

Goa University

Discipline of Physics, School of Physical and Applied Sciences

Report on “National Seminar on X-ray Spectroscopy and its applications in Physics, Chemistry and Biology”

1. Title of the Event/Activity/Program	National Seminar on X-ray Spectroscopy and its applications in Physics, Chemistry and Biology
2. Date and Time	27/10/2025 to 28/10/2025
3. Mode of conduct (Physical/Online)	Physical
4. School/ Directorate/ Section	School of Physical and Applied Sciences
5. Collaborating Agency/School/Directorate	-
6. Detail of the Resource Person (Brief biodata)	The seminar featured the following eminent group of resource persons drawn from leading Indian research institutions, each contributing specialised expertise in X-ray spectroscopy and its interdisciplinary applications. 1. Prof. T. V. Ramakrishnan Indian Institute of Science, Bangalore; JNCASR, Bangalore 2. Prof. D. D. Sarma Solid State and Structural Chemistry Unit, IISc Bengaluru 3. Prof. Kalobaran Maiti Indian Association for the Cultivation of Science, Kolkata 4. Prof. Preeti A. Bhobe Department of Physics, IIT Indore 5. Prof. T. P. Singh Department of Biophysics, AIIMS New Delhi 6. Prof. Chandrabhas Narayana Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), Bangalore 7. Prof. Biplab Ghosh Bhabha Atomic Research Centre (BARC), Mumbai 8. Prof. Kaustubh R. S. Priolkar UGC-DAE Consortium for Scientific Research, Indore & Goa

	University
7. Number of Faculty attended/participated	11
8. Number of Student attended / participated	30
9. No. of external students/faculty/other participants	21
10. The objectives of the Program/activity/event	The main objective of this conference was to commemorate the birth centenary of Professor Chintamani Mande. Professor Mande was the first head of the Department of Physics (now a part of the School of Physical and Applied Sciences) after the establishment of Goa University.
11. Description of the Program/activity/event	The seminar featured a series of insightful talks from distinguished experts. Prof. T. V. Ramakrishnan traced the historical and modern understanding of electron behavior in metals, emphasizing breakthroughs in topological phenomena and strongly correlated systems. Prof. D. D. Sarma examined Vegard's Law and chemical pressure using EXAFS, offering a revised perspective that questions long-standing assumptions in alloy science. Prof. Kalobaran Maiti introduced the DRPES method, demonstrating its ability to distinguish surface and bulk electronic structures in complex materials. Prof. Preeti Bhobe discussed how EXAFS reveals the interplay between local structural distortions and magnetic properties in Heusler alloys. In the biophysics session, Prof. T. P. Singh described structure-guided approaches to developing new substrates for mammalian heme peroxidase to enhance innate immune responses. Prof. Chandrabhas Narayana highlighted the use of Raman spectroscopy and molecular dynamics as powerful complements to X-ray crystallography for investigating protein structure and drug interactions. Prof. Biplab Ghosh presented how combining XANES, EXAFS, and Reverse Monte Carlo simulations yields deeper structural insights into functional materials and also shared an overview of the Indus-2 synchrotron facility. Concluding the series, Prof. Kaustubh Priolkar showed how EXAFS can unravel the role of defects and disorder in shaping the magnetic, optical, and thermal behavior of advanced materials.
12. Benefit/Key outcomes of the	This National Seminar aimed to bring together Late

Program/activity/event	Prof. Chintamani Mande's students, associates and practicing x-ray spectroscopists from within the country and discuss the recent advances in the field of X-ray spectroscopy and its applications in different areas of Physics, Chemistry and Biology. The seminar provided valuable interdisciplinary insights into the capabilities of X-ray spectroscopy and its applications across physics, materials science, and biology. Participants gained a deeper understanding of how advanced techniques such as EXAFS, XANES, DRPES, and Raman spectroscopy can unravel electronic structure, defects, magnetism, and biomolecular function at the atomic scale. The talks highlighted cutting-edge experimental methods, new analytical approaches, and their relevance to designing functional materials and improving biological therapeutics. Overall, the seminar strengthened scientific exchange, expanded participants' technical knowledge, and encouraged future collaborations in spectroscopy-driven research.
13. Enclosures with report	Notice, Geo-tag photos, Attendance of students/faculty.

Signature:



Name of Co-Convener: Dr Venkatesha Hathwar



Signature:

Dean, SPAS
Seal of the School



1. Flyer



National Seminar on X-ray Spectroscopy and its applications in Physics, Chemistry and Biology

October 27 and 28, 2025

School of Physical and Applied Sciences
Goa University

School of Physical and Applied Sciences, Goa University is organising a two-day National Seminar on X-ray spectroscopy and its applications in Physics, Chemistry and Biology to commemorate the birth centenary of Professor Chintamani Mande.

Prof. C. Mande was the first head of the Department of Physics (now a part of School of Physical and Applied Sciences) after the establishment of Goa University. Prior to coming to Goa, Prof. Mande worked at the Department of Physics, Nagpur University, Nagpur.

Prof. C. Mande obtained his MSc from Banaras Hindu University and DSc from the Allahabad University. He was also awarded D. Phil from University of Paris. His primary field of interest was X-ray Spectroscopy and he was considered to be one of the best in his field.

This National Seminar aims to bring together his students, associates and practicing x-ray spectroscopists from within the country and discuss the recent advances in the field and its applications in different areas of Physics, Chemistry and Biology.

Participation in this event is free but delegates have to make their own arrangements for their stay. Limited guest house accommodation is available on payment and on first come first serve basis.

Organising Committee

Prof. H. B. Menon - Vice Chancellor, Goa University, (Patron)

Prof. Ramesh V. Pai - Dean, SPAS, Chairperson

Prof. Kaustubh Priolkar - Convener

Dr. Venkatesha Hathiwar - Co-Convener

Dr. Elaine Dias - Member

Dr. Bhargav Alavani - Member

Prof. Shekhar Mande - Advisor

About Goa University

Goa University was established under the Goa University Act of 1984 (Act No. 7 of 1984) and commenced operations on 1st June 1985. The Centre of Post-Graduate Instruction and Research (CPIR) of the University of Bombay (now Mumbai), established in 1962, soon after the liberation of Goa by India in December 1961 formed the core of the University. Since 1985 Goa University has fulfilled its obligation of providing comprehensive tertiary education to the residents of Goa as the only University of the state.

About School of Physical and Applied Sciences

School of Physical and Applied Sciences (SPAS), Goa University was formed in 2020 with the amalgamation of erstwhile departments of Electronics, Mathematics and Physics. One of the thrust areas of SPAS is Condensed Matter Physics and Materials Science. Over the years, the faculty members through a highly-collaborative and progressive research environment, have developed state of the art materials preparation and characterization facilities, both within the school and as common university facilities.



Invited Speakers



Prof. T. V. Ramakrishnan
Banaras Hindu University
Varanasi



Prof. D. D. Sarmah
Indian Institute of Science
Bangalore



Prof. T. P. Singh
All India Institute of Medical Sciences
New Delhi



Prof. Chandrabhas Narayana
Rajiv Gandhi Centre of Biotechnology
Thiruvananthapuram



Prof. Kalobaran Maiti
Indian Association for Cultivation of Sciences
Kolkata



Prof. Biplob Ghosh
Raja Ramanna Centre for Advanced Technology
Indore



Prof. Preeti Bhobe
Indian Institute of Technology
Indore



Prof. K. R. Priolkar
UGC-DAE Consortium for Scientific Research
Indore

Programme

Day 1, 27/10/2025

9:30 - 10:00 Inauguration

10:00 - 11:00 Lecture I

11:30 - 12:30 Lecture II

14:00 - 15:00 Lecture III

15:30 - 16:30 Lecture IV

17:00 - 18:00 Lecture V

18:00 - 19:30 - Special session on Life of Professor Chintamani Mande
(Prof. V. B. Sapre, Prof. P. C. Deshmukh, Prof. A. V. Pimpale, Prof. P. R. Sarode and Prof. Shekhar Mande)

Day 2, 28/10/2025

10:00 - 11:00 Lecture VI

11:30 - 12:30 Lecture VII

14:00 - 15:00 Lecture VIII

15:30 - 16:30 Lecture IX

17:00 - 17:30 Valedictory

Contact

Dr. Venkatesha Hathiwar or
Dr. Elaine Dias
School of Physical and Applied Sciences
Goa University
Goa 403206
Email: vhathiwar@unigoa.ac.in
elaine@unigoa.ac.in
Telephone: 7030965995

Register using the URL <https://forms.gle/u9xK4VP7pzZ0oysx6> on or before October 15, 2025

2. Geo-tag photos



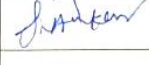
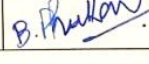
3. Attendance of students/faculty.

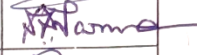
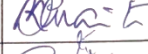
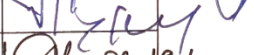
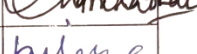
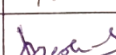
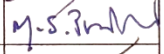
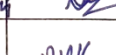
Sr. No.	Full Name	Institution/Organization name	Category	Signature
1	Avani Anil Talkatkar	Goa University	Research Scholar	
2	Diksha Nitin Karmalkar	Goa university	Research Scholar	
3	Disha Gauns	Goa University	Research Scholar	
4	Dominic Savio Dias	Goa University	Research Scholar	A
5	Esha Santosh Velip	Goa University	Student	
6	Flavia Sheila Travasso	St. Xavier's College, Mapusa-Goa	Research Scholar	A
7	Gunjan Gurudas Kerkar	Goa University	Research Scholar	A
8	Gunjan Gurudas Kerkar	Goa University	Research Scholar	A
9	Manasi Ugvekar	Goa University	Research Scholar	
10	Mangala Ulhas Sawal	Goa University	Research Scholar	A
11	Medha Madhu Gaude	School of Chemical Sciences, Goa University	Research Scholar	
12	Milagrina DSouza	School of Chemical Sciences, Goa University	Research Scholar	
13	Mr. Nitesh Gurunath Venji	SCS Goa University	Research Scholar	A
14	Ms. Shivta Mayenkar	St. Xavier's College, Mapusa-Goa	Research Scholar	
15	Myren M. Azavedo	SPAS,Goa University	Research Scholar	
16	Najmeh Hajian Dehkordi	School of Physical and Applied Sciences, Goa University	Research Scholar	
17	Namita Rane	Goa University	Research Scholar	
18	Namrata Kumari	SCS/Goa University	Research Scholar	
19	Nandesh Nandakishor Kinlekar	SPAS, Goa University	Research Scholar	
20	Neha Phadte	Goa University	Research Scholar	
21	Pranav Valvaikar	Goa University	Research Scholar	A
22	PRASAD PUTTAYYA	Goa University	Research Scholar	

23	Pritesh Khobrekar	Goa university	Research Scholar	A
24	Priyanka Sudin Modak	School of chemical sciences, Goa University	Research Scholar	<i>Priyanka</i>
25	Reshma mukhtiar mulla	School of chemical sciences Goa University	Research Scholar	A
26	Samantha Da Costa	GOA UNIVERSITY	Research Scholar	<i>Samantha</i>
27	Sarvesha Shetgaonkar	Goa University	Research Scholar	A
28	Shaikh Irshad Ahamad	SPAS, Goa University.	Research Scholar	<i>S</i>
29	Shefali S Ainkar	Goa University	Research Scholar	<i>S</i>
30	Shradha Rajan Thanekar	Goa University	Research Scholar	<i>Shradha</i>
31	Shubhankar Narayan Bandekar	Goa University	Research Scholar	<i>Shubhankar</i>
32	Shubhlaxmi K. Naik	School of Chemical Sciences, Goa University	Research Scholar	A
33	siddhi salgaonkar	goa university	Research Scholar	<i>Siddhi</i>
34	Siddhi Uday Parsekar	School of Physical and Applied Sciences, Goa University	Research Scholar	<i>Siddhi</i> 24/10/25
35	snehal chandrakant chandekar	Goa university	Research Scholar	A
36	Sonam Kumari	Goa university	Research Scholar	<i>Sonam</i>
37	Sujay Shivaji Rane	Goa University	Research Scholar	<i>Sujay</i>
38	Sutapa Kanai Das	Goa University	Research Scholar	<i>Sutapa</i>
39	Upma Gaonkar	School of Chemical Sciences Goa University	Research Scholar	<i>Upma</i>
40	V Swapna	School of Chemical Sciences	Research Scholar	<i>V Swapna</i>
41	Vaishali Uday Gaonkar	Goa University	Research Scholar	A
42	Vignesh R Naidu	SCS, GOA UNIVERSITY	Research Scholar	A
43	Yatin P. Desai	School of Physical and Applied Sciences, Goa University	Research Scholar	<i>Yatin</i>

44. Pandurang R. Naik SPAS, Goa University Research Scholar *Pandurang*

45.

Sr. No.	Full Name	Institution/Organization name	Category	Signature
1	Dr. Gayatri Kotkar	Ganpat Parsekar College of Education	Faculty	
2	Dr Sulochana Shet	Government college, khandola	Faculty	A
3	Dr. Savita Anup Kundaikar	Goa University	Faculty	A
4	Dr. Luann Romyne Dsouza	Goa University	Faculty	
5	RAJESHKUMAR SHANKAR HYAM	GOA UNIVERSITY	Faculty	
6	SHILPA. R. AMONKAR	Goa College Of Engineering Farmagudi, Goa	Faculty	
7	Dipika Gosavi	Govt. College Sanquelim	Faculty	A
8	Sunoj Raicar	Dnyanprassarak Mandals college and Research Centre, Assagao, Goa	Faculty	A
9	Tushar S Anvekar	St. Xavier's College, Mapusa	Faculty	A
10	Reshma Raut Dessai	Goa University	Faculty	
11	Sudhir Cherukulappurath	Goa University	Faculty	
12	Dr. Maqsood R. Waikar	Shivaji University Kolhapur	Faculty	A
13	Dr Miskil Sachidanand Naik	DCTs Dhempe College of Arts & Science	Faculty	
14	Dr. Digamber G. Porob	School of Chemical Sciences, Goa University	Faculty	A
15	Bholanath Pahari	Goa University	Faculty	
16	Gurunandan Bhat	Independent Researcher (Retired)	Others	
17	Bidyut Phukon	National Institute of Oceanography, Goa	Others	

Sr. No	Name	Institution	Signature
1	Prof. T. V. Ramakrishnan	BHU, Varanasi	
2	Prof. D D Sarma	IISc, Bangalore	
3	Prof. Kalobaran Maiti	IACS, Kolkata	
4	Prof. Preeti Bhohe	IIT-Indore	
5	Prof. T. P. Singh	AIIMS, New Delhi	
6	Prof. Chandrabhas Narayana	JNCASR, Bangalore	
7	Prof. Biplab Ghosh	RRCAT, Indore	
8	Prof. Kaustubh Priolkar	SPAS, Goa University	
9	Prof. P C Deshmukh	IISER Tirupati	
10	Prof. Shekhar Mande	S. P. Pune University	
11	Prof. P. R. Sarode	SPAS, Goa University	
12	Prof. Erwin Desa	SPAS, Goa University	
13	Prof. Y. S. Prahalad	SPAS, Goa University	
14	Prof. Ramesh V. Pai	SPAS, Goa University	
15	Mukund		
16	Sharmila Mande	Pune	
17	Elaine Dias	SPAS, Goa University	
18	Venkatesha Hathwar	SPAS, Goa Uni	
19	C. ADUPAL RAO		
20	Mr. Madraj Pagi	SPAS Goa Uni	
21	Pallavi Gaudle	SPAS, Goa Uni	
22	Bhargav K Alavani	SPAS, Goa Uni	
23			