Jesus's Scientific Consultancy for Industrial and Academic Research (JSCIAR) conducts "Christmas Lectures in Catalysis for Research Scholars-2022" (from 1st – 12th December 2022)

Theme: Catalysis for clean energy

Time: 6 - 7 PM from 1st to 12th December 2022 (4th and 11th December being Sundays

declared holidays)

Lectures schedule

Day and Date	Topic	Speaker	
Thursday, 1 st December 2022	Essentials of Catalysis	Professor B Viswanathan, India	
Friday, 2 nd December 2022	Ultrasound and microwave technology for biofuels and nanomaterials production	Professor Aharon Gedanken, Israel	
Saturday, 3 rd December 2022	Fundamentals Chemical Kinetics	Professor T K Varadarajan, India	
Monday, 5 th December 2022	Catalysis for biomass conversion	Dr Indra Neel Pulidindi, India	
Tuesday, 6 th December 2022	Electrochemical energy sources	Dr Sangaraju Shanmugam, Korea	
Wednesday, 7 th December 2022	Plasma technology for acceleration of chemical reactions	Dr Subrahmanyam Challapalli, India	
Thursday, 8 th December 2022	CO ₂ as C1 feedstock for biorefinery	Dr Aulice Scibioh, India	
Friday, 9 th December 2022	Polyoxometalates for clean fuels	Professor Ronny Neumann, Israel	
Saturday, 10 th December 2022	Biocatalysis for medicine	Dr Archana Deokar	
Monday, 12 th December 2022	Cathode electro catalysts for Li-ion batteries	Dr Francis Amalraj, Israel	

Foreword:

The democratic nation China with similar population as that of *india* has already over taken the US in terms of number of scientific publications and patents, not going into the details of quality. Much remains to learn from China. Given the motivation, and needed resources Indian researchers are not inferior to any other researchers around the globe and can indeed excel and stand atop. The objective of this "Christmas lecture series in Catalysis" is to provide such motivation, counseling and resources to the young researchers to excel in their research endeavours. Ever since the organizer of this course was a research scholar at IIT M he was

introduced by his teacher Professor B Viswanathan the noble endeavor of consistently conducting "Catalysis Orientation Programme for Research Scholars" year after year. The organization of this course is not only to continue the rich tradition but also to contribute richly for the advancement of Catalysis in India by educating young minds. As evident, the name, "Christmas lectures" is borrowed from the noble endeavor of the famous scientific genius Michael Faraday that has left the rich tradition of television broadcast of the Royal Institution Christmas Lectures. There is a saying that "Faraday used to light up a candle and his Christmas lecture continues until the candle puts off." The question that still remains is, "why the field catalysis", where there is a national center for catalysis specifically researching on Catalysis. This endeavor is not to interfere with the activities of national centers but to accelerate the possibility of winning Nobel prizes that are in store for the Catalysis research especially in the realm of Biomass Conversion by educating the young reseachers. The research scholars willing to participate in the "Christmas Lectures in Catalysis – 2022" are requested to register by sending email to Dr Indra Neel Pulidindi at indraneelp@jesusconsultancy.com.

Few glimpses of the History of Catalysis research in Madras:



NCCR 5th Annual day address dated 30th July 2011

Israel

29th July, 2011.

Esteemed Professor Dr B Viswanathan garu, most respected faculty members of the National Centre for Catalysis Research, honourable guests and my dearly beloved student friends,

"This is the day the LORD has made; we will rejoice and be glad in it". Psalm 118:24

I am immensely pleased to take part with you in the joyous and proud occasion of the 5th Annual day of National Centre for Catalysis Research, NCCR. I desire to share with you my dear student friends, how the centre has been a unique place of learning and has been beneficial to me in pursuing world class research. My association with Professor B Viswanathan garu is for the past 9 years. I am privileged to be at the centre from the very early days of its institution.

The Professor M V C Sastry seminar hall in which you have gathered has been empty and void during the inception of NCCR. I was marveled to see the lecture hall being metamorphosed with all the necessary teaching aids in no time. The chairs and tables have been accumulated from some other department in IITM where they were lying unused and idle. They were polished and made usable. The black board and LCD projector were brought from our old seminar room which is currently housing the XPS machine in the ground floor of NCCR. This is to say that how the funds from the government have been used judiciously with meticulous care only on essentials but not on luxuries. The existing facilities have been used to the best. Every little bit of space available has been used with wisdom. This has helped the smooth running of the centre with out the immediate need for additional new infrastructure.

I was introduced to frontier areas of research, like using lingo cellulosic materials for producing carbon materials, fuel cells, water purification, diesel desulphurization, hydrogen production from water splitting, hydrogen storage and more importantly to the virtue of working together with unity in a research group. The regular group meetings, seminars and discussions have paved the way for exchange of knowledge and opinion. Such endeavours have kept us active and alert to the scientific advancements world over and trained us in documenting research articles and patents. The opinion of students on various issues has been considered and regarded.

At the centre, apart of my research, I was given several opportunities to train and motivate young students from IITM, several other universities, colleges and schools in carrying out their summer internships, preparing theses and aiding them in getting their graduate and post graduate degrees. Working with young students has been a unique gift and a special learning process to me during my doctoral studies at the centre. Such an expertise has been of immense benefit to me during my postdoctoral research at Bar Ilan university, Israel, where I could work with ease with two graduation students from MIT for their summer internship on cellulose transformation during the last two months.

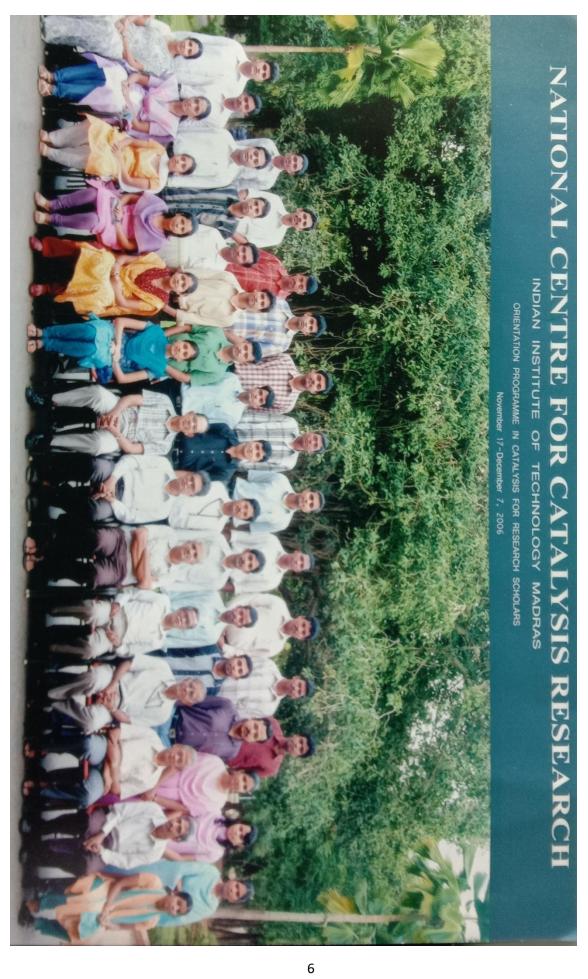
Human resource development, industrial collaboration, providing solutions to industrial problems, orientation course for researchers in catalysis, summer lectures for school going children, helping researchers by providing analytical facilities, the catalysis data base housing wealth of information have been the major successful endeavours of the centre.

It is worth appreciation that with in a short span of 5 years the National Centre for Catalysis Research has made exemplary and stunning progress with steady and consistent growth in terms of generation of research fellowships for doctoral students, producing 16 doctoral theses, instituting M Tech course in Catalysis, generating financial grants from reputed industries like CPCL, IOCL, HPCL, TATA chemicals, SHELL, GM and NISSAN apart from DST, producing more than 200 publications, 14 text books, 10 patents and researching vigorously on vital areas like biomass conversion, CO₂ reduction, hydrogen production and fuel cells.

It is my earnest appeal to my beloved student friends to associate and involve yourselves with as many activities of the centre as possible apart from your own research and get richly benefited through continued learning and education.

I pray and wish that Professor B Viswanathan garu and his efficient team at the National Centre for Catalysis Research be a source of help, motivation, inspiration to many needful students like me in building their career in the years to come. I humbly express my indebtedness to all of you for giving me this precious opportunity.

P. Indra Neel.



CENTRE FOR CATALYSIS RESEARCH





NATIONAL GENTRE FOR GATALYSIS RESEARGH INDIAN INSTITUTE OF TECHNOLOGY MADRAS 9th Orientation Programme in Catalysis for Research Scholars 17th Nov. - 8th Dec. 2008

Institution of Professor M V C Sastry scholarship on 25^{th} April 2011

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