

Writing the write up about the experience I had in the 9th Orientation Course in limited words is a challenge to me. The course that brought remarkable change in my way of understanding science and thinking, confining these all in limited words is therefore a challenge to me.

As you all aware in heterogeneous catalysis (or) catalysis, exciting new discoveries are made at an ever increasing pace. However Researchers in the same field still arrive in the lab knowing only what they have been taught, often less. The main reason could be we are NOT taught about the subject (catalysis) in our schools or undergraduate levels but we are taught about the Ziegler-Natta catalyst or other named catalysts and their magnitude in catalysis in school levels, making students get fascinated about the catalysis and the wonders the catalyst does. But the basics and fundamentals required understanding the catalytic process and especially how our heterogeneous catalyst does miracles are often left at suspense.

Guides who undertake students for heterogeneous catalysis should give them basic knowledge about what the subject is all about why it has become an inter or multi disciplinary area, blessed are the students who are under the guidance of such professors but what about the researchers who don't have such guidance except the passion for heterogeneous catalysis, where they should go, or should they stop their research in catalysis or do research in heterogeneous catalysis and be responsible for the apathy of the younger scientists towards science?. In our country there is no enough support for the basic science advancement.

Thanks to NCCR who has taken the challenge to edify the basics and fundamentals about understanding the catalysis and exploit the knowledge to overcome the problems faced in our daily research. Though the focus was on the basic issues/problems faced by day-to-day research science which can be recognised/corrected, the course does not give up hope on the complex issues, however apparently recovering, system that has brought us this far.

I found the challenge in this course was to present the review material, and present venerable, classic chemistry while dealing with the latest results. The resource material provided during this course shows how catalysis demands the knowledge in various disciplines gleaming the multi-dimensional nature of catalysis, nowhere we can get such material, the contents in the course re-emphasise the importance of the aspects to the practicing chemists. The proper understanding of these fundamentals will suffice as a foundation for implementing the new ideas in catalysis.

The approach taken in this course through the classes conducted conveys the message that the underlying theory of catalysis pervades the ENTIRE SCIENCE, we need to assimilate the information on the topics discussed during the course, since they are very essential for catalysis practice. During the course I experienced NO RESTRICTION in learning catalysis/science to any particular order. The fundamentals dealt during the course also discusses the conceptual theories that led to their development and most recently developed catalysts, reactions and methods that use transition metals. The systematic presentation of the classes reassured us not only to understand the subject but can also master the subject and finally enjoy doing the heterogeneous catalysis.

Here, is the course where you see many good and sincere scientists in India whose interests are not motivated by awards and recognition but for exploring and implementing science in India inspiring all the young researchers all over India . These people have served and will continue to serve as the mentors to future generations of Indian scientists. Science is the result of the efforts of these kind of people, though limited resources have strained their efforts for 21 days, but fill you with immense confidence and says you can still do research in INDIA with all limited resources. The place where there is change in understanding the science change in your thinking prospective. We realize Science is about change and young people are the ones that bring about change. There will be a paradigm shift, which gives more power and autonomy to young scientists. I consider the service of this course as service to science and mankind.

I have also learnt, to perform the cutting-edge research in science only the best scientific infrastructure alone will not help us it is the basics and fundamentals alone which provides us a clear vision of understanding the problem and finding the solution with our requirements. And also the competitive spirit in our research should not be altered by others/society opinion we should work with clear mind. Our views and values in science should make it more conducive to scientific research.

I have learned being a research scholar/scientist we should encourage the study of science because it broadens a person's perspectives. The course helped me to develop my vision and remove mental barriers which were not allocating me to progress in my research. It also showed the necessity for creating an environment that can lead the country to massive application in science and technology.

The fascination and enthusiasm of (different research scholars from all over INDIA) for the subject area during the discussion class from 8:45 pm to 10: 30 pm and on so on, always energized with Constant encouragement and MOST IMPORTANTLY, PROVOKING THINKING AND DISCUSSIONS making the subject attention-grabbing. We'll examine science from many perspectives, on many levels. Our explorations will be wide and deep, because the work of scientists and the scholars who study scientists and science is important and interesting, and is worth our attention, so we'll look carefully at what scientists think and do. Many of our provocative questions, and others, will be examined from a variety of perspectives. We'll look at science through the eyes of scientists, and from the viewpoints of philosophers, historians, sociologists, psychologists, educators, and others who study the process and products of science. Although some of what you'll learn will be immediately and obviously useful for you, as a researcher many of the potential benefits will be long-term. These discussions will help you explore the fascinating world of science learning and ideas. You'll discover lots of useful ideas, and what you see will stimulate your own thinking about how to work more effectively. You will be convinced that this course has already filled a niche in the educational/research system of catalysis in India.

Finally I wish to say, As a researcher's and future scientist we should have strong belief in the power of science to resolve society's problems. Let us see science and technology as ideology-free area and emphasize the cultivation of scientific temper.

Despite the fact that nobody has asked us to take any oath after the 9th Orientation course, I am sure after the course, You will all do in your subconscious levels to take an oath of service for science and the society, after seeing the efforts of so many professors striving hard to explore science for betterment of the country. The mission of this course urges the youth to make the country a superpower by going to the zenith of science. A revolution in science could make INDIA a developed country in the near future.

I express my sincere gratitude to NCCR and DST for the establishment of a clear, central purpose and goal in my life through the course. I realized knowledge as an amalgamation of creativity, courage and righteousness. Following a righteous path in spite of any hurdle will lead to harmony in oneself, order and peace in the nation. This course is also for the scientists which teach "As a scientist we should learn to give, not ask for more".

I thank Prof B. Viswanathan Sir for giving me this opportunity to share my experience of 9th orientation course with all my new friends of 10th orientation course and entire NCCR staff and students for treating me as a part of NCCR during the orientation course.

Thank you my dear friends for your kind attention.