

Overview of the Course

With the increase in the interdisciplinary research, the requirement of novel chemical entities has grown enormously in various science disciplines. Green chemistry and engineering principles are the cornerstone for the development of sustainable chemical processes and products. The development of efficient and selective greener methods has become a major focus of researchers worldwide. This workshop will address multitude of these aspects in all-inclusive cohesive approach which incorporates several of these thematic principles concurrently. The lectures will provide a detailed information on the greener preparation of nanomaterials. The lectures also cover the synthesis of nanomaterials and their stabilization which will entail the use of natural renewable resources such as plant material extract, biodegradable and natural biopolymers. Design, synthesis of efficient metal-organic frameworks for biomass conversion, hydrogen production will be discussed. The proposed course is going to cover all the aspects with special emphasis on the latest developments in all these techniques. The long-term goal is to create a "guidebook" for nanomaterial manufacturers to follow, thereby limiting risk to human health and the environment. As an interim measure, current research will also be extended to the use of other benign, abundant and renewable materials to synthesize nano metals/polymer nanostructures/nano-polymer composites and study their catalytic properties for diverse chemical and environmental remediation applications

The primary objectives of the course are as follows:

- Approaches for the preparation of nanomaterials and design of nano-catalysts with specific activity
- Application of nanomaterials for the organic synthesis (fine chemicals, petrochemicals, polymers and value added products)
- Non-conventional reaction media for organic synthesis (solvent free reactions, use of water, ionic liquids, polyethylene glycols, designed solvents)
- Non-conventional energy sources for organic synthesis (use of microwaves, sonication, mechanochemistry and photo catalytic reactions)



Dr. D. Kashinath: Dr. D. Kashinath is a Professor in the Department of Chemistry, National Institute of Technology Warangal. His areas of interest are development of synthetic methods (Homogeneous and Heterogeneous catalysis, Catalyst-free reactions, Green Chemistry and C-H activation) and Synthesis of biologically active compounds. He has published more than 30 articles in internationally reputed journal and many are in the process. 25 M.Sc. students and two research scholars have completed their Masters dissertation and Ph.D. under his guidance and three Ph.D. Scholars are working currently.



Dr. Rajender S. Varma (H-Index 130, Highly Cited Res. 2016, 18, 19, 20, 21, 22): Dr. Rajender S. Varma is a senior scientist in Center for Environmental Solutions and Emergency Response, U.S. Environmental Protection Agency, Cincinnati, USA. Earlier, he was Research Professor at Sam Houston State University, Project Manager at Texas Research Institute for Environmental Studies (TRIES), and Senior Scientist at Houston Advanced Research Center, The Woodlands, Texas, USA. He received his B. Sc. from Punjab University, M.Sc. in Chemistry from Kurukshetra University and received Ph.D. in Organic (Natural Products) Chemistry from the University of Delhi in 1976. Subsequently, he explored natural biopolymer, cellulose, and delignification processes at the Norwegian Institute of Technology, Trondheim, Norway and was a Postdoctoral fellow at Robert Robinson Laboratories, University of Liverpool, United Kingdom. He has over 45 years of research experience in management of multi-disciplinary technical programs and extensively involved in broader aspects of chemistry that includes development of eco-friendly synthetic methods using alternate energy input (microwave, ultrasound & mechanochemical).

He is a member of the editorial advisory board of several international journals published more than 950 peer-reviewed research papers, 17 United States patents, 9 books, 29 book chapters and 3 encyclopedia contributions with 67600 citations.

Google Scholar:

<https://scholar.google.com/citations?user=bZrrINgAAAAJ&hl=en>

ResearchGate:

https://www.researchgate.net/profile/Rajender_Varma/info



Dr. Shirish S Sonawane: Dr Shirish Sonawane is currently working as Professor in Chemical Engineering Department National Institute of Technology Warangal, Telangana State, India. His research Interest focuses on synthesis of hybrid nanomaterials, cavitation-based synthesis techniques and applications, Fuel Cells, Membrane separation processes. Dr Sonawane is the recipient of fast-track young scientist Project in year 2007 from DST, Govt. of India. Dr. Sonawane has published more than 210 research papers in reputed Journals, 8 edited books, 60 book chapters, 20 Indian patent Applications. He was a recipient of prestigious BOYSCAST Fellowship from the DST, Govt of India in Year 2009. He is visiting academic and worked in Particle Fluid Processing Center, University of Melbourne. He is also Heritage Fellow and worked in Chemical engineering department, Instituto Superior Technico Lisbon Portugal 2013. Completed 8 consultancies from chemical industries and 4 research projects from Govt. 16 M. Tech, 17 Ph.D. awarded, 6 Ph.D. Scholars are working under his guidance.



Non-conventional Methods in Organic Synthesis: A Sustainable Approach for Fine Chemicals, Platform Chemicals and Value Added Products

16 - 20 October 2023

Call for Registration and Participation

Course Coordinator

Dr. D. Kashinath

Professor, Department of Chemistry,
NIT Warangal

Co-coordinator

Dr. Shirish H Sonawane

Professor, Department of Chemical Engineering,
NIT Warangal

Organized by the

Department of Chemistry

National Institute of Technology Warangal
Telangana state-506004



How to Apply:

Stage-1: Web Portal Registration:

Visit <http://www.gian.iitkgp.ac.in/GREGN/index> and create login User ID and Password. Fill up the registration form and complete web registration by online payment of Rs. 500/-. This provides the user with life time registration to enroll in any number of GIAN courses offered.

Stage-2: Course Registration:

Login to the GIAN portal with the user ID and Password already created in Step 1. Click on Course Registration option at the top of Registration form. Select the Course titled "NON-CONVENTIONAL METHODS IN ORGANIC SYNTHESIS: A SUSTAINABLE APPROACH FOR FINE CHEMICALS, PLATFORM CHEMICALS AND VALUE-ADDED PRODUCTS" from the list and click on save option. Confirm your registration by clicking on Confirm Course. Course will be offline.

Registration Fees

Participants from abroad:	US \$400
Industry/Research Organizations:	Rs. 5,000/-
Academic Institutions:	
Faculty and Scientist	Rs 2500 /-
Students (Without award of grade)	Rs 1000/-
Students with award of grade	Rs. 1500/-

The above fees include all instructional materials, computer use for tutorials, free internet facility, tea, and snacks. The course fee is inclusive of 18% GST as per institute norm. The participants may avail single bedded shared accommodation and food (breakfast, lunch, and dinner) if requested on an additional payment basis.

Last Date of Registration:
20 August, 2023

Details for NEFT

Account Name	GIAN NITW
Account No.	62447453600
Bank	State Bank of India
Branch	REC Warangal (NIT Campus)
Branch Code	20149
IFSC	SBIN0020149
MICR Code	506002030
SWIFT Code	SBININBB

Note: For confirmation of registration, the proof of payment (a scanned copy Demand Draft/NEFT transaction details) along with the registration form and copy of PDF generated at GIAN portal (if registered through GIAN portal) are to be e-mailed to

Candidates registering early will be given preference in short listing process

For any queries regarding registration of the course, please contact the course coordinator

Who can participate?

This program is open to the faculty, UG, PG students, and research scholars working or interested in the aligned area. Engineers/Scientists working in Industries, Interested in process intensification of chemical processes.

About GIAN Course

About GIAN Course: Ministry of Human Resource Development (MHRD), Government of India (GoI) has launched an innovative program titled "Global Initiative of Academic Networks (GIAN)" in higher Education, in order to garner the best international experience. As part of this, internationally renowned Academicians and Scientists are invited to augment the Country's academic resources, accelerate the pace of quality reforms and elevate India's scientific and technological capacity to global excellence.

About NIT Warangal

National Institute of Technology Warangal, formerly known as Regional Engineering College was established in 1959. Over the years it has developed into a premier institute of higher learning and is ranked among the top technical education institutions in India. There are 14 Departments offering eight undergraduate and 31 post-graduate programmes besides doctoral programmes. About 5000 students across the country and about 500 international students' study in the campus. It is a fully residential campus sprawling over 250 acres with excellent infrastructure.

About the Department

The Department of Chemistry is one of the most active Departments in NIT Warangal with the faculty strength of 18. It offers Engineering Chemistry courses to all B.Tech. programmes and offers a two-year M.Sc. Chemistry Programme with specializations in Organic Chemistry and Analytical Chemistry. It holds the record of producing the largest number of PhDs in the Institute so far. It has a fair number of sophisticated analytical instruments to cater to the needs of research in all areas of chemistry. The Department runs many sponsored research projects and operates the DST-FIST programme. The faculty of the Department publish original research publications in leading international and national journals of very high impact factor. Scores of National and International seminars, conferences and workshops are periodically organized by the Department including GIAN and TLC Workshops.

About Warangal: Warangal is the second largest city of the state of Telangana. It is situated at a distance of 140 km from the state capital Hyderabad (Nearest Airport). It is well connected by Rail (Kazipet Junction is 2 km away and Warangal Station is 12 km away) and by Road (NH 202). Warangal is renowned for its rich historical and cultural heritage. It was the seat of erstwhile 5th Kakatiya dynasty. It is a place of tourist attraction with a number of historical monuments like Thousand Pillars Temple, Warangal Fort, Bhadrakali Temple, Ramappa Temple and Laknavaram Lake



For Any Queries Regarding This Workshop, Please Contact the Coordinators.

CONTACT

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