

# ST ALOYSIUS

(DEEMED TO BE UNIVERSITY)

Annual Edition

Mangaluru



## Elements Today



FROM THE  
DEPARTMENT OF  
POSTGRADUATE  
STUDIES AND  
RESEARCH IN  
CHEMISTRY

Newsletter for the  
academic year:

2023-  
24

DR VINOLA RODRIGUES  
HOD

MR JEESU GEORGE  
CHIEF EDITOR

# **DIRECTOR'S MESSAGE**

# DEPARTMENT HEAD'S MESSAGE



# CONTENTS

**July 2023**

17/07/2023

Beginning of the new academic year. Students of second year Chemistry and Analytical Chemistry joined back to college after vacation and internships.

20/07/2023

The Department of PG Chemistry at St Aloysius College conducted a Board of Studies meeting on July 20, 2023, bringing together distinguished academics, industry experts, alumni, and student representatives. The meeting was conducted in a hybrid mode with both in-person and virtual participation. Esteemed subject experts, including Dr. Akshai Kumar AS (IIT Guwahati), Dr. Sowmya BP, and Dr. Nefisath (SDM, Ujire), along with Dr. Nithyananda Shetty (NITK Surathkal), Dr. Jagdeesh Prasad, and Dr. Vishalakshi B (Department of Chemistry, Mangalore University), attended the meeting virtually. The meeting commenced with a prayer, emphasizing the importance of collaborative efforts in shaping academic excellence.

Deliberations were centered around key topics, including the implementation of the National Education Policy (NEP), syllabus review, question paper evaluation, and recognizing the invaluable contributions of the Board of Examiners (BOE) members. The engaging discussions, led by the Director, Mr. Ronald Nazareth, and Head of the Department, Dr. Vinola Rodrigues, paved the way for effective solutions to enhance the department's academic practices. Furthermore, the meeting addressed various other matters, fostering an inclusive approach to address concerns and identify opportunities for growth. Meritorious alumni Mr. Sachin, and student representatives, Ms. Kavya Ganesh Salian and Ms. Minolin Eena Pinto, enriched the discussions. Dr. Vinola Rodrigues, expressing her gratitude, concluded the meeting with a thank you note, emphasizing the importance of collaboration among stakeholders to achieve excellence in education at St Aloysius College.



21/07/23

As a part of Industrial Academia Enrichment Programme the Department of PG Chemistry in association with AQUAMATER-Water Solutions Laboratory, Kairangala Village, Mudipu organized a one-day exposure visit & workshop on "Water purification systems & techniques involved in water purification process" on Friday, 21-07-2023. The teaching staff and the students of the department were a part of the visit.



24/07/23 - 28/07/23

The Department of Postgraduate Studies and Research in Chemistry, organized a Faculty Development Programme from 24th July to 28th July, 2023. The programme, which featured sessions on Spectroscopy Techniques & Applications conducted by Mr. Jeesu George, received an excellent response from faculties across the country, who found it beneficial. 35 faculties participated online and 8 faculties participated offline. Dr Divya N Shetty was the coordinator for the FDP.

**St Aloysius College (Autonomous)**  
Mangalore

Re accredited by BAAC with 'A + ' Grade - CPEA 2.67/4 (Cycle IV)  
Recognized as Centre for Research Capacity Building under UGC STRIDE Scheme  
Recognized under the DBT BUILDER Scheme, Govt. of India  
College with 'STAR STATUS' conferred by DST, Govt. of India  
Recognized by UGC as 'College with Potential for Excellence'

Department of  
Postgraduate Studies and Research in Chemistry  
Organises  
Online Faculty Development Programme  
on  
SPECTROSCOPIC TECHNIQUES  
& APPLICATIONS  
24<sup>th</sup> July – 28<sup>th</sup> July, 2023, 10.30 a.m. to 12.30 p.m.

Participation Fee : ₹. 500/-  
Registration Link:  
<https://forms.gle/W4iWkXKDEyR6CuxK78>

QR Code

Nuclear Magnetic Resonance Spectroscopy	Infrared Spectroscopy	Mass Spectrometry
Fundamentals	Fundamentals	Fundamentals
Chemical environment	Functional group frequencies	Fragmentation
<sup>1</sup> H NMR & <sup>13</sup> C NMR Spectral Analysis	Factors affecting spectra	Isotopes
	Combined structural elucidation	Spectral analysis
	Problems and discussions	

Rev Dr Praveen Martin SJ  
Principal

Dr Vimala Zenna Rodrigues  
Head of the Department

Dr Divya N. Shetty  
Co-coordinator

Mr. Jeesu George  
Resource Person





**August 2023**

**01/08/2023**

On the afternoon of August 1, 2023, an orientation program was held for newly enrolled first-year students. The event, inaugurated by HOD Dr. Vinola Rodrigues, aimed to introduce the students to the department's academic and co-curricular activities. Faculty members from various departments spoke about their respective activities and customs, providing valuable insights into the college's offerings. The orientation served as a platform for new students to connect with faculty and seniors, facilitating their transition into post graduate college life and setting a positive tone for their academic journey.

**25/08/2023**

The Alchemy Association of Department of Post Graduation Studies and Research in Chemistry organised a Guest talk on "Limelight to Startup" on 25th August, 2023 in the Xavier Auditorium. Dr Adarsh Gowda, HOD, Dept of Food Science (UG) & Dean, Entrepreneurship and Consultancy Cell, St Aloysius College (Autonomous), Mangaulru was the resource person. A total of 120 students attended the guest talk.

**30/08/23**



Department of Post Graduate Studies and Research in Chemistry initiated the signing of MoU with Aquamater Laboratory Division, Mangaluru on August 30, 2023.

**September 2023**

01/09/2023

The Department of Post Graduate Studies & Research in Chemistry inaugurated Alchemy Association on 01 September, 2023. Mr. Chandrashekar Aithala B, Vice President, Compliance and MC, Konkan Speciality Poly Products, Pvt. Ltd. was the Chief Guest for the programme. He gave a deep insight into the Industry-Academia collaboration. Dr Ronald Nazareth, Director-LCRI Block & the President of the programme graced the occasion

15/09/2023

The Alchemy Association of Department of Post Graduation Studies and Research in Chemistry organised an invited talk on the topic "Best way to utilize library resources and services" at 2.30 pm today (15-09-2023) in Fr Robert Siquera Hall, LCRI Block. The resource person of the talk was Mr. Udaya, Librarian, UG and PG Library, St Aloysius College (Autonomous), Mangaluru. The speaker discussed in detail about the Digital library service, Open Access Resources, Web Opac in addition to the general information about the library. He also gave a demo regarding the efficient usage of online library options like DELNET, NLIST, J-GATE etc.

29/09/2023

Department of Postgraduate Studies and Research in Chemistry of St Aloysius College Mangalore organized National Level Webinar on Climate Change Research in India: Efforts and Outcomes by Dr Chaitanya D Jain, Scientist-SF, National Atmospheric Research Laboratory, Department of Space Tirupati, Andhra Pradesh. The Speaker stressed upon the issues of Global Warming and the Efforts in reducing Carbon Emission, VOCs and radioactive pollutants from the Atmosphere. Need of the hour Research gained Appreciation from the delegate participation from all over India.

29/09/2023

The Postgraduate Departments of Chemistry and Biochemistry organized two talks under the INTERNAL RESOURCES MOBILISATION SERIES of the LCRI block on 29-09-2023. Dr. Lyned D Lasrado, PG Department of Biochemistry, spoke on the topic 'The Gut-Brain axis: impact of prebiotics' and Mr Jeesu George, PG Department of Chemistry, spoke on the topic 'Seeing the unseen: Spectroscopy and NMR unveiled'. Dr Vinola Rodrigues, HOD PG Department of Chemistry briefed the importance of the program and Principal Rev Dr. Praveen Martis SJ gave the presidential remarks.

This programme aims to connect the faculty and students of Undergraduate and Postgraduate Departments. All UG bioscience students and students of PG Chemistry and Biochemistry participated.



**October 2023**

04/10/2023

The Alchemy Association of the Department of Post Graduation Studies and Research in Chemistry organised a Guest talk on "Noble gas Compounds" on 04 October, 2023 in L606 LCRI Block. Mr. Subramanya Prasad, Senior Research Fellow at Baba Atomic Research Centre, Mumbai was the resource person.

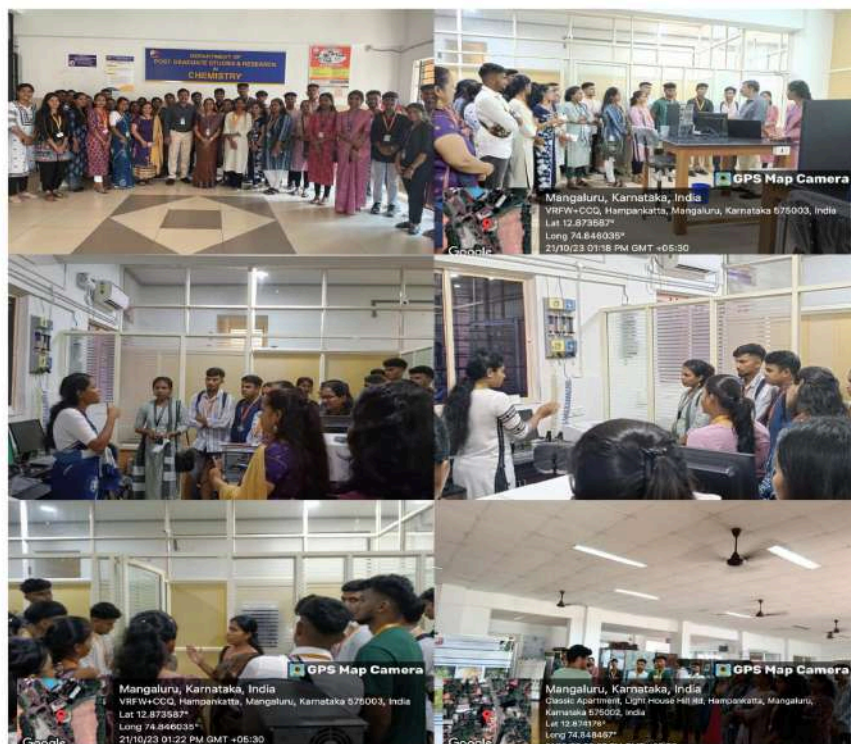
He spoke on the origin, applications, and a glimpse on how quantum chemical tools are used in predicting the stability of noble gas compounds.

05/10/2023

The Department of Post Graduate Studies and Research in Chemistry organised an Alumni Interaction session on the topic "Chemistry:Pathway to Industry" on 5 October, 2024 in L606, LCRI Block. Mr Neil Coelho, Quality Control Executive,BASF, Gujarat was the resource person.

Students of Alchemy Association and all the Staff members of the department participated in the program

21/10/2023



Department of Post Graduate Studies and Research in Chemistry organized an Intercollegiate student Interaction program on the 21st of October, 2023. Twenty five students and three faculty members from the department of PG Chemistry, St. Xavier's college, Mapusa, Goa visited our college. The students interacted with the faculty members of the department, meanwhile the advanced instrumentation centre was introduced to them. The demonstration and working of various instruments was shown to them by the research scholars of the department. The students also had the opportunity to visit Applied Biology lab, Chapel and the Museum.

The visit to St. Aloysius college offered the students an informative and enriching experience. It allowed the students to explore the advanced instrumentation facilities, delve into the realm of Science and appreciate the cultural heritage within the college campus. Such programs promote collaborative activities with the students and faculties of various colleges.

26/10/2023

The Alchemy Association of the Department of Post Graduate Studies and Research in Chemistry organised a Guest talk on "Methanol synthesis from CO<sub>2</sub> hydrogenation process" on 26 October, 2023 in Fr Robert Siquera Hall, LCRI Block. Dr Nagendra Kulal, Postdoc researcher at Refining and Advanced Chemicals, KFUM, Saudi Arabia was the resource person.

The speaker gave an insight to the catalytic capture of CO<sub>2</sub> for the production of methanol and how it acts as an opportunity and a challenge worldwide for the sustainability of environment and energy.

27/10/2023



The Alchemy Association of the Department of Post Graduate Studies and Research in Chemistry organised a session on the topic 'Connect the Dots' on 27 October, 2023 L606, LCRI Block. Mr. Clinton Baptist, Founder and CEO of a knowledge-tech startup QuizX was the resource person.

The speaker discussed his mission to build an end-to-end platform for the knowledge ecosystem. He conducted a chemistry quiz to the students of the department and made knowledge fun. Also, he introduced his podcast channel on YouTube under the name Q-Head where he interacts with Scientists, Architects, Designers, Cinematographers and people from various fields and explores their fields, ideas and journeys in detail

**November 2023**



03/11/2023



The Department of Post Graduate Studies and Research in Chemistry in collaboration with Konkan Speciality Polyproducts Pvt. Ltd .(KONSPEC) had organized a one-day workshop on " Chemistry fusion: Bridging theory to innovation through advance instrumentation " on 03-11-2023. The workshop was inaugurated by Mr Chandrashekhara Aithal B., Vice president, compliance and MC, KONSPEC. The workshop was conducted in two sessions and a total of 120 students benefited from the same. In the morning session, distinguished experts from KONSPEC delivered insightful lectures on topics such as UV-Vis, FTIR spectroscopy, GC, TGA analysis, BET and PXRD techniques. In the afternoon, a practical hands-on session was held at the Advanced Instrumentation Center of the LCRI block. It allowed participants to apply the knowledge gained during the lectures in handling the High-End spectrometers and Chromatography techniques.

**January 2024**

05/01/2024



The Department of Post Graduate Studies and Research in Chemistry organised an Alumni Interaction session on the topic "Chemistry:Pathway to Industry" on 5 January 2024 in L606, LCRI Block. Mr Neil Coelho, Quality Control Executive,BASF, Gujarat was the resource person. Students of Alchemy Association and all the Staff members of the department participated in the program

**09/01/2024**

**Students of PG studies and Research in Chemistry secured overall runners Trophy in the National level intercollegiate fest VARCHAS 2.0 , organized by the Department of Industrial chemistry, Manglore University on 09-01-2024 and have secured the following prizes**

**IInd place-mad ad : Shravani, Shravya, Nuthan, Sharnya , Pratheek and Sandrine**

**IInd place-Photoshop :Ardhra**

**IInd place-collage : Nuthan and Shravani**

**IInd place- quiz : Sai Krishna and Sukesh**

**IInd place-Fashion show : Sybil and Sandrine.**

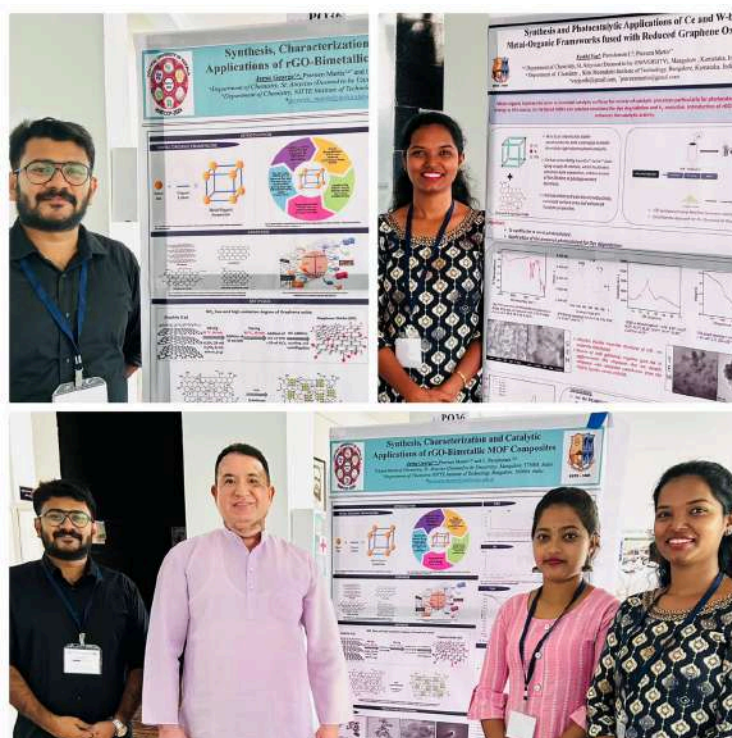
**February 2024**

01/02/2024

The Alchemy Association of the Department of Post Graduate Studies and Research in Chemistry organised a Guest talk on the topic "Convert Failures into Opportunities: Insights from Chemical Industry Expertise" on 1st February, 2024 in Fr Robert Siquera Hall, LCRI Block. Sri. Rajasekara Bhat, Kakunje, Dy. General Manager, BASF, India Ltd. was the resource person.

The speaker gave a thought provoking talk on how failure is inevitable in both personal and professional life and the paths to transform failure into Opportunities by developing a positive mindset towards life and analysing the route cause of the failure.

15/02/2024



Ms Jyothi Simav Vaz and Mr Jeesu George from department of PG Chemistry participated in the Poster presentation on their work on Photocatalysis guided by Rev. Dr Praveen Martis SJ in the NWFCCP-2024 workshop held at Central University of Kerala, Kasargod from 15-16 February, 2024. Ms Meghana from UG Chemistry also participated in the workshop.

19/02/2024



St Aloysius (Deemed to be University ) Mangaluru Department of Post Graduate Studies & Research in Chemistry in collaboration with Entrepreneurship & Consultancy Cell Organized One Day National Seminar "Challenges and Opportunities in the Global Chemistry Enterprise". on Monday, 19 February 2024 at Fr LF Rasquinha Auditorium LCRI. Mr Pramod Hegde was the Chief guest for the inaugural program.

The seminar included four sessions led by Dr Ravishankar Bhat, Ms Swathika Devadiga, Dr Vijayendra S Shetti and Dr Joel Cornelio respectively. A total of 340 members actively participated in this national seminar. The sessions imparted students with a comprehensive understanding of challenges and opportunities in chemistry, offering additional insights and practical applications.

**March 2024**



17/03/2024



**Abdul Junaid P (2021-23 batch) of MSc Analytical Chemistry has successfully qualified GATE examinations in two subjects: Chemistry (CY) and Life sciences (XL). Hencil Pinto (2021-23 batch) of MSc Chemistry has successfully qualified GATE examination in Chemistry (CY). Congratulations on this great achievement**

21/03/2024



**The Department of Post Graduate Studies and Research in Chemistry in Collaboration with BASF India Limited and Pilikula Regional Science Center, Mangalore organized Chemistry Kits Donation to Govt. Schools followed by a Talk on Lab Safety. The program was held on the 19th of March 2024 at the Magis Hall.**

Dr. K V Rao, Director of Regional Science Center, Pilikula, Mr. Santhosh Pai, head HR of BASF India Ltd., Dr Ronald Nazareth, Director of PG Sciences and Dr Vinola Rodrigues, Head of PG Chemistry Department conducted the distribution of Chemistry Kits to 40 teachers from various Government Schools. Mr. Nagraj H S, Manager of Safety and Environment BASF India Ltd, delivered a comprehensive talk on lab safety, emphasizing the importance of adherence to safety protocols and procedures in school laboratories.

26/03/2024



Students of the Department of Post Graduate Studies and Research in Chemistry secured overall runners in the National level Intercollegiate fest organised by St Joseph University Bangalore

**I place in lab event**

- \* Vaishak
- \* Madhumathi
- \* Kavya

**I place in lecture contest**

- \* Kavya

**II place in photography**

- \* Nandhitha

**II place video juggling**

- \* Christina

**Best reel contest**

- \* Ardhra

28/03/2024



**Students of the Department of Post Graduate studies and Research in Chemistry secured overall runners in National level Intercollegiate fest organised by Christ University Bangalore**

**1. Dexter's Lab ( Lab Event ): First Place**

**Participants: Vaishak, Sharanya and Madhumathi.**

**2. Treasure Hunt : Second Place.**

**Participants : Sharanya , Shravani V Gowda , Lishma D Souza.**

**April 2024**

05/04/2024



The Alchemy Association of the Department of Post Graduate Studies and Research in Chemistry organised a Guest talk on "Base metal catalysis for generation of hydrogen fuel and speciality chemicals" on 05 April, 2024 in Magis, Admin Block. Dr Akshai Kumar, Associate Professor & Head, Centre for Nanotechnology, IIT Guwahati, Assam was the resource person.

The speaker gave an insight to the energetics Scenario of catalysis followed by the mechanism of Organometallic catalysis for the addition of methanol to various substrates like formic acid to generate hydrogen and speciality chemicals.

16/04/2024



**Analyst 2024, a one day National Intercollegiate Fest organised by the department of Post Graduate Studies and Research in Chemistry, St Aloysius (Deemed to be University) took place on 16 April, 2024 in Fr LF Rasquinha Auditorium, LCRI Block at 9.30 am. Dr Harish Kumar S, Director of Corporate Relations, Manipal Academy of Higher Education was the Chief Guest. A total of 300 participants from various UG and PG Colleges took part in different events conducted. Rev. Fr Melwin Pinto SJ, Rector of St Aloysius institutions presided over the function.**

**Meritorious students of the department were honoured during programme, which was followed by felicitation to the newly appointed positions at St Aloysius (Deemed to be University): Rev. Dr Praveen Martis, SJ, the Vice Chancellor, Dr Ronald Nazareth, Registrar and Dr Asha Abraham, the Director of LCRI Block. The validictory programme was presided over by Dr Ronald Nazareth, Registrar of St Aloysius (Deemed to be University).**

**May 2024**

11/05/2024



HOME ABOUT US

## ADVANCED NANO CATALYSTS FOR LIGHT-MEDIATED ENVIRONMENT-FRIENDLY APPLICATIONS

**Book Name:** Futuristic Trends in Chemical Material Sciences & Nano Technology Volume 3 Book 20

**Authors:** Jyothi Vaz, Praveen Martis, Parashuram L

**Keywords:** Photocatalysis, Nano catalysts, CO<sub>2</sub> reduction, Energy materials, Heavy metal removal, Dye degradation, Waste water treatment.

**Area/Stream:** Chemical Science, Material Science & Nano Technology / Nanotechnology / Others

**Published in:** IIP Series

**Volume:** 3, **Month:** May, **Year:** 2024

**Page No.** 179-188

**e-ISBN:** 978-93-5747-901-1

**DOI/Link:** <https://www.doi.org/10.58532/V3BECS20P2CH3>

### Abstract:

Long-term environmental health is a top priority in today's world as scientific community is striving hard to cater to the needs of the hour and nano catalysts have shown promising advances in addressing a number of environmental problems. In particular, nano catalysts have shown key applications in reduction of CO<sub>2</sub> to valuable energy-rich products, production of sustainable energy through H<sub>2</sub> evolution, removal of heavy metals and degradation of toxic compounds

**Ms Jyothi Vaz and Rev. Dr Praveen Martis SJ from department of PG chemistry have authored an article (Book chapter) in the edited book Futuristic Trends in Chemical Material Sciences & Nano Technology Volume 3 Book 20 published by IIP series**



HOME ABOUT US CONTACT

**Publication Type:** EDITED BOOK

## A BRIEF EXPLORATION OF THE EXCEPTIONAL POTENTIALS OF GRAPHENE

**Book Name:** Futuristic Trends in Chemical Material Sciences & Nano Technology Volume 3 Book 20

**Authors:** Mr Jeesu George, Praveen Martis, S J, L Parashuram

**Keywords:** Graphene, nano science, carbon material

**Area/Stream:** Chemical Science, Material Science & Nano Technology / Inorganic Chemistry / Others

**Published in:** IIP Series

**Volume:** 3, **Month:** May, **Year:** 2024

**Page No.** 189-198

**e-ISBN:** 978-93-5747-901-1

**DOI/Link:** <https://www.doi.org/10.58532/V3BECS20P2CH4>

### Abstract:

This chapter delves into the remarkable world of graphene, a revolutionary two-dimensional material in the world of nano science. Beginning with the Nobel Prize-winning discovery and its unique atomic structure, this chapter will explore the exceptional properties of graphene like strength, flexibility, electrical conductivity, thermal conductivity,

**Mr Jeesu George and Rev. Dr Praveen Martis SJ from department of PG Chemistry have authored an article (Book chapter) in the edited book Futuristic Trends in Chemical Material Sciences & Nano Technology Volume 3 Book 20 published by IIP series.**



29/05/2024

Result of the KSET 2024 examination was announced. 5 students from the department of PG Chemistry cleared the examination:



1. Shravani KM (2023-25 batch)
2. Saikrishna Poojari (2023-25 batch)
3. Deeksha R Amin (2022-24 batch)
4. Hencil Pinto (2021-23 batch)
5. Manjushree (2020-22 batch)