

IIT Kanpur days with Ramki – Some Musings

It was very well known on campus that Ramki was an excellent teacher by the time I joined IITK in Fall 1968. He taught Transport Phenomena, a common Engineering Science core course, to about 300 2ndyr students, a tough course to teach. Ramki taught it elegantly with passion and gusto, exciting the students and taking them through higher level math applications. He was also known as a ‘tough’ but a lucid teacher and high grades did not flow easily from him. He was also a hard task-master. In spite of these attributes, students liked him and enjoyed his lectures and wanted more. It was not easy to please the very bright students we had at IITK during that period. They were all fast learners and formed a narrow homogeneous band in class. Hence it was easier to offer much higher level content to them. Ramki did just that and more.

As we all know, Ramki’s first love is math and its application to chemical engineering and related problems, from simple to complex, in the broadest sense; he can represent any event in a lucid mathematical form that seems to ‘dance’ in front of his eyes and is music to his ears. He offered new graduate courses in bioengineering and modeling and thus initiated research in these areas that excited and challenged the graduate students. Because of the high quality faculty, we were able to attract high quality graduate students (toppers from their respective undergraduate schools; very few if any from among our own BTech). Ramki quickly established a vibrant graduate research program, spent considerable time with his students and produced high quality research output and published in reputed peer-reviewed journals. The Chemical Engineering Department of IITK quickly gained reputation as a strong research department. Several of our MTech students landed with research assistantships at top schools in the US.

Ramki also initiated joint collaborations with faculty from other departments, specifically with Jay Borwankar from the Math department. They did excellent work together in stochastic processes that has had great impact in the field over these many years.

During coffee breaks, when going from the Faculty Building to the Faculty canteen, one would see faculty from various departments moving in groups, excitedly talking about the day’s experiences in teaching - teaching methodology, how to improve effectiveness of teaching, how to develop and sustain interest of 300 students for 55 min at a stretch, how to be an ‘actor on the stage’ to draw and sustain attention of students, how to use ‘chalk and talk’ effectively and appropriately (without showering oneself with chalk dust), how to cater to students’ differing speeds and styles of learning, etc. During these discussions, Ramki was always a prominent figure, aggressively and effectively stating his points. Our discussions were also focused on how to impart problem-solving and critical thinking abilities to students, and continuously improving ourselves and becoming more effective in the class and outside. This was often followed by research discussions, interactions, and debates on quality of research, on how to attract highly motivated students for research, on how to work in teams, on joint research guidance, and other such matters. Overall, faculty wanted to excel in teaching, research, and academic management. Ramki was a superb example, who always excelled in almost everything he did. It was quite an experience for me and a great learning process, interacting with high quality faculty of ChE& IITK, which included Ramki, of course.

Ramki is a holistic individual, good and talented in a variety of areas. Let me share Ramki’s lighter side and great contribution over all those years to entertainment, on the campus. Ramki

has been and is a great mimic and impersonator, and he performed, by public demand at various functions – Hostels (Dormitories), Campus, Faculty Club, and at other events. He could mimic anybody and everybody and did so elegantly and ‘perfectly’, from the Head of the Institute to a technician in the department, a wide range. He was hilarious and had the audience in splits.

He could imitate faculty with iconic and non-iconic voices that was superbly entertaining. It was so accurate and real! We had faculty with distinctive voices and accents. He could do an accurate impression of faculty with an instantly-recognizable way of speaking. The vocal imitation was stunning! We do not know whether he did any preparatory work towards imitating voice and accent; we know it would require lot of patience and hard work to master the voice, its subtle inflections and tone that make voice unique. I am elaborating this a little more only to emphasize Ramki’s excellence in whatever he did.

Ramki, I and a few faculty friends were often found at the sports grounds playing cricket with students. I happened to be Games Counselor then. Ramki was a fast bowler among us faculty and was a key bowler on faculty team. We used to have student-faculty matches on Sundays and Ramki was always his great self, full of confidence of knocking wickets and he did. Ramki also liked to play table tennis, and always wanted to win; unfortunately he could not win against myself or Dr. Ranen Biswas, who was the best amongst us. This disappointed Ramki a lot!

I was Chairman-Students Placement Office (1971-73) and the faculty had opportunity to be involved in the interview process, courtesy invited Companies. During these visits, senior management from industry would spend time in the department. During one such visit by top managers of a reputed multi-national company, Ramki and I had discussions with them regarding the increasing role of computers in chemical engineering education and overall in the profession and that our IITK students had access and benefit of a mainframe computer (DEC 10), and hence were better than others. The top managers vehemently stated that this was not desirable and a bad idea and that computers would not play any significant role in chemical engineering. The discussions quickly turned into heated arguments. We were giving wrong education to the students, they said! They couldn’t be proved more wrong, further highlighting Department’s forward thinking vision.

Ramki’s leaving IITK in 1974 was a great loss not only to the department, but also to IITK and India. However, Ramki did more in terms of joint research with groups of faculty at Indian Institute of Science (IISc), Bangalore, Institute of Chemical Technology (ICT, UDCT earlier), Mumbai, National Chemical Laboratory (NCL), Pune. Ramki & Geetha visited India twice a year to be with his parents in Mumbai, and, while doing so, interacted with faculty and developed long-term joint research programs. These programs were very successful and produced high quality graduate students, joint research, and publications. All of this has been extremely beneficial to both Institutions and especially to the students. Ramki’s commitment to India is laudable. He continues this interaction even today. I surely hope that this activity pervades to other institutions in India including the IITs.

After Ramki joined University of Wisconsin, Madison in 1974 and Purdue in 1976, he was able to attract several of our top students from IITK, IITB, and ICT to Purdue and other top Schools in the US. Most of them have excelled as faculty, as Silicon Valley entrepreneurs, and in industry, both in the US and in India.

Our daughter Anjali joined Purdue for her doctoral degree in Chemistry primarily because of Geetha-Ramki, who were her 'Parents' in the US and who provided a Home-away-from-Home to her. Because of Ramki, one of my IITB PhD students Ramkumar continued his research work jointly with Jim Caruthers at Purdue. So, we took full advantage of Ramki being at Purdue and he has always been very helpful when it came to education and learning.

He is a good singer of Bollywood songs even today and a good calligrapher. I always claim that Geetha-Ramki even named their son Arvind after me!

In my recent interaction with Ramki at Purdue in November 2014, I have been pleasantly surprised and very happy to witness and engage with his 'smart brain cells' that are becoming smarter by the day, through his ever evolving brain, to address new scientific challenges that we face. His recent work on 'cancer' that he shared and explained in detail proves my point. The beauty of math that he sees in biological processes and can articulate about is astonishing. Thanks to Ramki, my relationship with Purdue continues today.

Keep up the great work, Ramki, keep on inspiring and motivating youngsters, and keep producing quality research & publications as you have been doing for many years. I expect you to continue to contribute to Science, Engineering, and Society at a Global level for years to come!

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March 23, 2015
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