

In Memory of Professor Inder "Paul" Batra

Prasenjit Sen

Harish-Chandra Research Institute, Allahabad, India

prasen@mri.ernet.in

My last conversation with him still rings fresh in my ears. It was May 2007 when I was visiting the Virginia Commonwealth University in Richmond VA. On this visit to the US I was not going to Chicago, so I decided to give Inder Batra a call. One evening, when I called him from my hotel room, Prof. Batra (as I always called him) was so surprised, pleasantly of course, that it was obvious from his voice at the other end. He told me that he and his wife were going to San Jose the next day. So it was good that I called that evening, as otherwise I would not have found him at the number, and I did not have his San Jose number. We had a long chat. As always, he asked me all the details about how I was doing in research and otherwise. We hung up with my invitation for him to visit our institute on his next trip to India. Little did I know that that would never happen.

On the July 25 morning, as I opened my mailbox, that one line stared oddly at my face. There were a few expected mails, but the one with the subject line "sad news regarding Inder Batra" immediately caught my attention. When you get such a message, your instincts immediately prepare you for something that you do not want to hear. The next moment you tend to believe that perhaps it cannot be that bad. But as I opened the mail, reality hit me hard. My friend Bikash Gupta had forwarded a mail from the Chairman of the Physics Department, University of Illinois at Chicago (UIC), with the news that Inder and his wife Uma had died in a road accident. I sat quiet and stunned for a while. I was visiting the Indian Association for the Cultivation of Science (IACS) in Kolkata. Once I got over the initial shock, I walked over to my host G.P. Das, and gave him the sad news. GP knew Inder well enough and it came as a shock to him too. In a state of utter shock and disbelief, we connected to the mercury news website that carried the details of the circumstances in which Inder and Uma had lost their lives. The fact that it was a careless and immature action of two teenagers that snatched four lives, including that of Inder, who was one of the finest physicists and one of the nicest persons I have come across in my life, made the tragedy look all the more senseless.

My memory went back a good seven years. It was the spring of 2000. I was working as a post-doc (my first one) at the Tata Institute of Fundamental Research (TIFR) in Mumbai, India. I was about to finish and was desperately looking for further openings. I had had a rather difficult time with my work at TIFR due to the prevailing political situation. Just as I had started my computations, the computers developed some problems. India being under embargo at that time for performing a nuclear test in May 1998, the company could not even repair the machines. This greatly delayed my project. At the end of my term, I had just started writing up the results I had obtained, for which I had to spend a few months in the US. At this time Inder Batra happened to be visiting TIFR. As it turned out, he was looking to hire a post-doc. So after his talk, I walked up to him and told him that I was looking for a post-doc position. This one act had a rather lasting effect on my life, and it largely decided where I am and what I am doing today. Inder asked me to apply formally, and finally put his faith in me by making an offer. Our association started then and continued till we lost him in this tragic way. In fact, our last joint paper was published only last year (2006). I always looked up to Inder Batra as one who opened a window of

opportunity for me when things weren't looking too bright; he was always a guide and a mentor to me.

I joined Inder at the UIC in August 2000. I still remember a few trivia of my journey. I had to change flights at London Heathrow on my way to Chicago from Mumbai. In the line for security check at Heathrow, I struck up a conversation with the lady behind me. I still remember having told her that once I reach Chicago, I would start working in a day or two. My only trip to the US before this was a short visit on which I had a furnished apartment to get into the very day I reached. Little did I know that life would be very different in a big city like Chicago. It took us (my wife was with me) a couple of weeks to find an apartment in a decent neighborhood that suited our budget. By the time we moved in, three weeks had passed. All this time I would just get into my office after a long commute from the suburbs, and would either hunt apartments on the net, or go out to actually see one. I virtually did nothing. Inder was as patient as ever, never putting any pressure. All he would say is, and I still remember the exact phrase he used, ``Let me know when you are ready for some Physics." It took me nearly a month to be ready.

Inder was the chairman of the Physics Department at the UIC that time. Naturally, he was an extremely busy man. But he could always find time for Physics. Any time I went over to his office for a discussion, unless he was busy with a meeting, we would have time for me. During this period, he introduced me to the techniques of first-principles electronic structure calculations, something that I still do and make my living out of. At that time, a lot of interesting experiments were being done on one-dimensional atomic wires. We wrote a few papers on these. I still remember the exciting discussions I used to have with Inder on this subject. What impressed me most was the tremendous insight he had, and how he could come up with simple pictures to understand the most complicated things. He was never happy just doing a calculation. First he would ask the question, what do we expect based on our intuition, and only then would he go to the next step. In case our expectations were not borne out by the results from our calculations, life would only get more interesting.

Till the time I left UIC for my next employment at the NC State University in Raleigh NC, Inder was the chairman of the Physics department. He would always present himself formally, and hardly would he talk about personal matters. But once I did have a glimpse of the lighter side of Inder. I had had a haircut that my wife tersely dismissed as `awful'. It was definitely funny to put it mildly. The next day, when we met, Inder gave a smile and quipped, ``Nice haircut, Prasen".

After leaving UIC in April 2002, I went back for a visit in June that year. Inder used to organize a seminar every summer. He invited me that year. It was a wonderful gathering with some the excellent Physicists from the US and India. Inder seemed a transformed man, a lot more relaxed for not having the responsibility of the chairman, and much less formal. But the real transformation I saw in him was in the summer of 2005. I was visiting him for the first time after taking up my present job at the Harish-Chandra Research Institute (HRI) Allahabad, India. It seemed like he was always in a mood to have fun. In fact, we did have a lot of fun both in terms of our work, and outside it. The UIC Physics department had a number of Indian visitors at that summer. We would often go for gatherings at someone's place, or go for an outing at the Millennium Park in downtown Chicago with loads of food and cans of beer. It was on this trip that we

worked together for the last time. Inder left for San Jose about a week before I left for Santa Barbara on August 22, 2005. That was the last time we met. We were always in touch over email, though. Any time I would need any help or advice, Inder would always be available.

Today, as I slowly come to terms with the reality of losing one of my greatest well-wishers in a rather tragic way, I remember the following which Inder told us (Bikash and me) on the last day we met. ``You know what project is worth working on'', he said, ``it is the one over which you lose sleep till you have the final answer, or till you understand what's going on''. These words can only come from a man so passionate about his trade that he did some of his finest works while being confined to bed due to an injury.

While mourning Inder's demise, I hope the passion and the dedication that he portrayed inspires me in the years to come.

About Prasenjit Sen –

Prasen earned his PhD from IIT-Kanpur in 1997, worked as a postdoctoral fellow with Nandini Trivedi at TIFR from 1997 until 2000, and then with Inder Batra at the University of Illinois at Chicago between 2000 and 2002 and with Lubos Mitras at North Carolina State University between 2002 and 2004. He has been on the faculty at HRI since 2004. His research focuses on using the quantum Monte Carlo approach for electronic structure studies.

Remembering Inder and Uma Batra

Uday Sukhatme

Indiana University-Purdue University, Indianapolis, Indiana, USA

sukhatme@iupui.edu

I first met Inder Paul Batra in 1998, when he joined the University of Illinois at Chicago as Head of the Physics Department. His appointment was the result of a nationwide search, from which he emerged as the strongest candidate. When he came to UIC, Inder already had an established international reputation in theoretical condensed matter physics.

Most of Inder's previous career had been spent at IBM. Many industrial practices do not carry over readily into an academic setting - consequently Inder had to make many suitable adjustments in his way of thinking and handling problems. I helped as best as I could, since I had previously served as department head and knew many of the issues involved. Inder was a quick learner and adjusted rapidly to the new environment. His background enabled the establishment of several useful collaborations between industries and departmental faculty. Under Inder's leadership, the Physics Department continued on its path of growth and increased national recognition. Inder had a very friendly personality and he was especially happy in meeting, teaching and talking to students. He improved the physical appearance of the department and streamlined a number of departmental services for students. Inder also spelled out the mission of the department more clearly, and enjoyed telling the campus community about the successes of the physics faculty. He wrote a number of short popular articles for the campus newspaper and encouraged his colleagues to do the same.

Inder's wife Uma came to many departmental events, and was a big asset in community functions and fundraising events. Her warmth and interest were immediately evident to anyone who spoke with her. Inder and Uma both valued higher education deeply, and they were very proud of the academic achievements of their daughters. We will all miss the friendship and dedication of Inder and Uma Batra.

About Uday Sukhatme –

Uday Sukhatme joined IUPUI in July, 2006. Previously he was dean of the College of Arts and Sciences and professor of Physics at SUNY at Buffalo. Prior to that, he was at the University of Illinois at Chicago (UIC) for 22 years, where he served as Interim Vice Provost for Academic Programs, Associate Vice Chancellor for Academic Affairs, and head of the Department of Physics. Dr. Sukhatme holds a S.B. and a Sc.D. degree in Physics from the Massachusetts Institute of Technology; and a B.Sc. (Honors) degree in Mathematics from the University of Delhi, India. His area of specialization is theoretical physics. His research in high-energy phenomenology and super symmetric quantum mechanics has been funded continuously by grants from the U.S. Department of Energy for the past 22 years and has led to over 180 publications in physics journals.