Bombay Technologist

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An interview with Dr. P. R. Gogate

About Dr. P. R. Gogate:

Dr. Parag Gogate is a Professor in the Chemical Engineering Department at ICT Mumbai and a member of the Editorial Board, Desalination and Water Treatment. He earned his PhD in Chemical Engineering from UDCT (now ICT) in 2002 and has mastered the art of an interactive form of teaching. His research areas are Sonochemistry, Hydrodynamic Cavitation, Process Intensification, Water and Wastewater Treatment, Enzymatic Reactions, Polymer Chemistry. He has over 220 publications been cited over 21000 times in many papers namely, the International and National Journal List Of Publications. He is listed in the top 2% of Scientists in the world and has innumerable achievements such as the Outstanding Professor Award given by Indian Specialty Chemicals Manufacturing Association, The SCEJ Award for Outstanding Asian Researcher and Engineer by The Society of Chemical Engineers in Japan, Hindustan Lever Biennial Award for the Most Outstanding Chemical Engineer of the Year Under The Age Of 45 Years of Indian Institute of Chemical Engineers.

1. Sir, what motivated you to become a professor at ICT? Did you always want to become a professor?

My father was a professor and I can thus say that I was influenced at an early age by his interactions with the students. Pursuing PhD at ICT aided to confirm this passion and then I continued my desire to perform well in academics.

2. What teaching strategies do you use in your classes? Why? What are the intended outcomes of these strategies? How do you assess the learning outcomes of your instruction?

I tend to be interactive in the class as I feel that is the best way of learning. It allows capturing the understanding of the students, after which one can always tailor the pace of teaching. In the case of mathematical courses, I tend to give more problems for practice holding the expectation that the students will always attempt the solutions, check for various means to solve, which in turn will lead to better understanding of the subject. Of course in the current online mode, I am really missing this approach as students tend to be more relaxed. I am eagerly waiting for in-person teaching and learning process in the classrooms.

3. You hold a respectful position in this industry being a member of the Editorial Board, Desalination and Water Treatment etc. Please tell us your experience in developing programs and partnerships with external institute/chemical

engineering organisations and how you would apply that experience to your research?

Right from my PhD days, I was exposed to international and national collaborations. Interacting with different researchers allowed exposure to different ideas and possible commercial scale exploitation. Few of the learnings from the research-stays at the collaborating institutes situated mainly in Europe, allowed me to kick-start on new areas of research, focusing on the core expertise of cavitation phenomena. The industrial consultancy project with a US company also let the understanding into the requirements for effectively transferring the academic research into practice. I have continued the interaction globally in the form of reviewing journals, handling editor for few journals and participating in different conferences worldwide.

4. While doing research, do you prefer to collaborate or work alone? Why?

It really depends on the type of research. I am always open to collaborations as this always give multiple angles to the solution and often proves to be helpful too. Of course, it has to be need-based and matching the requirements for the project.

5. What research areas you would like to explore during the next couple of year?

I am thinking of exploiting the application of cavitation phenomena in the area of healthcare especially for the synthesis of microspheres with application in drug delivery and also food sector.

6. You have some noteworthy papers published in International and National Journals. Please tell us more about it and share some tips on writing a successful research article.

Well, it has been pleasure writing research articles and once again, the origin goes back to the PhD days. Constant encouragement from my advisor, Professor Pandit, played a pivotal role to develop the expertise. Along the way, contributions from collaborators and students helped in terms achieving the number currently.

7. You have an experience of working with both, the academia and the industry. If you were to have completed your education in today's time, what would you prefer to join, the academia or the industry? Why?

It all depends on the kind of personality. In academia, the main requirement of a teacher is his/her effectiveness. If one has quest for inventions and spreading knowledge, then definitely academia will be the right choice. Unfortunately, in the academia, monetary benefits always stand last as compared to the industry which can be one of the important angles in today's time!

8. If you had the power to effect one major change in the education of us students, what would that change be and how would you go about effecting that change?

One has to be more open in terms of the choice of the subjects and flexibility in regards to selecting various courses. I am hoping that the proposed national education policy will lead to tremendous changes in the education.

9. What has been the most challenging time during your career? How did you overcome the challenge?

Fortunately, it has been a pretty straight forward career at ICT. There are some skill sets like patience and ignorance in me which tend to overcome many challenges. Today itself, I was talking to someone who stated that happiness is inversely dependent on the number of desires. I pondered and realised how true it is!!

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10. Tell us more about how you felt on being listed in the top 2% of the Indian Research Scientists.

Being so all of a sudden, this just came as a big pleasant surprise to me. Well, there will always be contrasting views on these rankings and I feel pretty happy to be part of ICT and taking its name forward. Finally all the success is mainly due to the support at the institute.

11. What words of advice would you give to young budding researchers to become successful?

Have lots of patience, work hard and follow the teachers. You should always thank your teachers, pay respect to them as they are always guiding you to build your career. I am just following the steps of my great teachers at ICT and look how rewarding the journey has been so far!!