



CATALYST

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Chemistry News Letter

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Dr. Lactina Regina Gonsalves, successfully completed online ARPIT-2019, Refresher Course in Chemistry for Higher Education, designed by NRC of MHRD, at SGTB Khalsa College, University of Delhi, on 06th May 2020 (swayam.gov.in)



**Ms. Apeksha H. Naik
(First Rank GU-ART
2020)**

Teachers and Students Achievements

GU-ART First Rank: It was a proud moment yet again for the Chemistry Department, when our Third year student Ms. Apeksha Hiru Naik stood first at the GU-ART 2019-2020 among 499 students. This is second time in a row that a Parvatibai Chowgule College student has topped the Goa University entrance exam for postgraduate studies in Chemistry.



PhD Awarded: Dr. Mayuri M. Naik, was awarded Ph. D degree in Chemistry on 24th February 2020 at the hands of Prof. Varun Sahani, Vice-Chancellor, Goa University at the Goa University 32nd Annual Convocation ceremony held at Dinanath Mangeshkar Kala-Mandir, Kala Academy, Campal, Panaji-Goa. She completed her Ph. D in Chemistry on research topic "Synthetic studies in oxygen heterocycles" from School of Chemical Sciences, Goa University under the guidance of Prof. Vijayendra P. Kamat and Prof. Santosh G. Tilve, School of Chemical Sciences, Goa University.

Paper presented: Mrs. Padmini C. Raikar and Dr. Lactina R. Gonsalves attended "International Conference on Photo-irradiation and Absorption based Novel Innovations for water treatment (PANI-WATER)", organized by BITS-Pilani, Goa Campus on 3rd and 4th March 2020. Dr. Lactina Gonsalves presented a TYBSc research project paper entitled "Nanoparticle metal oxides for photodegradation of industrial dyes and water remediation".

Conferences Attended:

Dr. Roopa S. Belurkar attended National Conference on "Frontiers in Medicinal Chemistry & Nanotechnology" organized by Department of Chemistry, Dyanprassarak Mandal's College and Research Centre, Assagao-Goa in association with Directorate of Higher Education, Government of Goa on 14th and 15th February, 2020.

Dr. Roopa S. Belurkar, Ms. Padmini C. Raikar, Dr. Lactina R. Gonsalves and Ms. Navita D. Naik attended the Annual ACT convention held at Dyanprassarak Mandal's College and Research Centre, Assagao-Goa on 22nd February 2020.

Dr. Roopa S. Belurkar, Dr. Mayuri M. Naik, Ms Navita D. Naik and Dr. Kashinath L. Dhumaskar attended 14th Annual One Day Symposium on the theme, "Fascinating World of Chemical Sciences" organized by School of Chemical Sciences, Goa University on 14th March 2020.

Students' Achievements

First Place at Intercollegiate event “CHEMAURA” organized by UG department of Government College of Arts, Science and Commerce, Khandola, Marcela-Goa, on 19th February, 2020. Ten students from T.Y. B. Sc. participated in the different competitions of the event and emerged as the overall champions.

Runners Up at Intercollegiate event “Chemtalsea 3.0” organized by Dnyanprassarak Mandal's College and Research Centre Assagao, Bardez Goa on 5th March 2020. A team of 15 students from TYBSc participated in the event and clinched prizes in 8 out of the 10 competitions held at the event. The team was awarded a Runners-up trophy and a cash prize of Rupees 5000/-

Ms. Sweta S. Thakkarkar of Third Year B. Sc., **attended National Conference on “Frontiers in Medicinal Chemistry & Nanotechnology”** organized by Department of Chemistry of Dyanprassarak Mandal's College and Research Centre, Assagao-Goa in association with Directorate of Higher Education, Government of Goa on 14th and 15th February, 2020 along with faculty Dr. Roopa S. Belurkar & presented poster on “Ferrocenyl ionic liquids as Lysosome targeting potent Anti-Breast cancer agents” .

Miss Apeksha H. Naik and Rosaline Albuquerque won **Third Place in Intercollegiate Quiz** organized by ACT Goa at the Annual ACT convention held at Dyanprassarak Mandal's College and Research Centre, Assagao-Goa on 22nd February 2020.

The students of Department of Chemistry gave an Oral Presentation of their T. Y. B. Sc. Project for “SCIENCE MEGAFEST” 2019-2020 held on 25th February 2020 at the college. The students also presented their project work as posters for “PRERNA DIWAS” on 28th February 2020.

Two T.Y.B.Sc. students presented their third year research project at the 14th One day Symposium on “Fascinating World of Chemical Sciences” organized by School of Chemical Sciences, Goa University, held on 14th March 2020. Ms. Shweta Thakkarkar did oral presentation on the topic “PVC Membrane potentiometric sensors” and Ms. Neinika Rebello presented a poster entitled “Nanoparticle metal oxides for photodegradation of industrial dyes and water remediation”.



Winners of ‘CHEMAURÄ 2020’ with the trophy



Runner's Up at “CHEMTALSEA 3.0” with the trophy

Chemistry Department Activities

A Talk on “Intellectual Property Rights: Its Relevance in Academics” was conducted by the faculty, Dr. Lactina Gonsalves for the S.Y.B. Sc. students of Chemistry on 16th January 2020 so as to bring an awareness on the need and importance of intellectual property rights in today's society irrespective of their educational background. The talk focused on explaining what is IPR, types of IPR, its benefits and how it is relevant to chemistry and academics. The students were also informed about how the College promotes IPR through its policy. It was attended by 55 students.



One Day Workshop On “Spectroscopic Techniques” was organised for the faculty and students of TYBSc, on 14th February 2020. Shri. R. Girijan, Product Consultant, Toshvin India Pvt. Ltd., and Mr. Prathamesh Desai, Consultant Engineer, Toshvin India Pvt. Ltd., Goa Centre, were the Resource Persons for the Workshop. The Workshop started with the inaugural function, Principal Dr. N.N. Sawant was the chief guest, Dr. Lactina R. Gonsalves gave the Welcome address, Dr. G. K. Naik, Convenor, introduced the resource person and Dr. Sachin B. Kakodkar proposed the vote of thanks. The inaugural session was followed by the session on Basics of UV-Vis spectroscopy and its applications by Shri R. Girijan and then by session on Instrumentation and uv-vis accessories. Post lunch, the program continued with Practical session by Mr. Prathamesh Desai, who demonstrated the handling of the UV-Visible spectrophotometer and some experiments were conducted. It workshop concluded with the Q/A session. The Workshop was attended by 9 Faculty members and 54 students.



One Day Workshop On “Thermal Analysis Techniques” was organized for the faculty and students of TYBSc on 15th February 2020. Shri. R. Girijan, Product Consultant, Toshvin India Pvt. Ltd. was the Resource Person for the Workshop. The Workshop started with the inaugural address by the Vice-Principal Shri. H.S.S. Nadkarni, Dr. G. K. Naik, Convenor, introduced the resource person and Dr. Sachin Kakodkar proposed the vote of thanks. The inaugural session was immediately followed by the session on thermal methods in analysis followed by the session on Applications of thermal analysis to Pharmaceutical products, by Shri. R. Girijan until lunchtime. Post lunch, a practical session on Simple experiments and calculations based on TG/DSC curves was taken by Shri. R. Girijan and Dr. G.K. Naik. The workshop concluded with the Q/A session and distribution of Certificates to the participants. The Workshop was attended by 8 Faculty members and 54 students.

Intercollegiate Event “KYNESIS 2020” was organised by Department of Chemistry on 26th February 2020. Total 6 colleges from Goa registered with 66 students and 9 teachers. The Inaugural function was held in presence of the Chief Guest Dr. Rahul Mohan, Group Director & Scientist-F, National Centre for Polar & Ocean Research, Dr. N. N. Sawant, Principal, Dr. Sachin Kakodkar, In-charge, Department of Chemistry, Dr. Mayuri



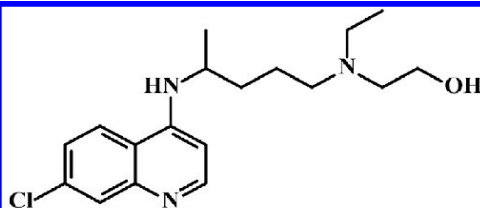
M. Naik, Convener, Dr. Roopa Belurkar, Co-convener, Dr. Kashinath Dhumaskar, and Ms. Navita Naik, Members Kynesis 2020. Kynesis 2020 comprised of competitions such as Groupfie Contest (Photograph on Instagram page), Alchemist (Chemistry Oral Presentation), Drop the base (Instrumental Music), Chromophore (Rangoli competition), Chem-Orator (One-minute talk), Brush the coat (Labcoat painting), Picasa (Photography), Dress like a Chemist (Cosplay), Chem-sketch (Mehendi competition) and Uncage your Fashion (Fashion show). Two Chowgule Tigers Special competitions: Chowgules got talent and Minute to win it (Task in a minute) which were exclusively for the first, second and third year students of Chowgule College. Dr. G. K. Naik, Associate professor, Department of Chemistry was the Chief Guest for Valedictory function. Carmel College for Women were the winners and Government College of Arts, Science and Commerce, Quepem-Goa were the runners-up.

Staff Achievements

Ms. Dakshata R. Gaude and Mr. Mangaldas S. Kerkar, Laboratory Assistants of Department of Chemistry attended Six-Day "Skill Enhancement Workshop" for Laboratory Assistants organized by the Directorate of Higher Education, Government of Goa in collaboration with Dhempe College of Arts & Science, Miramar, Goa from 24th-29th June 2019.

Mr. Mangaldas S. Kerkar, Laboratory Assistant, Department of Chemistry attended training programme organized by USIC, Goa University on 24th January, 2020.

Hydroxychloroquine (HCQ): Drug to fight COVID-19?



Molecular structure of Hydroxychloroquine

Hydroxychloroquine (HCQ) under the brand name Plaquenil is an oral prescription drug. It is a 4-aminoquinoline with immunosuppressive, antiauto-phagy activities. Used as an anti malarial drug in the treatment of malaria. It is also used to treat lupus and rheumatoid arthritis. HCQ is a derivative of quinine, which was first isolated from the bark of cinchona tree found in South America, for the treatment of fever. The Indian Council of Medical Research (ICMR) on 23 March 2020 recommended the use of HCQ for treatment of COVID-19 for high-risk cases. The Drug Controller General of India (DCGI) has approved its use in crisis situation only. HCQ is still under clinical trials for treatment of COVID-19 with no approval from US Food and Drug Administration (FDA). As of now prevention is the only cure with proper social distancing.

- **Kasia Cifa Dias, TYBSc,**

(Source: <https://pubchem.ncbi.nlm.nih.gov/compound/Hydroxychloroquine>, https://www.who.int/health-topics/coronavirus#tab=tab_1)

Eminent Alumnus



**Hon. Prof. Dr. rer. nat. Dir. u.
Prof. Ravi Fernandes**

Prof. Ravi Fernandes is the Head, Department of Physical Chemistry, Physikalisch-Technische Bundesanstalt (PTB), Braunschweig, Germany and also an honorary Professor at the University of Braunschweig, Germany. He is an alumnus of Dept. of Chemistry, Parvatibai Chowgule College of Arts and Science, Margao-Goa, where he did his graduation and obtained B.Sc degree in Chemistry in 1996. He then joined Goa University and got M.Sc. in Physical Chemistry in 1998. He went on to do his Ph.D. in Physical Chemistry at the University of Karlsruhe (KIT), Germany and was awarded the Ph.D in 2003. He worked as a Research Assistant at KIT for a year and then joined the prestigious Max-Planck Institute for Bio-Physical Chemistry, Göttingen, Germany as a Postdoctoral Research Associate from 2004-2007. He then joined as a Postdoctoral Appointee at Sandia National Laboratories, USA from 2007-2009. He then took up the post as a Professor (W1) at the Department of Mechanical Engineering, RWTH Aachen University, Germany until 2013. Prof. Ravi Fernandes was appointed Head of the Department of Physical Chemistry, Physikalisch-Technische Bundesanstalt (PTB), Braunschweig, Germany, in 2013 and still holds the position at present. He was also awarded the honorary Professor Head of the Department of Physical Chemistry, Physikalisch-Technische Bundesanstalt (PTB), Braunschweig, Germany.

Prof. Ravi Fernandes has a number of publications to his credit in a number of peer reviewed journals. He is a member of many internationally renowned Professional Societies such as, The American Chemical Society (ACS), The Society of Automotive Engineers (SAE), Gesellschaft Deutscher Chemiker (GDCh), Deutsche Bunsen Gesellschaft für Physikalische Chemie (DBG), The Portuguese Section of the Combustion Institute, etc. His research interest include areas like Reaction Kinetics, Fundamentals of Combustion, Atmospheric Chemistry and many others. Chowgule College is proud of Prof. Ravi Fernandes and wishes him All the Best for future endeavours.

Editorial Team: Dr. Lactina R. Gonsalves (Asst. Prof), Dr. Sachin B. Kakodkar (Incharge, Department of Chemistry)

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