ✓	Ria Infancia Velerie Colaco	School of Chemical Sciences	
27 ✓	Sarvesha Shetgaonkar	School of Chemical Sciences	
28 ✓	Pritesh Khobrekar	School of Chemical Sciences	
29 ✓	Ms. Asmita Naik Gaonkar	School of Chemical Sciences	
30 ✓	Disha Gauns	School of Chemical Sciences	
31 ✓	Sonam Kumari	School of Chemical Sciences	
32 ✓	Vignesh R Naidu	School of Chemical Sciences	
33 ✓	Manjusha Mahadev Gaonkar	School of Chemical Sciences	
34 ✓	Priyanka Sudin Modak	School of Chemical Sciences	
35 ✓	Medha Madhu Gaude	School of Chemical Sciences	
36 ✓	Saurav Sattarker	School of Chemical Sciences	
37 ✓	Nandesh Nandakishor Kinlekar	School of Physical and Applied Sciences	
38 ✓	Prasad Manjunath Puttaya	School of Physical and Applied Sciences	
39 ✓	Namita Rane	School of Physical and Applied Sciences	
40 ✓	Najmeh H. Dehkordi	School of Physical and Applied Sciences	

41	Steffi Antony M	School of Physical and Applied Sciences	
42	Shaikh Irshad Ahamad	School of Physical and Applied Sciences	
43	Shilpa R. Amonkar	School of Physical and Applied Sciences	
44	Mahendra Choudhary	School of Physical and Applied Sciences	
45	Sujay Shivaji Rane	School of Physical and Applied Sciences	
46	Diksha Nitin Karmalkar	School of Physical and Applied Sciences	
47	Siddhi Uday Parsekar	School of Physical and Applied Sciences	
48	Myren Azavedo	School of Physical and Applied Sciences	
49	Shubhankar Narayan Bandekar	School of Physical and Applied Sciences	
50	Sutapa kanai Das	School of Physical and Applied Sciences	
51	Avani Anil Talkatkar	School of Physical and Applied Sciences	
52	Sugania D	School of Physical and Applied Sciences	
53	Pujal Pravin Govekar	School of Physical and Applied Sciences	
54	Krutika S Shivolkar	School of Physical and Applied Sciences	
55	Divyarani S. Revankar	School of Biological Sciences and Biotechnology	
56	Vaishali Uday Gaonkar	School of Biological Sciences and Biotechnology	
57	Gunjan Gurudas Kerkar	School of Biological Sciences and Biotechnology	
58	Vishal Arjun Jamuni	School of Biological Sciences and Biotechnology	
59	Ms. Gaonkar Pranjali Mahendra	School of Biological Sciences and Biotechnology	
60	Royston D'silva	School of Biological Sciences and Biotechnology	

61 ✓	Snesha Umesh Bhomkar	School of Earth, Ocean and Atmospheric Sciences	<i>[Signature]</i> 20/07/24
62 ✓	Rupesh Bharat Chodankar	School of Earth, Ocean and Atmospheric Sciences	<i>[Signature]</i> 20/07/24

- 63 ✓ Jocelyn N. Kuate School of chemical Sciences *[Signature]*
- 64 ✓ Yatin P. Desai SPAS *[Signature]*
- 65 ✓ Sejal Parikar SCS *[Signature]*
- 66 ✓ Naha Inam Ameen SBSB *[Signature]*
- 67 ✓ Rafea Manca Bulos SPAS *[Signature]*
- 68 ✓ Ankit Sinha SBSB *[Signature]*
- 69 ✓ Muhammad Rafiq N.M SBSB *[Signature]*
- 70 ✓ Hemprabha malik SBSB *[Signature]*
- 71 Purnag Paloh SBSB *[Signature]*
- 72 ✓ Anita Yadav MSc. Department of biotech, SBSB *[Signature]*
- 73 Kinja Rose MSc. Department of biotech, SBSB *[Signature]*
- 74 ✓ Sakshi C MSc biotechnology SBSB *[Signature]*
- 75 ✓ Rehan Shaiti PhD Biochemistry *[Signature]*
- 76 ✓ Pankumar Patil SCS *[Signature]*
- 77 Raneet Gawade SCS *[Signature]*
- 79) Pugal Corvekar ~~SCS~~ SPAS