



On the occasion of
60th
Birthday

Shades of DD

From alumni, colleagues, friends, students and well-wishers
MEMORIES | ANECDOTES | INSTANCES | INCIDENTS | ACCIDENTS | WISHES

Celebrating
60





Shades of DD

DD has touched and influenced lives of many not only by science but also by his infectious laughter, passion, wit and magnanimity. Here, we present a small collection of anecdotes, instances, incidents, accidents, memories and more importantly wishes for you, DD.

Get ready not only for blithe smiles, loud laughs but also choked throat and gentle tears because they are all packed in words here...

Da Timso douer si dorma per qualche noue del mese
do poi prante se mudo ad Amboys distante vij leghe
quale si bene e poca villa e allegria et ben posta
in e in piano: ma ha un Castello in un pogento che
non e di fortezza: di stamete e comoda et ha bellu
prospettua alla il Roy Carlo che fu in Napoli staua
molto uolente. Roy luy si il padre in Timso: et
lo Roy Ludouico Successor in Bles. In uno de la
borgna El sig co noi aleri ando ad uider me lura
de una frumento uicino de piu de lxx anj per
tore e la era mra exercito quale mostro ad sua
ma tre quara. Uno di ceta dona preema feta
de naturale ad mra fancia del quodam Mag^{ro} sub
mo de Medici. L'altro di San Joane Bapt^{ta} giouan
et uno de la Madonna et del figliolo che stem po
sti in gremio di s^{ta} Anna: tuch perfectumy. be
re di da lui per offerli nomina ceta parala
la dextera: no se ne puo expectare piu co
ha ben fatto un creaco milanese in la
ne et beno il p^{ro} me Luzzardo no puo
quella dulaia in solea pur sorat^{ta} disegm
et insegnat ad altri questo gentile et a cuposto

de natomia
de la pie
uono

da Amboys
sono x le
per la iun
mo moli
Dura v
to Tim
fume
e nobil
ro qual

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Words of the **MENTOR**

“
60 is nothing for DD. He is already thinking of doing a 180° rotation of 6 into 9”

“The mediocre teacher tells. Good teacher explains. The superior teacher demonstrates. The great teacher inspires” Warm wishes from inspiring DD’s inspiring mentor



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ADVANCED SCIENTIFIC RESEARCH

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National Research Professor

and

Honorary President

All you wanted to know about DD was afraid to ask

I could not believe that DD Sarma is going to be 60. He still acts like a 16-year old, which he was when I first met him as an undergrad at IIT Kanpur. He talked a lot in the class then and he continues to do so elsewhere now. He has emerged to become an excellent scientist known in many parts of the world. Ask him ^{about} the tricks he used to achieve this status.

DD has proved or disproved many laws of physics. One for which he is well known is that "Sound travels faster than light". This law can be verified in any gathering where he is present.

DD loves life and to prove it he enjoys eating — yet one gets no indication of this as one looks at him. He loves his friends and is loyal to them. He has endeared himself to all those who know him, as a serious scholar who is also good company. For those who don't know him or don't like his jokes — well, it does not matter.

60 is nothing for DD. He is already thinking of doing a 180° rotation of 6 into 9.

Best of luck, health and happiness

P.S: I forgot to mention what I saw in the internet.

All the Airlines in the world have found it impossible to provide services (including booking tickets) to DD, without additional staff.

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Work hard and have FUN!

From the first PhD student

I joined DD's Lab in Aug, 1988. The Lab of today was at that time actually, DD's office, and it consisted of one table, 2 chairs, a filing cabinet and a cupboard. I still vividly remember his welcoming smile on entering his room for the first time. And only a little later I came to know his booming laugh: the joke went that his laugh would surely bring down the MRC building someday. Fortunately, the laughter is still the same and the building is still the same, 27 years down the line. The office became the Lab within a year and DD had to move out, simply because the spectrometer, the Monster Baby (Moby, as we called it) was too big to accommodate anything else in the Lab. And the sound of the water pumps and chiller, running 24 hrs a day became the norm. It was quite (and not quiet) something. And given the electricity supply situation then, it now feels herculean to think about how we managed an ultra-high vacuum spectrometer, and that too, backed up by a diesel generator. But then out came the data and the science which has generated 21 Ph.D.'s from the Indian Institute of Science in the last 27 years. And that can be fully explained in only two letters - DD.

And the words that ring in my ears even today: "Work hard and have fun". This is what DD used to tell me from the beginning, especially when he went away from Bangalore on visits. And the strange guy that I was then, I would always get the thought: "But that is surely impossible". Out of courtesy, I would still just nod my head and smile back. It took me about 20 years since then to understand and appreciate the meaning of "Work hard and have fun". Given our profession of doing science, I slowly understood that if we were not happy and satisfied by doing what we were doing, if we were not having fun while doing the science, then the hard work required to succeed in our profession would well-nigh become impossible.

1989 : Sudipta, Anushree and Seva joined the Lab. And the Lab suddenly became a group. And then Shanthi, Shubha, Kalo, Krishna and Priya joined the Lab and we became a big group. Each came in with their own style of work, brand of humour and

Ashish Chainani
RIKEN SPring-8 Center

“ His laugh
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“ It took me about 20
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DD meticulously weaved the fabric of the group around the “Working hard and having fun” principle. While each one of us worked on a different theme of research, we were all strongly correlated as a group and complemented each other at work. The basic point to learn from each other was how to cope up with DD’s pace of doing science. And before I knew it, I was through with the Ph.D. It was only much later that we realized that it was an unmatched pace of doing work. As I understand, this holds true even today for any solid-state group in the history of India. Thanks a lot, DD, for everything. And DD, please don’t work so hard even now, as we are still finding it difficult to keep pace having the fun!

Unique Leading Scientist

As a young student passionate about scientific research, I had heard about DD when I went to IISc for PhD studentship interview. DD's group was one of my favorite options if I was successful in getting into IISc. Unfortunately, I could not pass through the interview then. However, the fate had its way and very fortunately for me I got a chance to work as a PhD student with DD after 3 years, in 2007. The time I spent with DD as his PhD student was very rewarding. Interactions with him taught me how to tackle a scientific problem and how not to neglect even the remotest possibility of explaining an observation. Another important quality that I admire in DD is that he gives full freedom to his students to express their point of view and discuss very openly. His ability to keep track of several projects, that he is usually involved in at any given time, is another quality which makes him a unique leading scientist.

-Anil Kumar Puri

Words from Usha

D. D. Sarma Sir

No student of DD calls him ‘sir’ (Rather, we are not allowed to – even after the knighthood that he has been honoured with.) But, Usha has been calling him ‘sir’ ever since she joined the group.

We can all see how busy Usha is as she goes from one office to another, getting the funds sanctioned, cheques signed and letters approved. She says, “I have learnt a lot from sir, how not to waste time and his laugh makes the work environment cool.” (Anyone in MRC building would agree, as they would all have guessed, hearing his laughter, that DD has arrived in the lab.) “I respect him a lot and thank his wonderful way of making us feel valued and included.” She also says that DD has not shouted at her even once!

She is probably the only person in the group, at whom DD has not shouted! Perhaps, we students have a lesson or two to learn from her. Or has ‘sir’ got anything to do with this? I wonder!

-Sharada



Looking Back – A Bright Patch On My Way

Kalobaran Maítí

I have been thinking of this write up for quite some time but still could not figure out how to start. Whenever I look back, I see lot of interesting incidences but often I do not find obvious connection between them. Therefore, I have decided to start from the beginning. My first meeting with DD was in my PhD interview. I entered the room and saw that everybody in the committee was laughing loudly. One person (DD) was the most distinct and was attracting much of the attention.

Although I had already spent more than 5 years in Kolkata by then, I was typically a person from rural Bengal. I was in a bit of shock and did not know what to do. DD realized that and told me not to worry as they were just enjoying themselves. DD has this enormous ability of making any situation warm and enjoyable for everybody. In that interview, one of the members asked me, “If I arrange the atoms in a solid randomly, like the way we are sitting here haphazardly without following any rule, how will an electron move in such a situation?” I was thinking how to answer as I did not know the answer. Then, DD asked me to repeat the question. I said, “How electronic conduction occurs in a disordered solid”. He said, “Oh, you got the question! This is enough for now, ha ha ha ha. Think about the answer later.”

In my first meeting with DD after joining him for PhD, he explained me various activities in the lab. Then, he said that I have to follow three rules of the lab. (i) I must not call him ‘Sir’. I may follow others and call him ‘DD’. I think, DD will find it difficult to implement this rule now as he has become the *Knight of the Order of Star* (honoured by the Italian Government)! (ii) The second rule was made particularly for me as I had difficulty to speak in English. I was not allowed to speak in Bengali (my mother tongue) to anyone. At that time, the Bengali population was so high in IISc that one could actually spend all the time speaking in Bengali. While I found this rule a bit difficult initially, I started picking up English quite fast due to this rule. (iii) The third rule was a bit tricky (at least, I felt that way at that time) – he said, everybody in the group has to work one and half times of the time he works in a day. Then,



Picture 1 – A dinner party at Tandoor.



Picture 2 – DD and Jagjit are grilling chicken at DD's farmhouse.

he said he works 16 hours in a day and asked me how much time I must work in a day! I felt little relieved that he worked only 16 hours a day and I had the answer for myself. If he worked a little more than 16 hours a day, you know what would have been my situation ☺

DD is known to be one of the toughest guides around. While he was indeed tough at work, he showered much affection, love and care to each of us. Often he used to crack jokes, make fun and we all used to laugh loudly. I am tempted to mention one interesting incident. One morning, I was in the lab alone. Others were yet to come after their breakfast. DD came into the lab and saw me cleaning a quartz tube. He realized that I might need some advice and explained to me what kind of care I must

take to do this job. Specifically, I must take utmost care not to be close to water and touch anything which might contaminate those items by water while cleaning, as water is not good

for ultra – high vacuum. This piece of advice was necessary, as he saw me standing near a wash basin. After his lecture got over, to which I listened patiently, he asked me how I was cleaning that tube. He was looking quite serious and wanted to make sure everything was alright. I said, “I am washing it with soap water”. Maintaining equal seriousness in his face, he said – “Ok, then it will be difficult for you not to touch water”, and went off to his office. We had a big laugh afterwards!

The best part of the group was our eating out together, which DD nurtured so well that it has become a tradition even in my present group. A typical scenario is shown in picture 1. I have shown some such pictures in a chaotic manner, distributed over the pages. I feel that they are self-explanatory. We had numerous such parties, but, let me mention one of them. Once, DD organized a day out to his farmhouse for all of us with family. He marinated chicken the previous night, prepared/arranged all the other food and necessary things, and then took us to the place by a bus. Pictures 2 and 3 show the kind of time we had. Often, we used to have parties at our apartment too – I was living in Ramanujan apartment. Our group used to come there, cook together, eat and enjoy. Some pictures of one such snack



Picture 3 – People are busy eating. It was a farmhouse day.



Picture 4 – Aswani, Jagjit and Beena are in action to prepare pakoda at our apartment.



Picture 5 – eating and having fun with DD and family at our Ramanujan apartment



Picture 6 – DD with Abha, Atish, Anish and Akash – probably at the place of Shanthi or Seva.

party is shown in pictures 4 and 5. It is clear, how much warmth DD brought to us. We were always eager to listen to his jokes and making fun. The best thing about DD is that he succeeded to have a great family in both personal and professional life. In almost all the occasions Abha, Atish, Anish and Akash were there to share with us. I found a nice picture of DD with children and Abha, see Picture 6. He continues to be so much affectionate to each of us, even now.

While he is a great achiever and never got deviated from his goal, he also taught us how to enjoy each and every moment of our life – its apparent from his laugh. I wish him all the very best to have a long life filled with enjoyment.

Dr. T. Ramasami

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A TRIBUTE TO PROF D D SHARMA

Professor Dipankar Das Sharma and I have been friends for long. It is indeed a pleasure watching him with admiration grow into an outstanding scientist and emerge as an important contributor in Indian science. He had been a rising star in basic research in the country starting high-level performance early in career. Our interactions have been both professional and personal. His insightful understanding of basic issues in materials science has been impressive and inspiring. I have been a witness to the level of respect that he commands from his professional peers and the level of global visibility that he enjoys. He is a truly a world class performer. Once I was asked by the Foreign Secretary of India as to whether we could send an eminent Indian scientist to a meeting in nano science in Paris as a National representative within 12 hours. The first name which came to mind for meeting a deadline which seemed impossible was that of Professor D D Sharma. I called him on his mobile hoping that he might be somewhere in Europe. Lo Behold. He was in Italy. On behalf of the Government of India, I requested Professor Sharma to represent in the meeting in Paris, scheduled to be held within a few hours. Not only he obliged and attended the meeting, but also he gained tremendous respect for the country through his scholarly inputs at the meeting. As someone who followed his research career, I am of the opinion that he would scale new heights in the International arena of science bringing credit not only to himself and the institution but also the country.

There have been several occasions in which we have shared lighter moments. Any person dealing with him would be impacted by his sharp sense of wit and presence of mind. Although on this occasion his friends could enjoy undue advantages of being able to share some funny moments, he might hold several defensive deterrents against them including me as well. I would leave the fun side of his life to be shared by others. Let me say that I expect from him some path breaking scientific contributions in his journey ahead. Sixty in his life is a milestone and his landmark is bound to come in the future. Let me wish him and his group the very best in the years to come.


Dr T Ramasami

Thank You for Everything!!

The other day I was reading a book by Patrick Modiano. It is a fiction on redrawing a picture of the past. It is truly an intertwined story of losses of many kinds. With time, complex situations of the past only become a story.

Today, when I remember my IISc days in SSCU, in some way, I sense the same. Interestingly it is quite amusing to think of many incidences at SSCU, which were quite critical at that time....like my dropping the sample in the XPS chamber on the next day after baking or writing a paper which had 10 lines (including introduction, results and discussion, it was on PbI nanoparticle), or my running away from the campus hospital and hiding in the lab...and so many others. How you tolerated my stupidities and taught me (or should I say, tried to teach me) many things with care and affection! I miss the fact that I cannot afford do such things anymore and there is no one who will accept me as I was then. What a loss!!

I must say that during my stay at SSCU whatever I have learnt from you has left a mark in how I grew up. Above all, the human values, which you taught me, are assets for every step in my life. I wish I could be as good to my students, as you were to me!!

DD, I thank you for everything!

- Anushree

It is one of the recent episodes that I can remember. One fine Saturday, when I was still in the lab(!!!), around 7:10 pm, DD came into the lab to say that he was leaving for the day. Sharada, Pratibha and I were in the lab. Pratibha told DD that she wanted to ask him a small question. DD immediately asked, "Is the question small or the answer small? If it is the question which is small, the answer is 42!"

Seeing our bewilderment, DD explained: "It is like the question they ask the computer, 'Deep thought', in the Hitchhiker's Guide to the Galaxy, "WHAT IS LIFE?"; the computer just goes into calculating the answer to the question as to what was life, for millions of years! One fine day, it gives the answer to be 42. But now, people did not understand to which question this answer of 42 belonged. Deep thought, then predicts that, another computer which is more powerful will be built and asked to find the corresponding question to the answer. And promptly, the computer will go into calculating again, for several million years more!!"

- Shanthi

! The BIG Question



The Metamorphosis

Priya Mahadevan

I had been on IISc campus for two years before I joined as a PhD student with DD, and all that while I had heard that he was a really nice person to work with, really student-friendly, always laughing ...!!! And working with him would be cool etc etc. I had no idea how so many people could be SO WRONG. So let me start with stating what was 'WRONG'. He would come in by 9:30-10:00 am and would be in the lab till 8:00 pm, breaking for lunch and possibly tea once or twice a day. There were no administrative duties, so one had DD undiluted. Was that bad? Judge for yourself. There were no excuses for not doing something.

So ‘knock, knock’, that’s DD here asking if you finished something that he asked you 10 whole minutes back. That was a typical day for us harassed souls. And then he would leave for dinner, and we couldn’t breathe a sigh of relief as the parting words would be ‘I will call back after dinner. Let me know how things are going.’ So any plans of doing something quietly in your room after dinner were

immediately killed. One of my seniors consoled me by saying that things were better now, because, earlier, he would land up in the lab after dinner and they would actually have seminars which went well past midnight. So things were already better in our times. I made this resolution when I left the group after my PhD that I wouldn’t be like DD when I had my own independent group. Then many years later, it so happened that he met my student at a conference and over dinner he befriended him. He has this ability to make a person switch loyalties and soon the student was telling him stories about me, even the specific words I used to scold them. DD was thrilled and told him with great joy, ‘She’s even borrowing my dialogues.’ The joy was not to be lost as he had succeeded in the metamorphosis of his student into a mini DD. AAARRGGHH!!!

One of his favourite pastimes was to compete with the students to complete something and then brag back to them about it. (Lots of people in this memoir have called him humble. Ulp! Ulp!) So in my case what I regarded as the worst threat from him would be when I was taking too long to do something and so HE WOULD DO IT HIMSELF. I really would dread those moments. I recently opened one of the programmes written during my PhD days and DD’s fingerprints were all over. Somehow there was a lack of originality in choosing variables. There were dds1, dds2, dds3 ... for the real variables, idds1, idds2, idds3 ... for the integer variables and cdds1, cdds2 ... for the comments.

“ DD was thrilled and told him with great joy, ‘She’s even borrowing my dialogues.’ The joy was not to be lost as he had succeeded in the metamorphosis of his student into a mini DD. AAARRGGHH!!! ”

“ I made this resolution when I left the group after my PhD that I wouldn’t be like DD when I had my own independent group. ”

Although I worked for a PhD in theory with DD there were instances when one was called in to be involved with some experimental activity. The one I remember most vividly was when the channel plates of the detector had to be changed. Sending the detector back to England meant shutting down all experimental activity for one year or longer. So DD decided he would do it himself. We all stood around

“ When instrumental failure seemed like it would engulf the lab, DD had the ability to stand tall and think a way out and the solutions were usually out of the box. ”

and watched as this ‘brain surgery’ took place. It was crucial and what would happen if it failed was something none of us wanted to explore even in our thoughts. It worked and all of us heaved a huge sigh of relief!

DD’s approach in everything was a very systematic one, going down to the brass-tacks whether it was in opening up a sophisticated piece of equipment, or exploring a new area that he hadn’t ventured in before. An important lesson that I learnt from him was, never to be afraid to say I don’t know as one is where one is because there is something one knows something about.

DD is very generous in his shouting. However the worst moments (as Debraj also points out) are when DD doesn’t talk to anyone. Those are more terrifying. One time this happened was when there had been an accident in the lab and the instrument wasn’t working. No one had any idea of when it would be up again. For almost two weeks the silence continued, and then he suddenly came to the lab saying that he had this idea of how to fix the problem. It worked and in some time the machine was up and so was the smile on everybody’s face. In those days when money in research was little and there were occasions when instrumental failure seemed like it would engulf the lab, DD had the ability to stand tall and think a way out and the solutions were usually out of the box.

There is a huge amount I have learnt from DD and keep learning from him. I wish him and Abha the very best in the years ahead where DD continues his metamorphosis.

From the SSCU Colleagues.....

It is a pleasure to write about my long time friend and colleague, DD, whom I have known closely for nearly forty years. Over the years, I have admired him for his clarity in thinking in both academic and administrative matters. He is an extraordinarily warm and fun loving person who does science because it is fun. He is a great company for exchanging jokes, much of it cannot be put in print. In fact, once one of his students told me that they were getting exasperated since we would be sharing laughter after a few exchanges and they did not know why. Thankfully, it has stayed that way. DD has razor sharp intellect and I have found discussing science with him a great pleasure. He is a great mentor and is very kind in dealing with younger colleagues and students. In the Hindu calendar each year has a name and the names repeat after every sixty years. It is cause for celebration when a person has lived through one full cycle. Considering the qualities of mind and heart in DD, I wish him that he lives through at least one more full cycle inspiring the young and the not so young.

S. Ramasesha
SSCU (IISc)

DD has been and remains a very good friend and my academic younger brother. We both share a common research interest in transition metal compounds. His focus is more on physics aspects and mine, chemistry aspects. On several occasions we found common ground in our research pursuits and shared valuable exchanges and fruitful discussions. In the early years, we used to meet informally on the occasion of the SSCU anniversary symposium and exchanged notes over a cup of coffee on the general research progress of not only ours but of the entire Unit. In all my academic interactions with DD, I found his commitment and involvement in the chosen task total, and dedication 100 percent. His research accomplishments are exemplary, setting benchmarks to other practitioners in the field.

On the personal side, I had the privilege of being a good friend to him all through the years I have known him. I have enjoyed his support and kind concern for my academic pursuits especially in my post-retirement years, for which I remain grateful.

J. Gopalakrishnan
SSCU (IISc)

It only remains now to wish him and his family the very best in terms of success in profession, good health and all round prosperity. Sixty is only the beginning for his academics and I am sure he will go a long way in his profession, scaling many peaks of excellence in the years to come.

1

DD and me overlapped for a few years during our Ph.d. (and for many years as faculty). During lunch time we would have to walk from SSCU department to the other end of the campus to have lunch. It would be about a kilometer of walk. DD with his height and general agility would take rather long steps. This translated into rather high speed of walking. And many of us would be running to keep pace with him. So, his walking was running for others. He has continued his walk till now and that, I believe, has kept him in good shape.

2

During my (and also DD's) Ph.d., we were without guidance for nearly 1.5 years since our guide went on sabbatical. DD and me started discussing a problem that we found interesting. Together we did some calculations with an old computer and got some interesting results. And with an intention not to ruffle many feathers, we did the work quietly and later published in an elsevier journal with permission from our guide.

3

Usually you see people first and then you can hear their voice. In the case of DD, you can hear him before you can see him, a consequence of his decibels and that sound can bend around the corners.

4

If your mood is down, just go near DD's room and when you hear DD laugh your mood will be restored to high.

5

Usually DD would be very helpful for anyone in any distress. I had a taste of his hospitality at 3am in the morning (when DD had twins under 1 year of age) when he gave me some food (since I was in the hostel and you cannot get anything to eat at that time) as I was suffering from acidity.

The Road Not Taken

Seva Nimkar Panda

When I landed in IISc, in awe of the super intellectuals, I moved around trying to be as invisible as possible. It took a good 2 years for me to belong in this Institution with staunch support from DD, our mentor and guide.

My next 3 years of mixed enjoyment, slogging, confusion, frustration and ecstasy was suffered by DD, but I hope they were memorable years as were mine. He was integral part of our family and work life, mainly due to his magnanimity and generosity. Every Diwali was celebrated with Abha, DD, Atish, Anish and Akash. I got married in his home!

Family responsibilities grew with children and I wavered in confidence, to continue work. We were still part of the growing group and it helped me stand tall.

We shared fun times at DD's farm with a growing group! Birthday parties were fun together. I really miss being an active part of DD's lab.

Moving out of campus!

Though it might appear that I am no longer involved in science, it is not true. My learnings from the DD group have changed the way I work and perceive the world. My fundamentals were formed here. And I hope I transfer these to the young learners.

I was introduced to fortran computer programming by DD. And still remember his initial disbelief that I could actually program.

Drawing comparison to the FFT - I have just changed the variables from (x and p) to (ω and t). The fundas are same. The application has changed.

Thus, DD permeated in every part of our life in IISc. I always thought it was mainly to ensure that I worked hard! Every DD's success built new confidence to dare to dream.

I am proud of what I have achieved so far and DD has been my constant inspiration.

Thank you.





The Impromptu Binges

When the mail asking to share an anecdote of interaction with DD was received, my mind drifted back 21 years. In September 1992, I joined DD's group as an RA. It was a short stint of just nine months, but all those days were really memorable. In the new world of IISc, DD and Abha's friendly nature made all the group members feel at home and all of us were just like a family.

Apart from being one of the best Physicists of the country, DD is a gem of a person. The most I remember is his foodie nature- always ready to explore new food joints and taking the entire group along for parties. One evening Ashish, Mini and I were casually discussing that we had not had any good fish and crabs for long time, which DD overheard. Immediately he came up with an idea to go to Coconut Grove in the City. Immediately we all marched to Sudipto and Aparna's apartment. They were mid-way in their cooking. We just asked them to get ready and immediately, all of us trooped to the restaurant. Such impromptu binges were a regular feature, which all of us used to enjoy.

One joke we always used to share was, "The advantage of being an RA in the group of your thesis referee is (which was true in my case), you may act very stupidly in the lab, but no one in the group can dare to ask you one question- which ass awarded you a doctorate?"

-Shubha Gokhale

I had moved to my first job at the Nitro Nobel labs and DD had joined as faculty. Our families met quite regularly for lunch or dinner. Once we invited them for dinner and we suddenly see him at the door around lunchtime shouting that he was just checking that things are going on schedule. My wife said we were leaving for the market! After 25 years, he must be much more absent minded, she jokes.

-Somnath Ganguly

Years of Transformation- In DD's group

-Krishnakumar Menon

Probably, I am the last one who has sent this write up. Not that I have ignored, but was confused thinking about how to contain my feelings and emotions in a few lines! I am really so much indebted to DD and the environment he created in his group, which did really transform me.

I was an introvert student who came to IISc to join a good materials research group and did appear for interview at SSCU. I did not know DD then, but one of the most active and participating interviewer asked me to meet him in the evening at 6.30PM in his office. I went reluctantly, scared to face the unknown, but was pleasantly surprised by DD's friendly discussions/questions. Kalo and Asish showed me the lab around and I was really excited by the interactive ambience. Looking back now, I feel, the best part of DD's group was this ambience where each of us was very friendly with each other and DD was the cohesive force behind this bond between the group members.

“
DD was the
cohesive force
behind this bond
between the
group members
”

I spend about 6½ years in DD's group as a Ph. D student and one year as a post-doc. There are many fond memories which I cherish and values, which I have always tried to inherit- some of them with success and some without. The most important part was the togetherness. Every year, there would be many occasions for getting together, mostly for food and for other academic activities. First few years, it was Asish, Sudipta, Kalo, Seva, Priya and DD with their family members. Then it was, changed to Kalo, Jagjit, Beena, Ashwani, Nimmi, Priya, Shafi, DD and others with family members and then towards the last years, it was Jagjit, Priya, Sugato, Sameer, Ranjani, Subhra, Dinesh, Manjuetc with DD and family members. Though I was mostly a listener in all these gatherings, I have enjoyed every bit of it and it has helped to build a very strong emotional bond with all the members, as well as DD himself.

This interactive ambience allowed us to work as hard as possible along with having fun. This was really DD's motto and I am sure that he has succeeded in implanting this deep inside every member of his group. All of us spent almost 16 hours or more in the laboratory and tried to do our best with each other's support. DD also made sure that everyone gets moulded into this lab culture, helped by the strict enforcing of the English/Hindi language code in the lab. This also built a strong group feeling which helped us to stay away (almost) from being selfish and learned to be broad-minded which is very important in group activities such as maintaining big UHV instruments in the Indian environment.

DD also took care of every minute aspect of all the group members in both academic as well as personal well-being. I have personally benefited a lot from this part in my research problems as well as in my personal disasters! He was always there as a close friend and as a big elder brother, giving me advice and helping me to come out of these difficulties. I am so much indebted to him and his family for this strong support when most of my own family members are so far away. Thanks a lot, DD, for everything you have provided to us and helped us to become better persons and matured scientists. We would also like to thank Abha for providing all of us this home-away-from-home during our stay in his group. We wish you far greater success in science and healthy personal life ahead for many years to come.

The Bond

-Beena

I had the privilege of spending nearly two years in DD's lab as a post-doctoral fellow and I consider those years as the most memorable years of my academic life. Nearly fifteen years after leaving DD's lab, the connectivity and friendship shared by DD's students is the best proof of his integrity as a leader and mentor to his students. While maintaining the highest academic quality, DD made sure that his students are also enjoying their time in his group. DD's love for food and his contagious laugh always reminded us of the lighter side of everything. He considered each one of us as his family member and his house was always open to his students. DD always found time to make our stay in his group as memorable as it can be and he never compromised on the quality of work carried out in his lab. The frequent visits to the coffee shops and nearby eating joints were never short of scientific discussions as well as hearty laughs. Every scientific institute in India has one or more of his students occupying leadership roles and each one has taken little bit of DD with them in their love for science, work ethics and the importance that they give to their friends and family. Even after being in different parts of the world now, the occasional phone call and visits within his group members are examples of the value of friendship that DD shared with his students.

I would like to wish DD all the best on his 60th birthday and hope that many more students will have the opportunity to spend few years of their scientific career in DD's group.

DD *as we all like to call him!*

Akshay

DD, as we all like to call him affectionately, is a powerhouse of knowledge, always full of energy, ever ready to hear your problems - be it personal or professional and help you in any which way he can. He is a wonderful human being and is great fun to work with. The most important aspect of DD is that he will try and make people around him happy and I truly believe that one needs to be happy to be able to do good research. He will argue with you on various mistakes that you make but only with the intent of encouraging scientific thinking and point out your mistakes and tell you to go think about what are the possible ways of correcting this.

DD is a friend with you when you are in tea-board or coffee-board with all his one-liner punches and a true mentor when you are in class or in the lab. I still remember when I first came to Bangalore to join his group as an intern, he had personally made sure that my accommodation, my stipend, and other required stuff are taken care of so that I feel comfortable at every step. I still cherish those wonderful few months I spent with DD and everybody else in the lab.

Manik Goyal

I joined DD's group as a project assistant after my graduation. I was fortunate to get this opportunity. DD is always a great inspiration for me. His enthusiasm and excitement towards science is exemplary. He always insisted that we call him by his name. I never called him by his name though and was scolded by him many times for this :-).

Apart from this, he is very friendly and easy-to-talk person. His guidance and suggestions gave me great insight into my scientific career as well as personal life. He has been very motivating, encouraging, and enlightening.

Raghu

I joined SSCU as a student in DD's lab in 1995, but later worked entirely in Prof. Ramasesha's group for my Ph.D. I was assigned work on building a detector for the inverse photoemission spectrometer that was being built in the lab. I soon discovered (to my dismay!) that it involved considerable amount of electronics designing (as opposed to purchasing and just interfacing which is the trend now). My allergy was to electronics, which I had never been comfortable with in my B. Sc and M. Sc days. All students in DD's group those days were required to credit a course in CEDT on op-amp applications, which was essentially a course for M.Tech.'s. For me this was really a disaster! After much introspection and self torture, I was of the opinion that if electronics was a must, then I should quit Ph.D. I mustered enough courage to convey my thoughts to him. DD was firm about the course, yet being pleasant and flexible, he said that I could do theory with Ramasesha or anybody else if I really wanted to and the person agreed to it. Ramasesha being his close friend and colleague, this turned out to be a solution to my problem. I can now say that I got a Ph.D. in the first place due to that magnanimity displayed by DD. Later, after a post-doc at Arizona State University, I came back for a very short while to DD's group, and again he offered me a position when I had none. It turned out that my stay was short again and I moved to General Electric research center in a few months time. I wish him, Abha and his larger family all the best moments in life ahead.

My Experiences with D. D. Sarma

- John Freeland

Argonne National Laboratory

As you all know well D.D. is one of the premier scientists of mediocre status, just kidding. It goes without saying that his impact has spanned both length scales of the earth and time scales from the 20th to 21st centuries. This is seen clearly by the fact that his scientific input is in so much demand which makes him travel so much that his positional average could be located just about anywhere between India and the rest of the world. I personally have had a very fruitful scientific interaction with D.D. ranging from my first visit to Bangalore in 2010 through our Indo-US research endeavor, for which he impressively led us into a 4th year of funding. Here in the photos you can see his staunch leadership as he lays out our plans to redefine the world of oxides during a meeting in Kolkata in 2013. On this topic though, I think this is well established that he is at the forefront of science and from hereon I want to share my experiences on the personal side.



When I first visited Bangalore, which was my first visit to India as well, D.D. had invited me to participate in a meeting with his Swedish collaborators. (You see how wide his web extends). This for me was a wonderful trip as he is a supreme host. He commands all his



students to take care of you and then disappears to a meeting. Although I do have evidence that we spoke while visiting a local eatery. Now that I think about it, you see D.D. is speaking, which is something that I have the subtle impression he likes to do from time to time or maybe all the time. After several days, he reappeared again (just kidding), and then we made our way to the meeting the Orange County resort, where we were completely spoiled by good food and science in the midst of a coffee plantation.

It was on the way to the resort in the bus that we had much time to discuss various topics and, at a roadside food place that had excellent dosas, I learned what I think might be a rarely mentioned fact of D.D.'s past. Even though he lives in the south of India, he is Bengali. In addition to this I think he might have told me as well that all the Indian Nobel prizes in literature from Bengalis and perhaps some other intriguing facts of Bengali greatness that I cannot now recall. His Bengali nature as you will



see became an important aspect of his character that will appear as a thread of our great relationship. At the resort he again demonstrated his ability to lead by not only being willing to climb a rickety bamboo ladder to find some pepper growing on a tree, but his charisma enable him to convince our good friend Charlie, the infamous Swede who led to my being there in the first place, to eat one of the hottest peppers in the world. Turns out I think that no one actually eats these and they are used to make pepper spray, which he uses to keep his students at bay. Poor Charlie turned quite red, but never complained as I think he is a bit crazy and likes to try these kinds of things.



This trip started what I think has been a great friendship and, I have to say, my love on India. Since I had to come back, we somehow hatched an idea to get someone else to pay while attending a conference in the far north of India near the city of Manali. On the 12 hour car ride through the mountains what I think was a single lane road with no barrier to keep us from falling to our death and lots of traffic, D.D. began my education in Indian religion. When we stopped along the way and I remarked about the drive, he reassured me by explaining to me that it was a fundamental reason one should believe in reincarnation. This left me calm for the rest of the ride, yeah right! Obviously we did survive and while at the conference, had a

fascinating experience of taking a tour up the Rohtang pass in the Himalyas. However, when we reached the village at the bottom of the pass, we encountered an issue. The drivers informed us that they were not paid to take us up the pass. Even though D.D. was not an organizer of this trip, due to his leadership skills, he quickly took charge (you can see how hard he is thinking in the picture) and got us moving up the pass. I am not quite sure how he did it, but I suspect he used a Bengali connection with one of the drivers, which I found out was one of his powers in my most recent trip to Bangalore.



He had invited us all to dinner at The Higher Taste restaurant, located next to the Hare Krishna temple. Upon arriving at the temple, we were told that we could not proceed. Rather than seeing a barrier, D.D.'s fast talking uncovered that the guard was a Bengali and he quickly made a connection and we were whisked through without further problem. After parking we decided to see the closing of the temple and realized at the entrance that no cameras were



allowed. Was this a problem for D.D.? Of course not, through some more quick talking, he found that this man was Bengali as well and again we were allowed through. Wow, I was amazed that in the south of India he would have so many connections to Bengal. Now I think that perhaps D.D. has an entire secret network that enables him to solve problems with such ease. Regardless, we had a wonderful time and fantastic dinner at this very unique vegetarian restaurant.

Humorous anecdotes aside, it has been a real pleasure crossing paths with D.D. I feel that I have formed not only a great scientific collaboration but also made a deep friendship that will last. I also want to note, that he has a wonderful spouse, Abha, whom I have really enjoyed getting to know as well. She is a truly kind hearted person who has made me always feel welcome. I suspect that she is the true force behind D.D.'s success and probably keeps him out of lots of trouble.

Written with heartfelt enthusiasm,

A handwritten signature in black ink, appearing to read 'John Freeland'.

John Freeland

P.S. As a personal note to D.D., all joking aside, I have really enjoyed our friendship and look forward to continuing far into the future.

DD and music

During a very tiring beam time I clearly remember complaining with the team (and DD), that not only I was going back to sleep in the guesthouse at four in the night (I was doing the late shift with him) but I could hardly sleep, since there was a very strange and persistent noise in the hostel: something in between a song of a bird (who could not sing at all) and water running into a heaters tube. DD commented very seriously that he also could not sleep at night right after beam time but he had a trick to rest anyway: playing the Indian flute! We looked at each other and we immediately realized we had very close rooms!

DD and terminology

Once in a conference dinner we were discussing with a Swedish colleague and DD asked, "Where do you come from?" He said, "From a little village close to XXX."

DD always curious to get the right order of magnitude asked, "What do you mean by small village? How many people?" and the Swedish very seriously replied, "About 300 people!" DD's comment was very analytical; he said, "AH! We call it a family!"

Instances: DD and . . .

-Roberto Cimino

DD and units

Once we were driving together in my car and I was running a bit fast, and I saw DD was getting worried so I speeded up a bit more. He looked at the speedometer, then at me and just asked very politely, "Is it in miles or Km?"

DD and Results

If you are looking for the wild pig you have to look behind every bush! There was a saying showing how DD appreciated research more than getting results: Pleasure is in trying, not in succeeding. (But I could not understand why he mentioned this, not while discussing a possible PRL, but more often when discussing about women and building up families! I still do not know why!) SO give him a big hug from me, Italy and CERN where I'm at present saving money to invite him to dinner next time!

Interaction with DD

Atsushi Fujimori



1. I met DD for the first time in 1984 when I stopped by Julich, where DD was working on uranium 5f compounds.

2. Around 1985, we exchanged airmails (not emails) on cluster-model calculation of NiO.

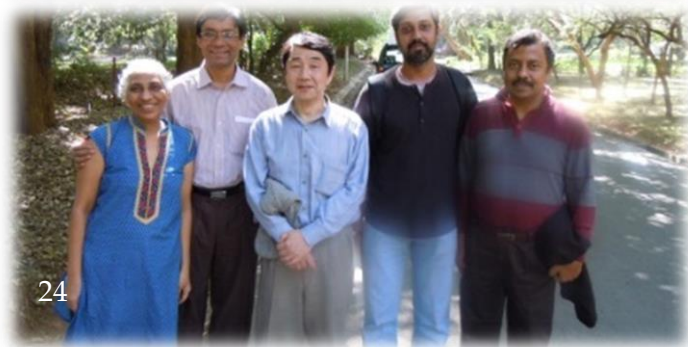
3. DD spent sabbatical in my group in Tokyo in 1994.

4. My first visit to DD's group in 1996 (to attend an SERC School in Bangalore).

5. DD's second sabbatical in Tokyo in 2001-2002. Many joint publications appeared during and after this period.

6. From 2001 to 2015, we jointly organized six Indo-Japan Workshops (on correlated electron systems) in Tokyo, Bangalore, and Kolkata, and will organize another one in 2016.

7. In 2008-2009, we carried out an Indo-Japan Collaborative Research program together with Priya and Indra, supported by DST and JSPS.





10 nm

Jagjit Nanda

1 Memoirs from the 1st Nano student

*It was the year 1994, many changes were happening around IISc and in general in the science arena! The area of nanoscience and nanotechnology was gaining tremendous attention! D.D was on a sabbatical to Germany in the summer when I was picked to work with him as a PhD student! After juggling around for almost a year and half working on mini projects ranging from computation to strongly correlated oxide materials, D.D and I finally decided that it might be worth to begin full-scale research on colloidal semiconducting nanoparticles! With support and guidance from experienced postdocs like Md. Shafi and later Beena Annie Kuruvilla, we set up the nanomaterials synthesis lab in the upstairs MRC labs. Soon we became synthesizing a host of nanoparticles, CdS, ZnS, PbS and their doped versions using a variety of organic ligands. This was clearly out of my comfort zone, being trained mostly in physics during my bachelors and masters! Given the multidisciplinary areas of research done at IISc we could get wonderful support from biochemistry labs in carrying out *state-of-the art* organic solvent distillation for growing size-selected nanocrystals. Two decades later and with several outstanding PhD students it became on the pioneering research group working on the electronic structure and photophysics of collidally grown inorganic nanocrystals and hybrid heterostructures!*

I would like to recall some really good time and a few incidences during my graduate school days spanning 6 years (1994-2000).

Speaking Hindi and Chewing Paan!

I was one of the early batch of PhD students to join DD. When I joined in August 1994, Ashish had left a year ago or so and Sudipto was done with his thesis and ready to leave for his postdoctoral venture! The group was relatively small, Kalo, Krishna, Seva, Shanti and Priya. Within a short time Nirmala and Shafi joined the group. The medium of communication was mostly English and locally Bengali between some! I started talking a little bit of English and Hindi mix. This was liked in the group! Soon most of us enjoyed our non-scientific conversation in Hindi! It became really popular in the group and this trend continued with newer folks Ashwani, Sameer, Debangshu, Dinesh... I do not know how it is now! Nirmala used to sing Hindi songs at the MRC upstairs labs while grinding her samples. In the weekends, I happened to go to Yeshantpur to get some sweet paan. Once, after a good Saturday lunch I chewed paan and came to Lab... DD noticed my red lips and yelled "Paan khake aaya hey, hamare liye kahan hei!" After that, during our wonderful dinner parties at DD's place, I made it a point to bring paan for all! It was quite fun. I also fondly remember the wonderful birthday parties for children (Atish, Anish and Akash) where we all were invited to DD's place. After a sumptuous dinner we usually had some music and cultural activities.

Lunch Time:

Most of the time when DD was in town, we all walked during lunch from SSCU building to B-Veg Mess (then); DD would then proceed to his residence in KV campus (I remember SD block!) for his lunch... Sometimes we would coax him to join us in our mess for lunch and he would happily do so! Majority of us then used to go for lunch and dinner together from lab- it was almost like an army [Nirmala, Krishna, Ashwani (late), Beena, Priya, Kalo (B non-veg)] marching with DD...

Tea Board and DD's extended family

In later 1997 or early 1998, the tea board was opened near the computer science/civil engineering building! Our group was quite frequent here for afternoon and evening tea! During late afternoon/early evening our entire group would assemble there to have snacks and tea! We would mob the place and get noticed by the IISc community for being a wonderful team!

DD, Through My Eyes

Ranjani

At the time of joining IISc, I had no idea who I was going to work with and I had not even heard of the name D D Sarma. Slowly, over the years that I got to know DD, there are several things that I admire him for, not least of all his scientific prowess. However people who have interacted with him even for a short time know him as a witty, compassionate person with his big Smile who brings a smile on your lips. I have tried to narrate below a few instances that will hopefully bring a return smile on him.

My first real interaction with DD

Enter D D Sarma into a class of first year integrated PhD. "Well, I think all of you know my name. I am D D Sarma and now introduce yourselves." We were all left wondering.... "Yes, we all know you are D D Sarma but what in the world does D and D stand for." Our curiosity was irked and we asked several people. Believe me or not, we asked at least 20 students who knew him and we still did not get an answer. No one knew. After about 20 students, we started getting guesses in parts and it took us 2 months to figure out what it was. It was much later about 3-4 years later that I found out he actually thinks of DD as his name, again in a strange scenario. He met with one of Akash's friend's father in front of me and introduced himself as "DD". The other person was baffled and looking at that look he said, "Well Dipaaan..., but people call me DD."

More stories about calling him DD

DD was back after about 5 months on sabbatical. Raj and me were both relatively new entrants to the group and had not interacted with him much before he went on sabbatical. So most of our interactions were through email. About a week before DD arrived, Raj had gone for his PhD viva and to collect his degree certificate. Having had to deal with a lot of administrative problems, this was a big accomplishment for Raj. Then when DD arrived in the lab, he took some blue print of his IPS spectrometer to discuss with DD. The conversation between DD and Raj at that time...

Raj: DD, I did

DD: Congratulations

Raj: Thank you.

DD: He did not understand why I am telling Congrats. I am sure.

Raj: No I know. It is for getting my degree.

DD (With his characteristic laugh): No it is for graduating from "Respected Sir" to "DD"

Till then Raj had been writing emails to DD starting with "Respected Sir" and this was the first time DD heard him call him by name.

DD's interaction with his students:

Before I joined his group, we were having tea at Tea Board when he came with his entire clan. They all bought snacks and tea and started having them. The smokers started smoking their traditional cigarette. This clan included DD at that time and I was surprised to see how comfortable DD was smoking in front of his students. This was only later clear to me as I joined the group as to how close he is. In fact, I was not the only person to be baffled this way. Later, after I joined the group, DD finally gave up smoking completely. But of course, students were still allowed to smoke in front of him. So it happened, that I got my first junior, Angshuman, after three years!! The first day Angshuman arrived in campus, we all went out for tea along

with DD. We were all trying to understand the likes and dislikes of Angshuman. In this process Sugata asked in front of DD, if Angshuman smokes. Angshuman was shocked and that look on his face was really worth remembering. He could not understand how one can discuss all this in front of DD. He hesitated answering. Then DD immediately pounced on him and said he smokes. That look on his face tells it all.

“Next time you put a "h" in my name, I am going to remove it and put it in between "S" and "a" in your name "Sarma" ”

Much later, we found out that Angshuman was not at all a regular smoker but having taken one odd smoke here and there, he could not tell no or yes in front of DD.

In another episode, I was writing my first or second paper with him and was still quite young in the group. He returned the corrected paper, which by the way was called "green revolution" at our time. Among the many corrections there was one correction that I did not agree on and that was correcting my name from "Viswanatha" to "Vishwanatha". Maybe he really thought it was the correct spelling. But I went to him and told him that next time you put a "h" in my name, I am going to remove it and put it in between "S" and "a" in your name "Sarma". He laughed loud and never wrote my name wrongly again. This was the amount of freedom a young student in his lab could get.

DD's attention to detail and multitasking:

Anyone who has been a student of DD certainly knows how picky he is about plots. What he achieved out of this is completely different story but I am not talking of just these kind of attention to detail.

We were once sitting in his office discussing some results and someone knocked the door. He did not even budge one little bit or turn around and see. He just made a statement: "That is Priya." It was indeed Priya and I was surprised how he knew. Another thing about DD is that he takes a lot of pride in explaining how he did it and I believe eventually wants us to be partners in crime. So he said, you know Priya is short and the knock came at Priya's height. So I knew who it was. Everyone has a different style of knocking. It is probably true but what surprised me was that he actually paid attention to all that. It is a common gesture for all of us that he is continuing with his work on his keyboard with his back to us when we enter. How many of you have wondered behind all this work, he also knows who is the character who has entered the office, probably even why he/she is there and how he can fix us. If it is indeed a relatively new person, he has also at times asked who is that.

Another example for his eye for details: Student: Can I come in?. DD: Have you broken your foot. Student: No!!!. DD: Then I don't see why you can't come in. Many such episodes of him correcting our English can be noted.

“He said,
you know Priya
is short and the
knock came at
Priya's height.”

DD's Culinary skills:

One of things that I remember about DD and his parties at home is his pride (or show of pride!!) about having cooked this, this and this. Believe me, he is a very good cook. But more than anything else, it is his child like enthusiasm to enjoy life to the fullest that is very addictive and contagious. Even to this day, after more than 400 publications, I have seen him jump up and down because another paper got accepted. Or just to prove that he can do it, he can have arm wrestling with his students or happiness out of smallest of small successes. One day, I had seen long range ordered nanocrystals on the STM and DD was very excited about it. Abha happened to visit the lab and he brought her around to show her these nice ordered structures. He started describing how nice and round they were and Abha asked that she can draw better circles than this. This did nothing to reduce his enthusiasm

and the non technical argument of the good ordered structures went on at least till dinner time between the husband and wife. For all you know, it may still be on.

One interesting email conversation with DD:

DD is well known to send emails long after the Europeans have fell asleep. This was one such email, when I was in Italy. DD: As for the bandgap variation and crystal structure type project, I suggest that you find the poor dog --

I asked him what he meant by that. He said he just saw that and realised that he was typing in complete nonsense! He had no idea what he was dreaming of but that he had dozed off and was sort of stuck with some kind of a conversation in a half dream and could not stop typing. He even made fun of that by asking " Incidentally, did you (or did you not) find the poor dog?!?! "

Another One: DD, How does this sound?

.....

DD: This is better, as it is sufficiently lower than mine.

DD: Can you look in to some more and see if you can bring it down further!

:-) (Actually do not try, I am just joking!)



A cartoon of the DD as I saw him in 2006, at the time of graduating.

DD's ability to joke about himself:

When we are stuck with some problem with the VSW machine, of course, knowing that machine inside out, he would suggest go and look at that screw or this flange etc. Then he would first ask us if it worked and after the confirmation, he would

pride that he is glad that he is still useful. He knows something that his students did not.

DD never gives up easily on even seemingly impossible proposals. When you get back saying that is impossible, he always smilingly says " I trrrrrry." It is amazing because of this, how many impossible deals he actually manages to walk away with.

DD: After watching inception: Abha asked if you could fast forward time by going to a higher level, you would do that for the reviews of your publications instead of waiting for it. He immediately replied no, I would have them published.

In a conference where many of his students were giving talks: I do not have to give a good talk because no one gauges me on my talk but rather on the talk that my students give. At most, if I give a bad talk my students will be embarrassed and this is my way of getting back at them. They have embarrassed me enough and now it is my turn.

“When you get back saying that is impossible, he always smilingly says " I trrrrrry."”

His ability to connect science with jokes: Priya, come here I have to demonstrate something. Look I have a demonstration of DFT theory. Wherever I am, I form a exchange hole. There were a circle of students surrounding him at a particular radius looking like a hole.

Another such joke: He was giving a talk on twinned nanocrystals. He said, those who have known me in my personal life know that I have an affinity for twins. The twins can make you work but you cannot make the twins work for you punctuated by a loud laugh.

DD's self account of his exploits:

During his IITK days, he was being very naughty in class and not listening to his teachers. By his own description, he was busy trying to get the attention of a girl student who was sitting in front of him on the other side of the room. This "girl

“He was busy trying to get the attention of a girl student who was sitting in front of him on the other side of the room.”

student" happened to be listening to his account of this episode talked of much later and is now his wife Abha. That was when very "attentive" teachers like Prof. C. N. R. Rao noticed him and shouted "Hey you". He claims that though he understood he was being called but he tried to pretend otherwise. Then Prof. Rao immediately took a chalk piece and hit him straight on his forehead with perfect aim that he remembers this episode for years to come.

DD has always been known to travel a lot. But his travelling has continuously increased over a period of several years that I have known him. So also is his self acceptance o f how much travel is permissible. In 2000-2001, he used to claim that he

recognizes some of the air hostess, especially the good looking ones but they don't recognize him. The day they start recognizing him, he knows he is travelling too much and that would be a disaster. Fast forward to 2006 (When he was on leave in Kolkata and his family was in Bangalore) He must have forgotten what he had said a few years back or must have thought it is best to rotate the table now and hoping that no one would remember his previous exploits. Several days, he would come to lab bragging, "you know now the air hostess in all the flights I travel know me. The moment I board the flight, they give a smile and say "sir, we knew you were coming because they have loaded your food." "He used to add that he always orders a special meal of sea food and so they not only remembered his face but also remembered his food preferences!!

Growing Old:

Regarding his steadfast black hair: I have to colour my hair grey because I don't get respect otherwise.

DD's standard dialogue when you complain that you have no time to get things done: "You are telling meeeeeee that. Imagine all the things I have to do. So don't complain to me that you don't have enough time." He has been telling me this for years. But there is a slight twist to the conversation after I became a faculty. So I start, "DD, I really have no time to get things done. I now understand what you were talking of when we complained the same as students. Being on the other side is tough" DD's reply: "You are telling me that. Imagine my fate, at this age I have to do sooooo much. You will understand when you are 60" I complain that this is not fair and he starts off with his usual naughtiness, "That is the advantage of being the older one. There is only one time you can be my age and at that time, I will not be there to answer you."

DD's version of what he considers success in training students:

DD has told me several times that he believes success is when someone who was so much against your policies, has put up the same policy in their lab. He has given the example of Kalo many times. He claims Kalo was so much against his "No regional language in lab" policy. He is sure that Kalo and many many others have cursed him about this a lot. However, now Kalo has put up a same policy in his lab and this he believes is true success. He claims that is when you know the student has understood the reasoning behind your policy.

However this is a very famous policy and many of his students have encountered this. But here given below are his equally strong but not so much touted policies that have had a personal impact on me and I would like to thank him for these and many more.

I am sure many of us have walked out dejected from his office thinking: The essential point is there. Why can he not see and tell me what to do next. Why is he nitpicking that the units are wrong or the scale is not the same in the two plots etc etc. These are not publication quality figures. We will correct it shortly. Gradually, in order to avoid a dead zero from the hard earned time with DD, we started making better figures even to show it him. DD, I believe, I now understand your logic. Good figures should be ingrained in you and should not be only for publication. Needless to say, same policy in my lab. DD showed us not to ignore even the smallest of small signals because that is where real science is. He used to constantly tell us much can be achieved by a simple smile.

DD had a policy when celebrating the birthdays in labs. The birthday boy/girl gets the first piece of cake followed by the guests to lab. Thereafter it goes from youngest first. He used to actually put in the effort to figure out who is younger and go by that order. I

cannot claim I understand this policy but I like it and so the same policy holds in my lab. Other policies that I am yet to understand is his definition of 4pm, 16th June, 2015, for a visitor, colleague, group alumni, current group member, his family and most importantly himself. But in DD's own words, I wish it takes me at least another 60 years before I understand that.

“DD showed us not to ignore even the smallest of small signals because that is where real science is.”

Conclusion:

His statement about his shouting when I was a student: make sure you keep me shouting because if I am not, that is when I am really angry.

His statement about his shouting when I was a faculty: shouting is only a front that I put up to shape all of you. Using shouting as a forefront, I have carved and shaped all of you into your best without anyone realizing it.

DD, whether we agree on the "without realizing" part or not, we all agree that you have indeed shaped the best out of all of us. Thank you DD for all the intricate carving that you have done on us.

Prof D.D. Sarma, affectionately called DD by one and all, *is* a man with diverse interests, versatile in various fields be it condensed matter physics, *solid state chemistry, spectroscopy, materials science or nanoscience*.

I recall my first visit to IISc .During our discussions I addressed *Prof D.D. Sarma* as "Sir" and Prof D.D. Sarma insisted that I have to address him as "DD" like all his other students and faculties. I was shocked coming from very formal and conservative set up of CSIR. DD continued pulling my leg and started calling me Prof Rayalu until I gave up "Sir" and started addressing him as "DD". Prof. Sarma is an institution by himself and is widely respected and admired not only by his students and faculties of IISc but many more colleagues and students across the country including researchers like us in CSIR.

I recall his greatness and sense of humour when he visited CSIR-NEERI for CSIR foundation day lecture in April 2013. After DD's lecture, the audience was spellbound and in awe of his gigantic memory when he narrated nano-science and semiconductors and their applications for environment and energy. When I complimented him for his memorable lecture DD's cryptic and sense of humour came to surface and he said "I hope I was up to mark and have not let you down."

Prof. Sarma had uncannily captured the audience at CSIR-NEERI with his sharp memory and his superb teaching prowess .The content and style of his popular lecture had a blend of theory and practice that had won him the

VERSATILE

DD

Sadhana Rayalu

respect of school going students to senior researchers and academicians in the institute .Researchers in our institute are waiting desperately and looking forward to his next very illuminating lecture.

DD's authority and mastery in science is unparalleled but at the same time he can be judged as an eminent personality who handles "science" and "humanity" with equal ease. When I was depressed on my son leaving for US for his studies, DD made me realise a few things which helped me understand and accept my son's decision. There are only a handful who would find time in their hectic schedule to attend to personal problems of colleagues and students. These gestures are hardly seen nowadays.

I had the privilege of writing some joint manuscripts with DD. I realised during the course of interaction that he has a profound influence on researchers. DD is a living example of all that stands for excellence of the first order in the academic profession; however, his humility and modesty in handling situations when things are not upto the mark or upto his satisfaction is something which we many need to learn and inculcate.

DD is an excellent educator and has made a significant difference to the style of our working at CSIR-NEERI. We debated several times during our

interactions and he allowed it and in fact encouraged it. This is something beyond my imagination coming from the hierarchical structure of CSIR. His teachings and directions have left a permanent impression upon us.

Considering the multidimensional and multidisciplinary nature of TAPSUN project it is required for the mentor and the chairperson of this project to have *broad range of specialisation, and it was therefore* inevitable that CSIR selected Prof Sarma with widely varying research interests as mentor and chairperson. There would have been problems in ensuring a balanced growth in all the project activities unless there was an astute mentor like Prof. Sarma. He aligns himself to the needs of each activity ranging from photovoltaics to solar fuels and has been successful in evolving substantial growth keeping in mind the interests of all the activities involved. We are better researchers today because of him asking all the hard and unpredictable questions. The hundred odd questions posed by him sends us scurrying and looking around for answers .I sometimes think he deliberately provokes us to bring out the best in us. The testimony to this is the fact that none of my students, colleagues and myself dare to meet him with half-baked ideas and calculations!

DD is walking encyclopedia of information in his field, a motivator and a knowledgeable teacher .His principles and ethics are something we all need to learn and imbibe.

I keep sending my students to work and spend time with Prof Sarma and sometimes wish I was also a student!

Jobu Matsuno

I am pleased to add my congratulations to Professor D. D. Sarma on the occasion of his 60th birthday. Through our collaboration on LAO-STO interface, he kindly gives me a chance to participate in the main part of the project with warm words of encouragement. I appreciate him very much since I am learning a lot as well as really enjoying science. I believe that my case is just one example of DD's greatness, illuminating the younger scientists around the world.

This happy collaboration might be owing to Prof. Fujimori, my PhD supervisor. Nevertheless, let me point out that I was a member of Fujimori group during 1995-2000, while DD made long stays at the group twice, 1994& 2001; I had been a very unlucky student in "DD gap" (I also appreciate his improving my fortunes) .

I wish DD continued good health and happiness.



Banquet of the 10th Japan-Korea-Taiwan Symposium on Complex Electron Systems at Himeji, Japan on March the 12th, 2010(from left to right)Dr. Jobu MATSUNO, Dr. Ayako YAMAMOTO, Prof. Hidenori TAKAGI, Prof. D. D. SARMA, Prof. Atsushi FUJIMORI.



डॉ. एस. शिवराम

सी.एस.आय.आर. भटनगर फेलो

Dr. S. Sivaram

CSIR Bhatnagar Fellow

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A Message to DD

It is indeed a great privilege and pleasure to be invited to pen a few lines in honour of DD on his sixtieth birthday.

Remarkably, DD and I got introduced to each other only about six years ago; yet our relationship looks as though it is many years old. That is DD for you. We first met at the CSIR Headquarters in New Delhi brought together by the then DG CSIR, Samir Brahmachari. We were beginning to plan a CSIR wide activity devoted to products and materials based on Solar Energy. Little did I realize then that this chance encounter would transform into such a great and fulfilling relationship.

We had many opportunities since then to be part of several committees. We have also, together, mentored a large CSIR programme on Solar Energy, acronymic, TAPSUN, involving 150 scientists across 15 laboratories. One of my last acts as Director of National Chemical Laboratory (NCL) was to invite DD to Chair the Research Council of NCL.

In the intervening years that I have come to know DD well, I have admired his human qualities. He is kind, understanding and at the same time firm. His ideas are clear. His passion for excellence is palpable. Together, in committees we have made some tough decisions. He always was fair and transparent and often raised contrarian views, which stimulated new thinking. His knowledge is prolific; yet he is modest and down to earth.

Ability with humility and accomplishments without amplification are hallmarks of great men. DD embodies the best qualities of head and heart and inspires us all. I deem it a privilege to call him my friend.

I wish all happiness and good health to him and his family as he crosses this magic milestone of sixty. DD, I look forward to more years of friendship; and the country looks forward to your self-effacing scientific leadership. We are also sure that the best of science is yet to come from you.

With your friends, former students and family, have a great birthday!

In one of our usual evening tea sessions with DD at the Tea-Board in IISc, the topic came up about the all pervading "curd-rice". Quite a few of us (especially Bengalis) including DD said that they were not very fond of it. Someone (I think Ranjani) then commented that its not only quite delicious to people in the South, but also good, especially for stomach upsets, as it seems to cure it. Then came this (blasphemic?) statement from DD: "Yes, indeed! Its good for curing stomach disorders ... It's in fact so awful that even the germs die of shame!!!" :)

Some of us, along with DD, were attending the marriage ceremony of one of our post-docs, Ajitha, at Chennai. The groom's relatives (the groom was Russian) were having a chat with DD especially about the elaborateness of the ceremony etc. DD instantly quipped: "Do you know why marriages are so stable in India with very few divorces?? ... The ceremony is so very troublesome (as you are witnessing) that no one wants to go through it a second time!!!" :)

Snippets by Subhra

One of DD's standard advices:

"Never speak faster than you can think ..!"

One of the common anecdotes about DD was that, he violated the law of physics that "Light travels faster than sound". The reason: You could always hear DD before you could see him!! :)

He was also often jokingly referred to as a "Visiting Professor" in SSCU, because of the amount of work related travel that he did.



DIODE

the first hurdle

the power on, there was a big BOOM..... Everyone including Sugata, Sameer, Debu, Subhra, Manju, Ranjani gathered near me and there was a lot of smoke. Now the biggest thing is how to tell DD that I have blown the diodes. In fact, DD was in Tokyo at that time. I checked with Varion and found that each diode costs more than Rs. 15 K and I have blown altogether 4 diodes! It was a nightmare! In those days yahoo messenger was popular and we were using yahoo to chat with DD as he was out of station. For first few days I tried to explain what happened and it was my conclusion that diodes were not good and that's why it did not work properly but it was very hard for DD to buy my explanation. Anyway, I started to understand diode after joining as a post-doc (previously I was thinking I know electronics a lot!). I read almost all types of diodes available in universe to find a cheaper solution to the original one, as it was too expensive to test once again. After a long re-search of more than six months, I found a diode in local market which costed Rs. 80 only, and I was very much hopeful. Now the time had come to test it! I discussed with DD and got his permission to do once again a big BOOM, incase! I fixed the diodes and asked DD to be online and it was really exciting. Lot of nervousness! But, I switched on the Ion pump and WOW! It peacefully worked as expected. I ran towards computer screen to type in messenger that DD, it's working perfectly! After a few years also the power supply was working without any failure and that's how I surpassed my first hurdle in DD's lab.

I was very excited to work with DD when I got a chance after my Ph.D. After my few interactions with DD I realized that I had to setup an Inverse Photoemission Spectrometer (IPS), which can map the unoccupied density of states in solids. Fantastic project! But very soon I realized that the biggest problem is to make the Ion pump work as its power supply was not in good form. Thinking that this is not a big issue, Dinesh and I started putting those high voltage diodes (~ 7000 V, a sure killer voltage) to the power supply (first time in my life I had an experience to see those big diodes from Varion). As soon as I switched

-Satyabrata Raj

Mesmerizing DD!

-Sameer Sapra

The first time I remember DD mesmerizing me was when he entered for the first lecture and just laughed continuously for the first five minutes. It was, I must say quite contagious and SachinParashar was the first of the lot to get his first lesson from DD.

The second occasion I remember quite vividly was when he invited the entire class to visit his lab. Before entering the question was posed "Whooo smokes here?" Being the prospective candidate who would later join his lab, I meekly raised my hand and sealed my mouth at the same time. "Aah no neeed to feel shy. Even I used to smoke earlier". The moment of relief came within a couple of hours when we all saw DD with a few other faculty members in the staff canteen – you know doing what?

This was something amazing and happened within a few days of me joining the lab. Sugi and I were in his office and he calmly asked us – how many hours will you work? And out I blurted some number and Sugi, the devil, was quiet as always. Pat came the reply "if you wish to do science you have give 24 hours a day" – "Yes, DD". And out came the two of us when Sugi told me – "I have heard this from some seniors so I kept quiet" – you see the devil in the beard, no? But yes DD, it's a full time job :-)

And then one day DD said all of you are unfit. See I am so fit even at this age. It must have been the wicked Debu – "DD look at Sam". DD was quick – "Let's have a bout of arm-wrestling". Now I definitely wanted my PhD degree so could not refuse him and for reasons similar, couldn't defeat him either, so after a bit I lost. But look below and you will know how he had prepared for it the previous day.

I really wish him a very fit and healthy life and would be happy to be defeated all over again :)



The 14 Questions

When my post doctoral term at TIFR was nearing completion (early 2005), I had applied to DD for a PDF position. I had heard DD during conferences and symposia before, but got a chance to hear more during DD's visiting professorship at TIFR when he gave a series of lectures. I said that as a primary motivation and also cited his very early work on Ce- and other rare-earth based alloys. Having sent the CV by email in the morning, I received his email back that afternoon in which he had listed quite a number of questions to me with a possible offer upon hearing my reply! Well, to count, I think, there were fourteen Questions (Q-s). I knew that I could answer seven of them because they were straightforward. In fact all of them were straightforward Q-s :-) but only these seven could be answered straight back. Among the others, a few could be attempted, but a couple of them were difficult ones. I wasn't sure and still kept my reply in draft mode and went to discuss with my friends and well-wishers about what should I do, over the tea and later dinner. On seeing the mail contents, my then Professor S. K. Malik, just said, 'yes, you must send in your answers early'. Ashna didi (now at IISER, Pune) told me simply that 'of course, Nirmala, if DD had called you, you must go. Reply now'. Dr. Kalo wasn't very reassuring because he *smiled*

upon hearing about my not-so-sure answers and the tougher questions part. When I logged-in after dinner, I found DD's second mail waiting which crisply said that he always appreciates receiving a reply on time. Receipt of this reminder made me too scared to worry further, and to just send the drafted reply adding a note that I could not think of answers for the remaining questions. The rest is a memory-- I received the offer and later upon joining the duty, on day one, DD said "So Nirmala, I did not interview you for this position but offered. Let me at least ask you some questions now!" I thought he might ask those remaining Q-s. Luckily for me, he did ask some questions on magnetism and spin glasses for which I could mumble some answers. He then took us all for a group Tea. [Well, I still do not know whether I can answer those unanswered questions, but certainly not going to remind him those...]. The point I learnt later from him, is, amidst his hectic pace of work, commitments and trips, DD ensures that he replies all emails in their due time. Thank you DD, for everything. Happy Sixtieth and Wish You Many More...

There could of course be more memories, good and sad, but I believe that I will always cherish this first interaction.

-Nirmala

Different Kind of Confidence

I have spent hardly a year with DD and his group but I became a member of this DD family the day he said that I was a “Goru”, within first 2-3 days of my joining. I was never used to moving around in such a huge group. I had started thinking that he chooses students such that they match at least his physical height! When all of us used to go for tea, there would be so many tall people walking that no one could ignore them; DD, Sugata, Dinesh, Angshuman, Ranjani! I was really smaller than them in all respects.

When I joined him I was not used to working till late. He would give a call or rather he used to get time to discuss only after 12 AM. Initially my eyes would get all red due to sleep deprivation. And on top of it he asked me to write a project proposal on some strongly correlated systems of which I had

fact, I hardly knew anything

spent many nights with

department to understand

with something to show

very well that the

a student in his or her

what he said to me was

confidence was raised

that when I decided to

you were hard working

good! I know now that he must

and I have never told this to him but

came back to Pune, my husband told me once that I see a different kind of confidence in you even when you drive the car on a crowded road. This is what DD could do to a person. I have so many memories from my days in his lab. I don't think I will ever be able to put them on paper. I can only say that I have spent the best of the time of my life in his lab.

“
My husband
told me once that I see
a different kind of
confidence in you even
when you drive the
car on a crowded road.
This is what DD could
do to a person.
”

no knowledge from head to tail. In

beyond probe microscopy! I

my friend from physics

things and finally came up

him. Both DD and I knew

proposal was written like

first year in PhD. But

so motivating that my

by several orders. He said

take you, I only knew that

and sincere but you are really

have said this to encourage me

it meant a lot to me. In fact, after I

He was the one who told me that I should not be restricting my work to probe microscopy but should work on different systems which will help me grow as a scientist. This is why I always say that whatever tiny, little research I do now, is because of him.

He is an amazing person. I have been lucky to get an opportunity to work with him and remain associated with him till now. He is as young as he was 10 years before and will remain like this for the coming several years. I think we are celebrating his birthday this time because this is the occasion we get to tell him what we could not have told him all these years.

-Suvarna

Contagious Excitement!

-V. Chandrasekhar

DD and I lived during the first semester of our Ph. D lives of IISc in E-block. For those of you who have not had the opportunity to visit this famous hostel block, a small description of it will not be out of place. This hostel block was designed perhaps with a scientific objective of finding out the effect of the absence of light (and fresh air) on human behaviour. I never ran into DD physically in the corridors of this hostel, save once, but his boisterous laugh pervaded the atmosphere and became an integral part of the E-block. Once, in order to find out the source of this laughter, I ventured in the dark following the sound and was led to an E-block room whose official occupant was a Aparesh Bhattacharya of Organic chemistry, but now packed with 10+ students mostly speaking in Bengali and it was clear that DD was the ring master.

DD's sartorial preference was long disheveled Kurtas, probably unwashed. But even in those days, especially those days, we were left in doubt about the intellectual prowess of DD. He was a star and he continues to be. It is impossible to believe that DD is turning sixty. He is always a child at heart.

-Dinesh Topwal

I always had an impression that interview was a serious business and the interviewers are there to roast you with their looks. But this myth was shattered when I attended Ph. D interview in SSCU. Every one (faculties taking the interview) were laughing and enjoying (the grill) and the person who stood out among all of them was DD. He had an iconic laugh and the most cheerful personality. This was my first encounter with DD and I still carry that image of DD and all other faculties of SSCU in my mind.

One of the requirements for joining DD's group was that you have to work for a minimum of 16 hours a day (which is what DD worked, even more than that and still continues...). I nodded my head in agreement when DD told me about this requirement, thinking how hard it could be, after all at the time of exams I have stayed awake late nights, but soon I realized that it was tough. High resolution photoemission instrument was getting installed in the lab, during that time and I had a tough time to keep myself awake and active in the night after 10 pm. But DD had a solution for this too! His curiosity to know how things are progressing via phone calls late in the night kept me (and all of us) on their heels and helped me to cope up with the group.

Work hard and have fun was the motto of the lab. I recall myself, Sameer and Raj came for a beam time at Elettra. It was the first beamtime for all three of us and first foreign visit too, and as usual DD told us "work hard and have fun". We had well defined plans for both fun part and the work part. But once we landed at Elettra we realized that we had to build the whole experimental work station at CIPO for our

experiment right from the scratches by first searching for the components (which can make up the chamber), and all this was to be done within 4-5 days! It was a tough job but at the end when we could do it, the relief and the excitement was amazing and we could enjoy our planned fun part thereafter even better. That is the time I realized what DD meant by work hard and enjoy.

DD generally does not show his excitement openly, but once when we were doing beam time at Spectromicroscopy beamline at Elettra we got a glimpse of it. Our previous beamtimes at this beamline were not so fruitful, so the morale was running quite low. Somehow after long struggle suddenly we got some interesting results and all of us especially DD was very excited. Looking at the results DD who had earlier declared no more beamtimes at spectromicroscopy, on the last day and at the very last hour of beamtime submission deadline (which is generally midnight) wrote a proposal in which he literally wrote "We did not have any plan to submit any further proposal, but a striking and unexpected success in our present experiment which are currently in progress prompts us to submit this proposal at this very last minute of the submission deadline.... " His excitement was contagious and it helped us recover from the tiring beamtime schedule.

Apart from DD's strong academic credentials his loving and caring attitude and fun-filled personality gave a unique character to the group and each one of us have benefited immensely from it. Thank you DD for all your support and wish you a wonderful life ahead.

Rinku Dutta

I often relate to people a conversation that once happened in my presence between DD and his twins Atish and Anish. One of them asked DD why he had married Abha. DD replied: 'Because she is good'. After pondering for a moment, the boy (then about 8 years old) asked: 'But how come others had not figured out that she was good?' DD laughed and remarked: 'You've hit upon a crucial point, son: to spot what is good you got to be sharp! But you also have to be decisive and swift in your action to beat the competitors and bag the best!'

Once the twins, Atish and Anish (then about 9 years old), got beaten up by some bullies at school. I happened to be present when DD was advising them with jovial earnestness: "If you see that your adversaries are about your build and you have a fair chance then you hold your ground and tackle them. But if you see that they are much bigger and muscular and you don't stand a chance, you should give them the slip, run as fast as you can, and get the hell out of there!"



Joy Laughter Affection

I had known DD's name since I started my PhD career, and met him once/twice in

conferences. I came to know him better when I joined his group way back in 1999. Though my stay in his lab was brief (for less than 6 months) this connection continued and resulted into a strong bond which continues till date. Without touching upon his scientific ability and contribution, which is needless to say and will be touched upon by many, I would like to touch upon on the lighter side. There is a saying that DD's voice and laughter is heard before he is seen. This is not an exaggeration at all, which all of us will admit to. I had known very few people who can laugh with such an open heart as DD. I think even if we can afford to forget all of his other contributions (which is hard to), we will always remember him as a person who can change the atmosphere from a serious-gloomy one to an atmosphere full of laughter in no time.

DD with Prof. Ramasesha can be a deadly combination in this respect, as many of us may know. The beautiful moments shared with DD, both in India and in abroad are too numerous to list here. His company has been always a source of enjoyment and fun. Many of us may or may not know: DD is also very good photographer. I came to know of this aspect of DD in the Manali conference, when he will keep me and Abha waiting for ages to set the aperture, shutter speed, zooming etc – of the camera, for us to be photographed together with Himalayas! However, the waiting turned to be worth at the end. Those are still the most beautiful pictures of Himalayas that I have. I wish him all the best for the life beyond 60. DD should continue to remain as he has been in all these years, full of joy, laughter and affection.

-Tanusri

All kinds of Human Emotions

I have known DD since 1997 and
shared many moments of happiness,
anxiety, love, despair ~ nearly all kinds
of human emotions for the last 17
years.

-Sugata Ray

“He just smiled and said 'you should be scared but not so much that you cannot even touch the instrument'”

I was selected to join DD's group as a PhD student by all other faculty members of Solid State and Structural Unit, except DD himself because he was not in India then. Therefore, it was rather a strange first encounter between a PhD supervisor and his new student where it had been undeniably decided that I shall work with him as a PhD student for next 5-6 years but none of us had ever even seen each other. I faintly remember that other than few academic queries, he talked with me about poetry too! And I was so relaxed! Then he asked what I would like to become in future and my prompt answer was 'a college teacher', which was the highest level of academic success that I could have thought about myself back then! Much later he mentioned that hearing this answer created a doubt in his mind and he was a bit skeptical. Hopefully, he could come out of that skepticism after 17 years of long journey together!

My close and loved ones in the family say that I got heavily influenced by his personality and way of thinking. May be what they say is true! I still remember some words, philosophies that he opened in front of me which indeed helped me later.

In my second year of PhD, one fine morning I was trying my first sample transfer from the first insertion chamber to the sample preparation chamber of the VSW photoemission spectrometer all alone. I got stuck several times and was sweating like a hippo inside the air conditioned room but finally managed to do it after half an hour. Then I went to his room and said that 'I did it but I was deadly scared of dropping the sample'. He just smiled and said 'you should be scared but not so much that you cannot even touch the instrument'. This, I will remember forever. On another occasion - after may be five years while I was leaving the group after PhD, we were talking in his office and he was listing down all my weaknesses one by one. At some point, I objected and said that couldn't he see any positive in me in these last 7 years? He again smiled and said, 'What you already have, what is the point in repeating them? I get my salary for pointing out and rectifying your weaknesses, isn't it?' These words have also remained with me since then.

I guess there would be too many such stories and it would probably be a very long text if I plan to write down all of them. But, overall, he is one of the very important persons of my life who taught me many things about science, profession and life as a whole. I also learnt what not to do in life while watching him closely. But, one thing he could not teach me in 7 years of PhD is to collect photoemission spectra with adequate energy ranges i.e. having enough background regions above and below the main features! May be some things are not for everybody! Happy Birthday DD, and Thank you.

“He again smiled and said, 'What you already have, what is the point in repeating them? I get my salary for pointing out and rectifying your weaknesses, isn't it?'”

DD described by debansu

-Debansu Chaudhuri

1. There was one instance at the ELETTRA mensa (cafeteria) while having lunch during one of our beamtime visits. DD tricked Manju, a thorough vegetarian, into eating some dish made out of ground beef. She of course figured it out after her first bite or so, and quietly started sobbing. DD didn't see that coming!! And though he handled it pretty well in the end, that was one time when we had fun at his expense!

Fun at his expense!

Follow at your own peril

2. Follow at your own peril: This is one of the earliest training in DD's group that I can recall. After joining the group, there were nice, "know-all" seniors who knew in and out of the instrument and took all important decisions while troubleshooting it. But that used to work till something went wrong, and you along with the seniors were summoned to DD's office. It wasn't possible to escape the heat just because you followed what the seniors told you. He would thunder, "If you agreed to do something, then you are a party to it." Why just seniors, even following "Him" without questioning wasn't acceptable. We now know that that was a good training, it helped as students and it is helping us mightily well now as supervisors ;)

3. ...and face the consequences!: This is a personal experience. In my first year in DD's group, I once walked into his office worried about the consequences of having written a damning feedback to some course-instructor. DD, as usual, was very sympathetic and reassuring, telling me that people are not vindictive and there is no need to worry. Feeling better, I was ready to leave when he gave one of his trademark, one-liner, take-home messages: Always do what you think is right....(a pause)....and face the consequences!

...and face the consequences!

Walking ways

4. I would like to share these pictures, from about five years ago. Upon congratulating DD on this achievement, he wrote back this (to many of us): "The so-called marathon was for 2.5 kms.! It was not even a running race, but explicitly a walking one! People only over 55 years were allowed to participate. I am not even 55 years old!"



Some Anecdotes...

I remember some of DD's sentences which I found very useful by practicing. Once he said to someone, 'Never cheat yourself'. I kind of like the sentence and started to practice that and I think that practice helped me improve myself as human being. I am still trying to practice this. However, I do not know if he himself practices that or not. :-)

Once during a conference in Sweden, after the conference dinner he came with us (Debraj, Anil and me) to the hotel. My room was in the ground floor and his was in the first/second floor. We went inside my room and then DD told us one story. The story was about why breaking a group is not a good idea. He started from a group of n people and by removing one by one he established how the group can be reduced to one person. Then he told us to bring his bags from the first floor as he was tired and requested me to go to his room. After we brought his stuff down he again started another story. And he started again with n number of people and we were listening with patience to the end. But he repeated the same story without any change throughout. We did not get what was the point of this new story, but what we realized was that he could keep the sequence of events the same during the two times that he told the story even when he was little bit too drunk. :-)

When he was in Kolkata, sometimes he would come to the lab and give a surprise visit and ask everyone in Bengali 'Kemon acho?' But he used to scold people who replied in Bengali. That was not fair! Of course I always replied in English :-). But the whole effort was to change the culture! According to him science is an international language, so we should always use English to communicate between us.



DD
as seen by
Manju

I first heard the name “DD” when I came for the PhD interview in IISc. When I asked where his lab was, I was shown a window from below, which later I was told was a synthesis lab, where I saw a red bucket. I was dead scared about Chemistry, synthesis and everything associated with handling chemicals. I got to hear more about Prof. D. D. Sarma over the next couple of days from other students in IISc, as I was staying back for appearing for the interviews in other departments as well. Still carrying the image of the red bucket at the back of my mind I appeared for the interview where DD was the first person to ask the question. Later he talked to me in Prof. Guru Row’s room and the first thing he told me was that he was very demanding from his students and they should be working at least 16 hours a day. Are you ready? For whatever he said my answer was affirmative since I got so excited about getting a chance to be under the guidance of somebody about whom I have been hearing so much.



The
Red
Bucket



Firsts

Too many ‘firsts’ were happening for me during that time: being away from home for the first time, coming to stay in a hostel, no familiar faces around, I had to overcome a huge threshold to come out of my shyness and get integrated into the wonderful group which initially looked very scary. But DD was always there to motivate and support at each and every step. There was very clear instruction from his side right from the beginning to call him ‘DD’ and I would answer back, ‘Yes, Sir’. This, I remember, continued for a very long time.

*Pillar of
support*

The Ph D period also coincided with the most turbulent days of my life, developing health issues, breaking several parts of the body one by one and finally the neck as well by getting married to my lab mate. DD has always remained protective and stood like a pillar of support throughout.

*Order in
chaos*

There was a brief period when I had shifted my sitting place to DD's room. Once in a while when DD's table overflows with papers I used to or forced him to clear up the table. That was the time when I constantly heard about 'order in chaos' because he could surprisingly dig out every paper that he was looking for from that messy table. His sharp memory has always surprised me, especially with regard to the instruments. He could exactly say where to look for the spares, manuals, which screw went where, anything and everything with respect to the instrument even though he was not handling them on a day-to-day basis.

*Moti ne
Bhains
khaya*

The first visit to Elettra for a beamtime was also eventful. Being someone who was used to the food with a lot of spices, I completely hated the bland Italian food. Moreover, the menza used to smell of cheese and meat, which again did not go down well with me. So I never used to step into the menza and skipped meals. DD joined us for the beamtime a few days later and as soon as he came to know about this I got the scolding of my life and was forced to go to menza with the group. There I ended up having non-vegetarian pasta because of the clear miscommunication between me and the lady who served the food. As soon I brought the food, I think others already understood what I've brought and with the first bite I too realized the fact. But being so scared of DD I ate it sobbing all the way. This later led to a lab anthem 'moti ne bhains khaya', which Debansu composed very nicely. Eventually I ended up staying in Italy for about five years and now I'm a die-hard fan of Italian food.

Academically and personally, the years that I spent in DD's lab is the most cherished period of my life. In fact, if we are trained in DD's lab we get to survive anywhere in the world, as DD rightly says. This I am sure every student of DD is sure to agree on.

Too many incidents come flashing through the mind and it is rather difficult to pen each of them down. So I conclude by wishing DD many many years ahead filled with health and happiness. Happy birthday DD. Memoirs about DD is never complete without mentioning about Abha, about her welcoming smile and warmth. I wish you too all happiness in life.

-U. Manju

From the IACS Colleagues.....

It was 2005. I was giving lectures at JNCASR and SSCU-IISc. After my lecture at JNCASR, Professor CNR Rao was talking with me in his office. He asked if I know DD --- I told 'No, who is he?' Professor Rao told "You must know Professor D. D. Sarma". Next day I met DD during my talk at SSCU. I remember he took me to his lab and talked about his doped semiconductors research with great excitement. At 2007 I was writing him email starting with "Respected Professor Dipankar Das Sarma, ---" Reply was --- "You can start with DD, everybody call me like that" During 2009-10, while we were under difficult situation in our centre (Centre for Advanced Materials, IACS), DD used to say "Publication is the only answer"

Nikhil Jana
IACS, Kolkata

Either for a common man or a chief executive officer, a scientist or a peon, the humanity reflects same for all. Sometimes we have seen our attitudes changing with our new positions. However, humanity is same for all. I have seen this with DD and tried to learn. Anyone knows him and wants to talk to him, he responds even on street. A mail you write, ensure that you would get a reply. Respects remain in heart and as long as respects come from both sides the relation would also respect both of them. In several cases in my life I take this as an example and consolidate myself. However, whatever may be the situation, take it easy and laugh from heart. This is another exceptional attitude of DD which is rare near many of us.

I came in contact with DD via one of my friends, Sameer, ten years before and had lots of academics discussions and successes. About my current achievements his contributions and suggestions played major roles. For anything I needed during my work, he managed the support for me. I wish a very successful life for him and I am sure who listens to others God listens to him. The most heart touching incident for me is the SSCU auditorium where he was in audience chair and I was practicing my presentation in Oct 2011.

Narayan Pradhan
IACS (Kolkata)

Indra Dasgupta
IACS (Kolkata)

“ His
involvement with
CAM, students
and younger
faculty members
made it like a
family and DD
more as
DaDy. ”

Amlan Pal
IACS (Kolkata)

I first saw Prof. D. D. Sarma (DD) in February 1992, giving a talk in a discussion meeting on metal-insulator transition organized by JNC at the IISc Campus. As a graduate student, I was deeply inspired by his talk. While in Bangalore in 1992, I did not get an opportunity to talk to him but was definitely surprised to note that D D Sarma was fluent in bengali! This mystery was sorted out when I learnt that his initials D.D. are a rare combination of his name (Dipankar) and a part of his surname (Das Sarma). I got an opportunity to meet DD and talk to him couple of years later when I was visiting IISc Bangalore in the TPSC programme. At first I did not recognize him as he looked so different from the person whom I saw two years ago having long hairs and a characteristic moustache. While I did not work with DD but kept in touch with him and I fondly remember meeting DD in Dresden in 1998.

I came to know DD and his family closely when Tanusri joined his group and we were his neighbors at Aryabhata. I remember being invited to DD's home during that time and was indeed impressed by his culinary skill. He cooked a dish for his entire group which also included their spouses and “to be” spouses. My interaction with DD continued when his sons joined the B.Tech programme of IIT Bombay. My long time dream to work with him was finally materialized when I joined IACS Kolkata. DD was then holding the M L S Chair Professorship at IACS and also the Chairman of the newly created inter-disciplinary centre known as Center for Advanced Materials (CAM). As a Chairman of CAM, DD put in tremendous effort to generate funds, identified and hired extremely talented individuals, provided international visibility and created an environment where doing science was enjoyable. His idea of creating a collaborative platform with complementary expertise started bearing fruits. His involvement with CAM, students and younger faculty members made it like a family and DD more as DaDy.

My best wishes to DD on the occasion of his sixteenth birthday and I am sure DD's hard work and passion for science will continue to inspire the younger generation.

His popular name may contain just a single letter, his field of research is as wide as the entire alphabet.

When Dipankar joined us, I was the Director of IACS, and our relations grew very rapidly from being colleagues to close confidants. We met quite often, discussing mostly Institute affairs, but soon we started discussing almost anything under the sun, often thinking about human problems, supporting colleagues in need and the like. One may imagine that it was a relation between a junior and a senior faculty, with suitable care taken on each side not to transgress boundaries conventionally set by the society. Well, my most pleasant memories are often those where these boundaries were not kept in mind. I mention two remarkable episodes.

Once, in a meeting of an advisory committee, where Dipankar was an important member, I got annoyed at what I perceived as rude manners from a senior officer and told him so in the meeting. I acted in an insensitive manner, but I did not realize it at the time. After the meeting got over, Dipankar left temporarily but came back almost immediately and made me aware in no uncertain terms that my behavior was inappropriate. I called the officer and apologised and the cloud blew over. I have not met any other faculty, even those are close, who would be so forthright to interject when he felt that I was not right.

Another, even more telling, was a situation where I got hurt by some remarks of a senior colleague of mine, and psychologically showed signs of withdrawal in my later interactions with the colleagues. Dipankar admonished me in no uncertain terms that I was acting in a manner typical of a loner Bengali intellectual, and clearly pointed out the supremacy of the affairs of the institute over personal human angles.

In a country steeped in feudal culture, Dipankar stood out as an exemplar of straight talker, a true friend who was invariably supportive in all possible ways, while being unsparing in offering criticisms when he felt that they were due. That was a lesson for me, and I want to believe that it should be a lesson for others. My episodes are not funny but they are important to me in that they have left indelible impressions on me.

A discovery by the scientists revealed that only good memorize last longer for the humans when it comes to remembering things. Wonderfully, this finding perfectly fits for DD and fortunately the precious time that I received from DD. It has been an opportunity with fame and glory to work with DD for quite a long time- though it is still

Debashis Mukherjee
IACS (Kolkata)

“ In a country steeped in feudal culture, Dipankar stood out as an exemplar of straight talker, a true friend who was invariably supportive in all possible ways, ”

Somabrata Acharya
IACS (Kolkata)

“ It is still
confusing to
recognize
DD as a
physicist or
chemist! ”

Bhupen Dev
IACS (Kolkata)

confusing to recognize DD as a physicist or chemist! When discussing chemistry of nanomaterials, it must have been terminated with the density of states by top down approach or the destiny of density of states to build up a nanomaterial by bottom up approach at the end! The result is- I am making things up in my head for one picture and DD is showing the other side of the picture! I do not remember correctly- how many times it happened, but certainly remember the joy of our manuscripts for the international travels upon completion of the work. There are two ways how the manuscripts can be made travel internationally- one is e-way: send a paper to a journal and it gets rejected. Send it to other places and so on to cover the world. The other way is to give a hard copy of a manuscript to DD for his opinion. In the later case, the manuscript will certainly get an opportunity to travel in many places across the world effortlessly but with success (by the way- think, whether to give him a hard copy or not)! None the less, the thoughts DD taught to think about whilst making enormous impact- that made DD the best icon. Thanks DD for prized possessions- the chivalry Chivas and many more.

Some people never grow, I mean, in their look. Undoubtedly, one of them is DD. DD's look has been frozen in time since I met him in 1989 during a meeting on synchrotron radiation at Indore. In contrast, his activities kept on flourishing with flying colours. Being a friend, it is difficult to accept that he didn't share with us the secret of his 'look preservation'. Had he done that, some of us could have benefited. Now he is entering our 60+ club remaining evergreen. Should we allow him to enter the club, or should we conspire to freeze his age?!

Well, it has been a prolonged pleasure to know DD, academically and personally. Beyond our limited scientific collaborations, I always enjoyed fruitful discussions with him. In his talks, it was always wonderful to see the best logical flow – the quality of a great teacher.

DD's company is hardly restricted to serious science. Humour, studded with jokes, has been an essential element. Of course, some of these treasures are so precious that they cannot be released for public consumption.

We had a brief period at IACS as colleagues. We joined IACS on the same day. I had hopes of greater collaboration. However, this brief period passed through DD's frequent trips to Bangalore and my trips to Bhubaneswar. Then one day DD moved back to IISc.

Well, DD, we are considerate enough to allow you to enter the 60+ club. You have just spent half of your life. You may still practice your 'look preservation' therapy, but keep flourishing in professional and all other

aspects of life for the second half. I wish you and your family a happy, healthy and wonderful life ahead.

It was with disbelief that I received the notice for 60th Birthday celebrations of Prof. Dipankar Das Sarma to be held in I.I.Sc. Bangalore during June, 2015. After all, he looks so young and is so enthusiastic in all his academic activities.

I first heard about him in 1975 during a lecture given by Prof. C.N.R. Rao in a conference at I.I.Sc. Bangalore. He was effusive in his praise for Dipankar (then a Ph.D. student at I.I.T. Kanpur) as a brilliant researcher. I met him for the first time in Solid State and Structural Chemistry Unit of I.I.Sc. Bangalore much later. Thereafter I got to know him personally when he joined Indian Association for the Cultivation of Science (IACS) in 2007. He singlehandedly set up the Centre for Advanced Materials at IACS. Within a short span of two years he built up a large group of researchers which has made immense contribution to Nanoscience research. His return to Bangalore was indeed a great loss for IACS. I wish Dipankar many more years of active research.

Anecdote about DD

In course of my decades long association with DD, the personal characteristics that I find unique (apart from his impressive scientific career and credentials of course) are (a) his almost infinite source of energy (b) capability to stay cool even in the most difficult circumstances (c) friendly behavior with people who are ± 30 years from his age and (d) above all his infectious laughter.

There are many incidents, personal as well as professional that I remember during my long association with DD. Let me share one photograph that I took in my camera during the Ausflug to Birkenhof (Stuttgart) in June 2013 during the Conference organized to felicitate the 70th birthday of Ole (Prof. O.K. Andersen)



I consider it a rare photo, because here DD is not laughing, not even smiling! Also while Ole is explaining in his characteristic style, everyone (in the photo) seem to be looking at DD.

At this juncture of DD's 60 years, let me wish a very happy, healthy, and scientifically exciting life ahead: "DD, just keep it up and go ahead".

D. Chakraborty
IACS (Kolkata)

G P Das
IACS (Kolkata)

Manju Ray
IACS (Kolkata)

Dipankar's scientific and professional accomplishments are known to one and all. But I could discover a Dipankar much beyond his scientist's entity – an extraordinary human being with a golden heart!

Dipankar joined IACS as the MLS Professor of Physics on 13th June 2006. At that time I heard from others that a renowned Professor from IISc had joined IACS. I was the Head of the Biological Chemistry Department then and had not got the opportunity to meet Dipankar till on a rainy evening that comes to my mind so vividly even today. It was raining very heavily and I was walking down to my home which is not at all far from IACS. Suddenly a car stopped and a gentleman called from the car asking me to get in after introducing himself as Dipankar Das Sarma to have joined the Institute recently. Dipankar dropped me at my home that evening and I still remember the day with tears in my eyes. From that very first day Dipankar continues to be by my side whenever I am in trouble.

I have seen Dipankar as my very close and very own young dear brother and got the respect from him exactly as an affectionate brother does to his elder sister. Dipankar has been with me in my happy time and has been there to share my woes on my sad days. Apart from the loss this part of the country incurred, Dipankar's leaving Kolkata had been such a blow to me as a Scientist since I was immensely benefited by discussing with him and taking his advices on scientific issues and problems, and at the same time I was personally shattered not to have my brother in physically close vicinity any more. But Dipankar's remarkable personality has proved that he is above all such physical barriers since the closeness continues to be as vibrant as ever.

I wish Dipankar reaching newer heights in his life. I can only pray from the core of my heart that persons like Dipankar be born in every small house to make this world a better place to live in.

Professor D D Sarma – the way we knew him

To me Professor Dipankar Das Sarma has been a most inspiring teacher, an unbelievably accommodative and considerate boss and an extremely compassionate and good human being. Apart from teaching how to be professionally more competent and articulate, he taught us one of the most important lessons of life by explaining how each small work can be done efficiently and proficiently keeping some impact in the system. He instilled the idea that mentors can be made to understand the inability to complete a given work in some committed time, of course when there had been justified reasons for not being able to do so. We will never forget how he used to give a kind and patient hearing to every individual coming to him with a problem; invariably he would counsel and would come up with a solution. He has the ability to bring a smile on the face of everyone like the way he carries the same on himself. We will continue to cherish with extreme fondness and sparkling memories our association with Professor Das Sarma during his rather short stint here.

Sarbaní Saha
IACS (Kolkata)



More Than a Guide

I take this opportunity to mention that I had worked under the great tutelage of Prof. D. D. Sarma during the period 2003-2012. Initially I worked as a summer trainee, and got introduced by him, to the fascinating world of electronic structure calculations.



After that, I did my Master's project where I learnt different experimental techniques and theoretical models related to photoemission. Eventually I did my doctoral work with him in the area of metal-insulator transitions. I also spent some time after my doctoral work learning computations from him. I will not go into the details of everything that I have learnt from him, right from the beginning, as that is not the theme of my discussion here; and

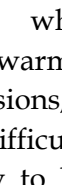
also because his vast knowledge and understanding in the subject is beyond my ability to summarize. Nevertheless, I take this opportunity to thank him wholeheartedly for teaching me Science, and also to be a better person, professionally.

I would like to say a few things regarding my experiences with him. He has been more than a research guide to me. He had always been there by my side, whenever I needed him, right from the beginning. Be it professional help, or personal, he has always guided me in the right direction. His knack for details is something that continues to motivate me today. Truly speaking, I found it irritating and difficult to follow, at times, since, a lot of patience is required to follow up with his high standards of excellence. But today, I realize that it has helped me a lot, not only as a professional, but also as a human being. In spite of DD and a passionate researcher, I appreciate him a lot more for his kind and compassionate nature, which he has exhibited always, whenever I needed that warmth from his side. I admit that I had taken him for granted, on many occasions, and DD like a huge tree had always provided me shelter, especially during difficult times, like when my father passed away in 2006. But he also taught me how to be independent and how to approach problems in life. Another aspect which I have learnt from him is the rigour he maintains in all his dealings, even if it be a letter asking for leave. He has taught me to be meticulous with every single activity, and to take every single action seriously. I believe that today I have evolved in many ways, as a professional and also as a human being, and I express my heartfelt gratitude to him for this. I would never be able to give back anything to him. But I can certainly hand over whatever I have learnt from him, to my students, and in a way, express my gratitude to him.

On this grand occasion, I wish DD many, many more fulfilling years ahead. May he continue to be a guiding light for many others like me, and be a source of inspiration for scientists, students and anyone who meets him even once. I have no words to thank DD for his guidance, support and his help, which he has provided to me almost for a decade. I wish him all the very best for the years ahead.



DD like a huge tree had always provided me shelter, especially during difficult times,





One Family!

My research career took off from a similar conference as this, where DD presented a talk on electronic structure engineering in nanomaterials. I was then a M. S. student at the Physics department of IISc, trying to identify my research interest and my research supervisor. After DD's lucid and extremely interesting presentation, I had already made up my mind and with the kind help of Prof. H. R. Krishnamurthy, I could approach DD to request him to be my research supervisor. In hindsight, I was extremely lucky on that day. The following six years, which was mostly spent in the lab, were some of the best years in my life. It was filled with fun, strain and excitement.

Let me recount one experience here. One evening, the DC power supply unit for the XPS spectrometer's analyzer unit malfunctioned and it was gave off mild fumes, following which we immediately isolated it from the XPS analyzer unit. Now that the main spectrometer was safe, the next job was to identify the source of the problem in the power supply unit. Before this incident we had already planned for a dinner outside the campus (an essential ingredient for campus life). We heavily miscalculated the


priority order here as we went for dinner and thought of looking at the power supply unit in the next morning. Sadly next morning also we met with similar hot fumes, but this time from DD's head and from our ears. We were standing on a parabola with DD seated at one of the focus points. He was furious at us as he could not understand how we can enjoy a dinner outside campus when the instrument is not alright. Before he said so, it had seemed natural to us, however, we learnt one valuable lesson that day on how to maintain a lab. Standing in a group was a lot better than facing such things alone and after coming out of DD's room, we made it a point to discuss things over a tea in the tea board and comfort each other. One very effective comforting point in these situations was to remind each other that it is a lot better when DD is shouting at you rather than staying quiet on being upset, which surely would mean that he has given up on you.

Ever since joining the lab, many such learning experiences have left indelible marks on our minds and left us more motivated, united and made us one

- Debraj Choudhury

DD travels a lot and it was no less during our PhD time period. If he were leaving for airport from his office, he would meet us in the corridor or in the lab and used to tell us - "Take care. Have fun". At the beginning, we often misinterpreted this. It took me quite some time to understand what he meant by - "Have fun". DD never explained it to us. Now, I believe that he had not elaborated it intentionally; rather left it for the students to find the meaning of their own. He wanted us to feel the excitement and joy of doing science by ourselves. He showed us the path of enjoyment in doing science, in other words, having fun in doing science. I am having fun. Thank you DD.


- Pralay K Santra 59




DD has always led the group from front, but with a human touch. Because of his actions, variety of my emotions, like love, respect, gratitude, friendliness and fear simultaneously exist for him.

Mentioned below are few of the memorable interactions I had with DD.


On 1st day of my joining the lab: DD discussed with me for 15 minutes about the importance of working together with mutual agreement. In last one minute, he told that in case, if we disagree on any issue, we will follow his decision, not because he is the boss, but because he is more experienced. So chances of his decisions being correct are higher than mine!



One day, I was discussing with DD about some XPS data. DD asked a very relevant question, which I could not answer. The question was important, but DD did not have an answer too. So he suggested that I go through all existing literature and come up with an explanation. It was almost like an exciting new research project for me. I read for about 10 days, and kept on following back references. Finally I got an old literature that answered our question with completeness. And to my surprise, the piece of literature was nothing but PhD thesis of DD, the man who pretended to be completely ignorant about the issue just 10 days back!



October 2008, one day I went to DD's office, and informed him that, "Today I will go for my marriage registration (which took place before our social marriage that was scheduled about 3 weeks later), just an official formality required in order to apply for married apartment in IISc". DD became very excited and told me that this is the original marriage that will happen between me and Soma and not merely an official paper work. So he catalyzed the celebration for that day, and all group members made the day memorable for me and Soma, although, it made a small hole in my pocket since that was an unplanned dinner party!



One typical example of conversation regarding my leave application: "Can I go home for about 20 days for my brother's wedding?"

DD's response: "Absolutely yes, it is your PhD, and you can decide the best for you. You even do not need to ask for my permission. However, if I would have been in your position, I would not have taken such a long leave. I took only three days of leave for my own marriage."

“

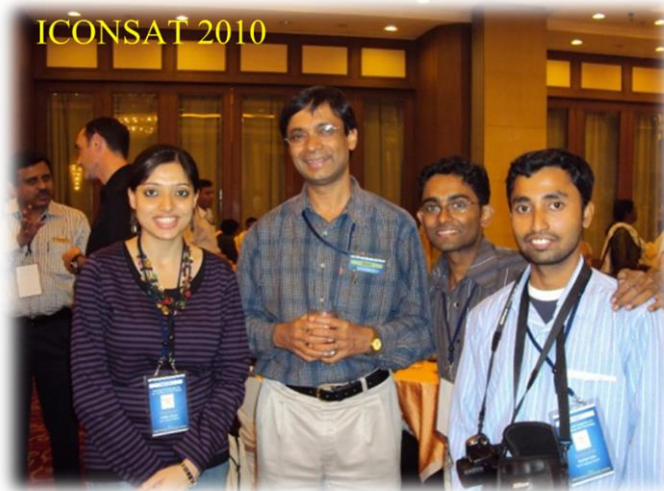
He told me,
“There is
nothing called
Chemistry or
Physics, it is
SCIENCE”

”

It is difficult to write up just in few lines my experiences with DD. I am ever thankful to one of my professors in my University during my masters who first suggested me to join Prof. D. D. Sarma's lab. I remember the first day he asked me to stop calling him “sir” and just “DD”. Now this was new to me, how can a professor of this stature even be so humble and friendly? I had never encountered this before. Just fresh out of University, where there is a strict code of conduct between a teacher and a student, this was really

intriguing to me.

I also recollect that I was stressing of being a “chemist” and probably he saw the discomfort in me in coming out of my comfort zone and learn physics. He told me, “There is nothing called Chemistry or Physics, it is SCIENCE”. I had no experience with research before and I was naive. I am grateful to DD for opening up the avenue of research for me. I learned so many things from him; each one of them had an impact on how I perceive things in life. I was reluctant to come to hostel for my PhD, again it was he who told me, “To shine higher, you have to break some point” and I learned dedication is what science is.



Interactions with him in the following years were enriching, involving science, ways to write proper emails and life in general. He has this characteristic trait in becoming the best of friend, guide and philosopher; as many of my fellow colleagues would agree. I would not say much about the great scientist that he is; I am not eligible enough to talk about it, and whatever I write will fall short. However, his approach towards science is beyond words; I was in an awe from the very first day and I am still in it!

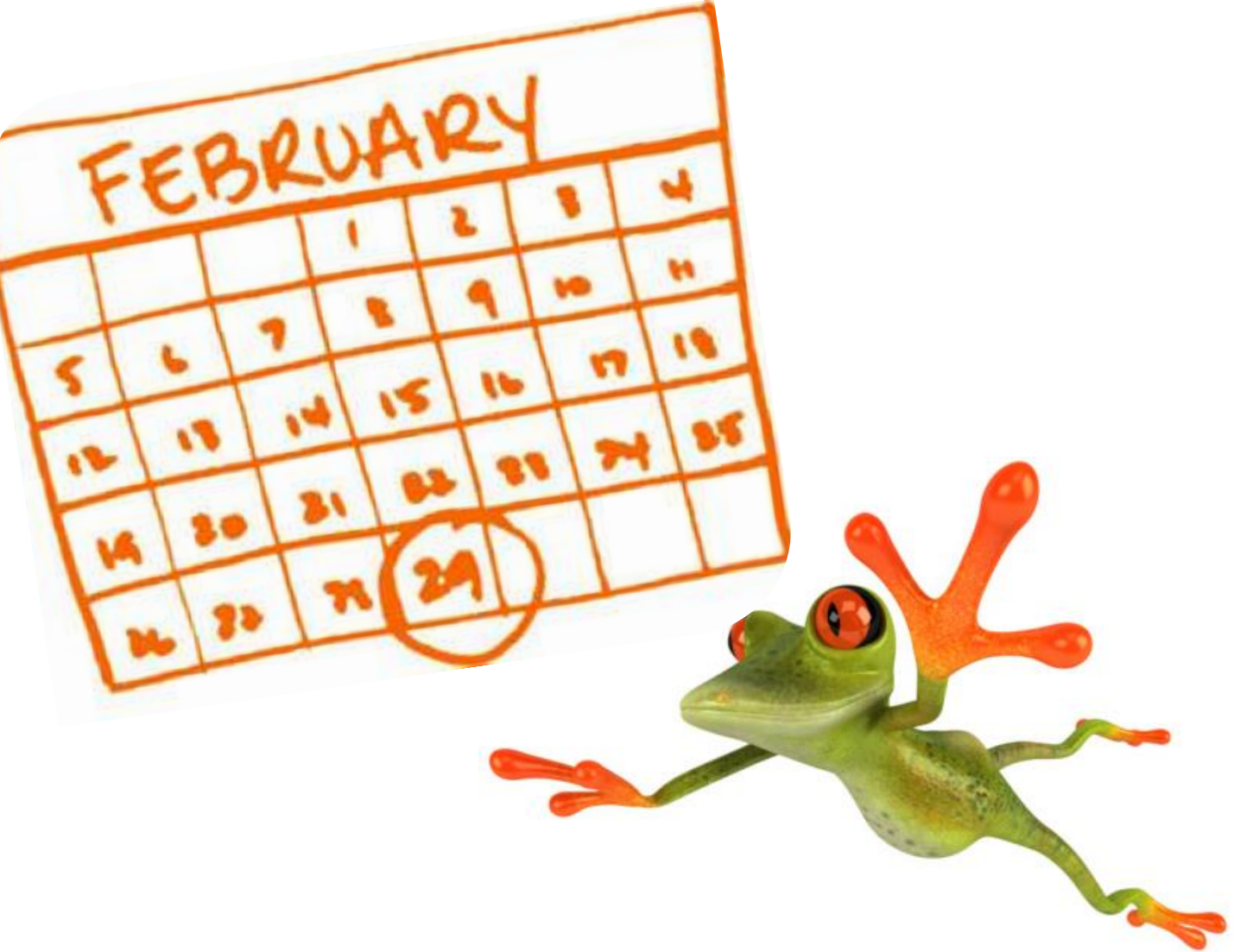
He is a father figure to me, an idol as a scientist and as a human being, and I cherish each and every moment I have been able to spend with him as my PhD advisor and look forward to many more such times ahead in future. I want to share a light moment with DD in ICONSAT 2010. Thank you DD for everything. See you in good health, wealth and prosperity. Have a great birthday and keep on enlightening us with your scientific endeavors.

-Shinjita

“

He is a father
figure to me,
an idol as a
scientist and
as a human
being.

”



29th February ~ Official holiday

This happened during PhD interview in 2006. I was already very nervous, as I had heard before that the interview with Prof. D. D. Sarma is always very tough. (At that time, I did not know that he is called DD.)

The first question was "Tell me three courses from your MSc, which you think you are very good and I will see how good you are."

The interview went for approximately an hour (presumably not bad, otherwise I would not have got the privilege to work with him). I was about to open the door to leave as it was over and he called me again. My heartbeat had increased by some factor!

Professor: I have two more questions to ask. What is the typical time that you expect to finish your PhD?

Me: (after a little bit of thinking) 5-6 year.

Professor: So, how many leap years will there be during your PhD?

Me: (got puzzled, trying to figure out the relation between PhD and leap year) 1 or may be 2.

Professor: Okay, you should work hard as a PhD student and you should only take those 29 Februarys as your holiday!

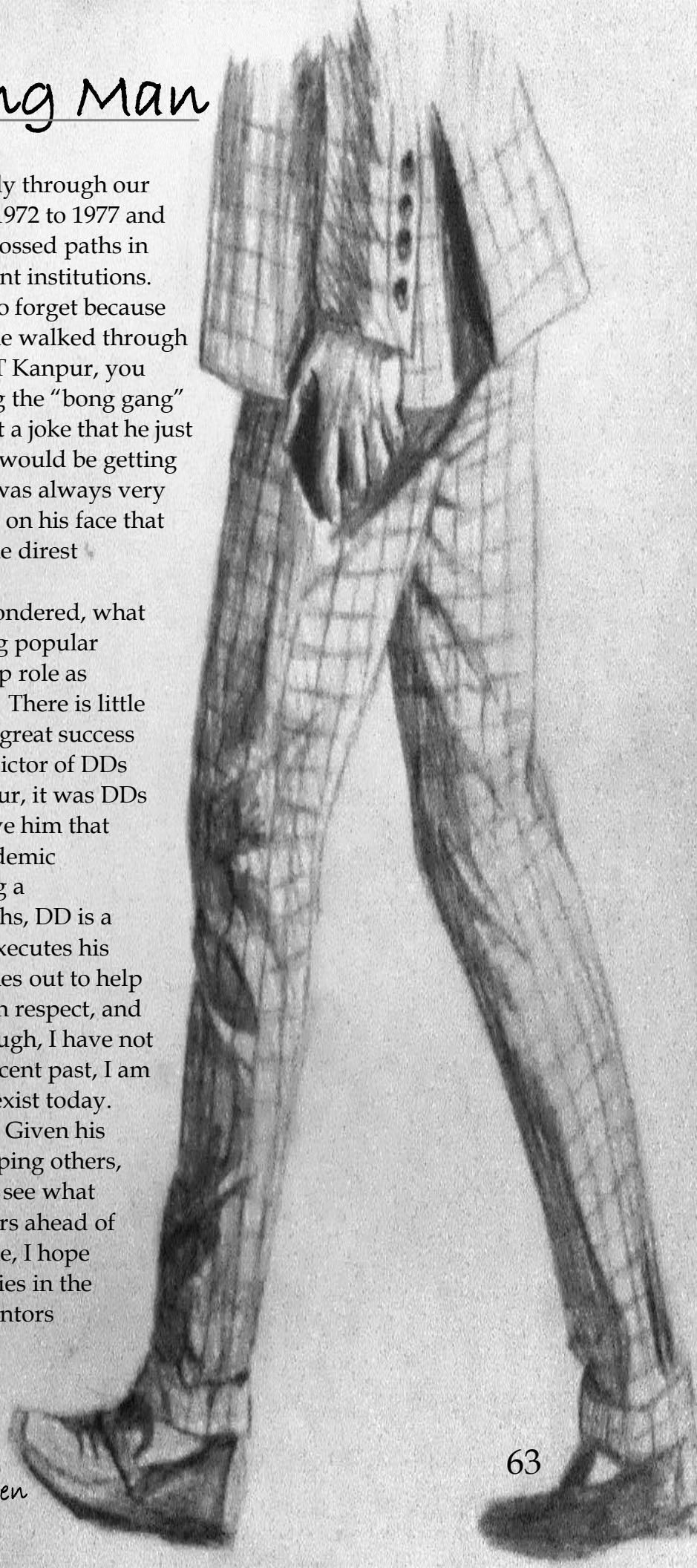
"Grown" Young Man

My association with DD is primarily through our time together at IIT Kanpur from 1972 to 1977 and from 1977 to 1979 when we both crossed paths in Bangalore while we were at different institutions. Dipankar is a person who is hard to forget because of his infectious laughter. When he walked through the wings of Hall I or Hall III in IIT Kanpur, you would know. He would be leading the "bong gang" for lunch or dinner and laughing at a joke that he just cracked, while the rest of the gang would be getting up from some deep slumber. DD was always very alert, day or night, and had a smile on his face that was difficult to wipe out even in the direst circumstances.

When we were young, we often wondered, what qualities lead to success? Is it being popular among friends, playing a leadership role as students, getting good grades etc.? There is little doubt today that DD has achieved great success in academia. If there was one predictor of DD's success when we were in IIT Kanpur, it was DD's confidence. I don't know what gave him that confidence, whether it was his academic strengths, or his firm belief in being a good person. Above all his strengths, DD is a good person. By that I mean DD executes his responsibilities with passion, reaches out to help others in need, treats everyone with respect, and expects little back in return. Although, I have not interacted much with him in the recent past, I am sure that these characteristics still exist today. DD is a "grown" young man now. Given his exuberance and his passion for helping others, I think we have only just started to see what DD has to offer. He has many years ahead of him in academia. During this time, I hope that he will instil these same qualities in the young men and women that he mentors and teach them humility in the light of success.

Tarun Sen (I don't think he calls me by that name. He calls me "Pocha".)

-Tarun Sen



Rheedhi's (Rai) first rice from her "DD-sensei".

Rheedhi Chakraverty¹, Anindita Chakraverty² and Suvankar chakraverty^{3*}

¹D.A.V. Public School, Mohali, India. ²The British School, Mohali, India. ³Institute of nano science and technology, Mohali, India

*suvankar.chakraverty@inst.ac.in

Thank you for everything "DD-Sensei"



D.D. Sarma. The student agitator

I first came in contact with Dipankar under interesting circumstances in the second half of the 1970s when I was a comparatively young faculty member at the Institute and he was a research student. In the early days, short listing for interviews for admission to the research programme at the Institute was based exclusively on the performance of the candidates in the university examinations. Subsequently, entrance examination was introduced to take care of the inter-university variability in awarding marks or grades. As normally happens at the Institute, the system involving entrance examination was reviewed after a few years. After a great deal of acrimonious debate, the senate recommended discontinuation of the entrance examination. That evoked strong reaction among a section of students, particularly from those universities which were conservative in awarding marks. These students resorted to an agitation. Calcutta University was particularly conservative in awarding marks and many students from Bengal were in the forefront of the agitation. Dipankar was one of the leaders of the agitation.

Student agitations were unusual at the Institute and the authorities were at a loss as to how to deal with this particular one. Professor Satish Dhawan, the then Director, asked some young faculty members to deal with the agitators. That is how, for the first time, I came face to face with (then an angry!) Dipankar. Since then, particularly after he became a distinguished leader of science, Dipankar and I have worked together on many occasions, especially on synchrotron – related issues. However, my abiding memory of him continues to be that of an angry young man arguing vociferously with us sitting in the office of the Director.

-M. Vijayan

DD: The most humble, happiest and down to earth person. He is a good human being and really compassionate, extracts the happiness in every small things! No matter how busy he is; his sincerity, promptness and perfectionism is unbeatable. He will not only look out to pursue his own success, he is a true supervisor, mentor, collaborator and chairman of a department, who cares for his students and the department.

DD has made me grow and expand my skills without limits. He is a confident and smart boss, who makes me strive for the best and then uses it. I am truly fortunate enough and lucky to work for him. He always gave me the right constructive criticism or praise at an instant; he was always there for me to help me deal with my drawbacks, praises me for my hard work and efforts and sincerely cared for my well-being and professional growth.

I owe much of my knowledge, confidence and growth to him!

- Myna

DD

Dipankar Das Sarma as he was nearly 40 years back...

IIT Kanpur Physics MSc Programmes (both 2-yr & 5-yr) have a compulsory 2-semester Experimental Project (equivalent to 2 courses/semester). I was fortunate enough to get the brightest students during my younger days at IITK.

Dipankar joined me in 1976 July for the project course. At that time we had a 15-inch Varian Electromagnet and nitrogen and helium liquefiers but hardly any measuring equipment (not even a power-supply). So the two earlier students Arup Raychaudhury (needs no introduction) and Aniruddha Das (Professor, Columbia Univ., N.Y.) had to make furnaces, cryostats, sample holders, etc. (students rarely dirty their hands these days) for their experiments. Dipankar followed suit and designed and fabricated a Hall effect set-up for metallic alloys, finally succeeding in taking some preliminary anomalous Hall effect data. The report was submitted on time after I signed it as the Supervisor.

Then came the dramatic oral examination (May 1977). Prof. H. S. Mani was one of the examiners. Before Dipankar entered the room, HSM told the committee "I shall fix him in this viva; he fooled me and got an "A" in my HEP course without doing much". As soon as Dipankar entered, HSM picked up his project report and threw it out of the 3rd floor window saying "What kind of experimental work have you done which does not have any error analysis in its report? To me it is absolutely worthless". Dipankar did not know what to say, so didn't I, since I did approve the report. Dipankar said "Sorry Sir, may I try to do it now on the board?" HSM agreed and lo and behold, DD using the data from a second copy of the report did a wonderful job surprising everybody, really smart in the American sense. All examiners at the end gave a letter grade and submitted to the Chairman of the oral committee. I asked HSM about his evaluation. He said "Again he has fooled me".

My memories of DD

7 days to solve

The first thing I remember about DD was he sitting in HRK's office with his data. "We need a solution to this puzzle, he said, but unfortunately we got only 7 days to solve it", he said. I don't remember what the reason for the exigency was, but we ended up spending two years to finish the work!

Only to scare you

Then I remember there was some meeting of the CMT group and DD was supposed to give a presentation. He went before the microphone, and said, "I thought about what to say, and I had such a lot that I prepared a note, from which I am going to read out." And he pulled out a huge bunch of papers from somewhere. Prof. Sriram Ramaswamy who was sitting in the front row nearly had a heart attack! Then DD laughed and said, "Oh, that was only to scare you", and disposed of the bunch of papers.

Tail of the two compounds

In a talk once DD was talking about two compounds. His title was: A tale of two compounds. Somebody asked some question which he said he will talk to him after the end of his talk. When his talk ended that fellow came up to him; DD said: "Oh, yes, the *tail* of the two compounds!"

Under duress

I remember his perpetual anecdotes about the spherical cow approximation, which is what he claimed most theoretical physics was. Once a student came and wanted to do theory with him. DD said, "Who told you I do theory?" The student named a faculty, and said that he had collaborated with him. Then DD said, "Oh, but that was under duress!!!"

Barely able to hide

Once when DD's brother S.D. Sarma came to give a talk, HRK was sleeping in the front row, as usual. TVR was listening beside him, but thinking deeply with his eyes closed. Suddenly TVR asked a question. S.D. In his inimitable style turned around, and shouted, "I won't say it again. When I was discussing it you were sleeping!" DD who was sitting at the back put his hand in front of his eyes, barely able to hide his embarrassment.



Fond Memories of Knowing DD

-S K Bramhachari

Dipankar Das Sarma or DD, as we all fondly call him, is reaching his 60th birthday is a fact that is very hard to believe. I have known him since he joined the Indian Institute of Science almost four decades ago. A lanky young man with his loud laughter in the B non-veg mess, he was difficult to miss. I envy and wonder how he has managed to maintain his weight despite his fondness for food.

DD: a man with extraordinary intellect and a scientist par excellence has followed a very similar scientific trajectory at IISc campus like me. Although younger than me by 3 years, I came to know him closely when he married a wonderful young IITian- Abha during his PhD and like us moved to Mathekere and then to the married apartment at IISc.

A great human being, which is today a rare species among scientists, DD's carefree approach and heartfelt laughter filled the corridors of the married apartments with cheer.

My wife Vani and I became very close friends with these IITians. Their twin sons - Atish and Anish and my son joined the same central school at IISc.

DD and Abha lived in the U.S time zone while being in Bangalore as most of their dinners were breakfast menu, bread and omelettes. This was in order to devote most of their time to science and work. Abha, a very talented IT professional was earning far more money than any one of us during those days. I recall while staying in the married apartments how DD used to simultaneously fill up 12 feeding bottles in order to simplify his work.

I don't know of any other family where father, mother and all three children became IITians.

While often parents took extensive trouble to feed their children a variety of snacks and food, DD's twins Atish and Anish were fed on packets of biscuits. I wonder if this interesting eating habit has anything to do with the brilliance these kids acquired, graduating from IIT and receiving higher degrees from the best institutes of USA.

DD's most interesting quality is his ability to take everything with laughter. Whether having a paper accepted in Physical Review or having one denied, from being an honorary distinguished scientist of the CSIR system to being denied a coveted directorial position of a prestigious institute in the eastern part of the country; nothing perturbs DD.

Under resource limiting conditions when DD didn't have access to sophisticated equipments or extra resources, he managed to travel abroad with his projects and achieve globally competitive results.

I had the privilege of seeing DD ably coordinate with Dr. Sivaram on the solar mission project of CSIR involving nearly 100 scientists and students.

I have been admiring him over decades, his extraordinary passion for science, amazing attachment to students and his honest friendship. In recent years when I travel from Delhi to Bangalore, we have had long chats over cups of coffee/ice cream at Movenpick along with Balki, interesting discussions which very often lasted into the wee hours of the night.

When in Delhi DD visited our home and I have seen my wife thoroughly enjoying DD's jokes.

Our friendship has remained unchanged over the years despite the distance and responsibilities we have held. Age has not deterred our interactions. Even today when Vani and I meet DD and Abha, we fondly remember our good old student days at IISc.

For younger students, DD is a role model to follow- a scientist par excellence, with humility and simplicity. Vani and I wish him many more productive years ahead and a very happy long life with his wonderful wife Abha.

Recently I gave him a proposal. With his extraordinary sons and daughters in law, and Abha, he can form his own institute- an institute of Big data Analytics from chemistry to computers, with seven outstanding faculties. I hope he will take my suggestion seriously.



To DD

-Tony Bocquet

First of all, many congratulations on the occasion of your 60th birthday. You have always been so youthful looking that I find it hard to believe you have reached this point in life, but I guess it happens to the best of us. Somehow I think this is just a ruse to make us believe you are going to slow down, just as you move onto bigger and better things less constrained by the responsibilities of those of us still in middle age.

I've been asked to provide some anecdotes of our time working together. As this was over twenty-five years ago it is hard to remember all the specifics, but what I do remember is a lot of laughter and a lot of serious discussions. I believe sometimes the laughter may have been triggered by my lack of understanding of the serious discussions! At the time, I was a young Australian student on a Japanese government fellowship working in the lab of Prof. Atsushi Fujimori on the project that would turn out to form the basis of my PhD thesis. The year was 1990 I think. I had just started working on modelling the theoretical lineshapes of photoemission spectra of 3d-transition metal oxides using a localized Anderson model, seeing the lineshapes change as I adjusted the various parameters of the model. I was quite proud of the consistency of the model and the way it seemed to explain complicated lumps and bumps in the spectra. It was possible to draw significant conclusions by analysing the spectra of many compounds and the work seemed to consist of: measure, model, fit and repeat. I was rapidly brought back to earth

however during a discussion with you on the fitting process. After explaining how the adjustment of 3 parameters would allow me to fit most spectra in a consistent way, I think you said something like "well Tony, given two parameters I can fit you any lineshape you like, and if you give me three, I can make it look like a dog for you!" Good advice of course, and despite your initial misgivings we did go on and publish a paper together on the early 3d-transition metal oxides in 1996 that has been cited well over 250 times since publication.

You may not know this, but you were also instrumental in helping to launch my career in scientific publishing. In 1996, I decided to leave academia and got my first job in the industry, as a commissioning editor at the publisher Gordon and Breach, which was eventually bought out by Taylor and Francis. My first job was as a commissioning editor, cultivating top scientists to author books for us. As I was new to the role, I naturally contacted all

“ You said
something like “well Tony,
given two parameters I can fit
you any lineshape you like,
and if you give me three, I can
make it look like a dog for
you!” ”

my ex-collaborators and asked them to write a book for me. You very kindly offered to do that, but even more so, you offered to be an Editor of a new book series which became known as Advances in Condensed Matter Science. Although I left G&B in 1998 to join Wiley, the series eventually grew to six titles published between 2000 and 2008, and included

books by Vladimir Anisimov, Yoshi Tokura, Teruya Shinjo, Jai Singh and Akio Kotani, as well as a book on the Electronic Structure of Alloys, Surfaces and Clusters by yourself and Abhijit Mookerjee. It was also during our discussion on this book series that I first got to visit India in 1997, and you and your students were kind enough to show me the temples of Kerala, something I have never forgotten.

Since then, I have moved on, working for Wiley and now for the last 14 years, for Nature Publishing Group. During that time, we have always managed to meet somewhere, sometime, and I always look forward to these seemingly random events. The last time in 2014 was really almost by chance at Spring-8 in Japan, when we both happened to be in the same



place at the same time. My job means I am now responsible for all of NPG's activities in Japan and the countries of East Asia except for Greater China. In late 2013 I was also made responsible for India, and I fully intend to corner you one of these days and pick your brains about the Indian market and the opportunities here. I have always valued your advice which has always been freely and generously given.

Finally, I attach a favourite photo of mine, taken in 2012 when you were in Japan visiting the Fujimori lab. That's me in the middle, of course. We all look very young!

Help me to Recharge

I would like to congratulate DD on his 60th birthday! While it is difficult to put in words the good feeling that I have when I think of DD, I will give it a try!

The most striking thing about DD is his passion for science as well as for life as a whole, and it is infectious. Seeing DD's child-like curiosity and the way he constantly challenges himself in everyday activities has motivated me in many ways. The way he approaches every day of life as the most important day to accomplish things and sets things in order is amazing. After every meeting with DD, I have always come out with a positive outlook and with more energy to solve the problem at hand.

There are times that I feel a bit low in energy to do something new and a call to DD helps me to recharge and see things with new energy.

DD, 60 is a small number and I wish to see a lot of new research and new contributions and see you enrich the lives of many more people.

Have a wonderful time!!!

-Ajitha Devarajan

DD has the unique ability to be a good, cheerful friend all the time, who integrates science with humor without compromising the quality of both.

-Ajayaghosh



Integrates Science with Humor



It is still hard to believe that DD is 60 now. There must be a mistake somewhere in counting, as far as I can tell.

I met Prof. Dipankar Das Sarma in the winter of 1982 when, as a member of a group of undergraduate students, I visited IISc Bangalore on a scholarship. We met Prof. C N R Rao and at the end of his talk he asked us to meet, in a typical flourish, "perhaps the brightest young man on campus." That chance meeting grew in to a long association since I joined IISc as a graduate student and my personal recollections of him and his family flood my memories today as I write.



Priya asked me to write is hard to single out one discussion between DD and some time in 1987. Atish had an issue that must have come tender age such questions, urgent resolution. When Atish asked, "Dad, if I like some girl and I come to know that someone else likes her too, how do I win the race?" DD took some time to think, smiled broadly and replied "You must be bold enough to approach her and tell her first. In this race, there is no prize for the runner-up." Looking back, I find the simplicity of that response to his son remarkable and reflected a philosophy he has followed truly to this day.

one personal anecdote. It incident. Let me recount a Atish, his son, at his home a very serious dilemma on up in his school and at that understandably, need Dipankar da came home

I wish Dipankar da, Abha and the children a wonderful life together and look forward to writing fond recollections on them for a long time to come. I also thank them for making a period of my life rich with their associations.

-Arghya Taraphder



A Rambunctious Bunch

It is a great pleasure for me to felicitate DD on his 60th birthday. Of course, looking at his youthfulness, it is difficult to imagine that he is now 60. His has been a life of great academic accomplishment and achievement. Many of his works have become milestones in the field, and his academic contributions have made him one of our country's leading physicists and chemists.

I have known DD pretty much from the time I returned to the country and took up a job in JNU in 1987. He has a charming personality with an extremely good-natured approach to life. He also has an overpowering passion and love for science. At conferences, it was natural to gravitate towards him and talk about science and life. The discussions were always punctuated with a liberal sprinkling of PJs or "poor jokes" -- of course, his PJs were probably better than mine! DD and I became very good friends as fellow-members of the Scientific

Council of CEFIPRA. We were quite a rambunctious bunch of members from India -- apart from DD and me, there were also Ashutosh Sharma (then IITK) and SujathaRamadorai (then TIFR). In conjunction with other friends like Kumar Sahib (IISc) and HariGopal (DST), we would have memorable evenings facilitated by generous doses of French wine. DD was usually the heart and soul of these impromptu parties. There were two particularly memorable occasions which stand out in my memories of those days in France. The first was an oyster-wine "Evening in Paris" organized by our French counterparts. The second was a crazy ride, DD and I had, on a metallic robot which hurled and twirled us around until we lost all knowledge of which way was "up" and which way was "down"!

DD, I wish you the very best on this memorable birthday. Of course, you will continue to be young no matter how many years have elapsed. Please do continue to inspire us with your fantastic science, and entertain us with your eternal good humour!

- Sanjay Puri

Wishes...

-Biplab Sanyal
Uppsala University

Prof. D. D. Sarma (commonly known as DD in the scientific community) is known to me not just as an outstanding scientist but also as a wonderful human being. It would sound trivial if I try to comment on his scientific achievements

-Periasamy

It is indeed a great pleasure and privilege for me to have known you for many years. As one who has witnessed firsthand, your cheerful enthusiasm towards new research directions in frontier areas, the breadth and depth of your scholarship in Physics and Chemistry,

the freshness of ideas and constructive criticisms during discussions, an admirable network of friends, students, colleagues and well-wishers, and a passionate commitment for excellence in research, I wish you continued good health for active life and work for many more years.

A picture is worth A Thousand words !



Ever helpful ...

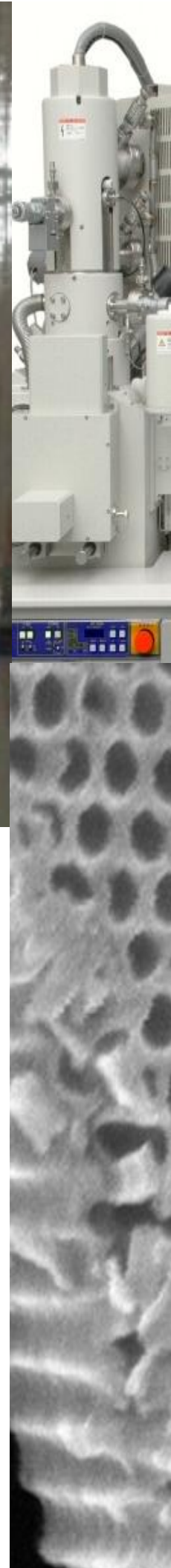
..... And even another is worth A Thousand sentences !!!

as that are known to everyone to any extent. However, I was privileged to interact with him socially also in many occasions where I discovered him as a man of fine taste, extraordinary humour and unlimited compassion for others especially junior to him. I believe that his respect for the younger generation has gained him many folds of love and respect from his junior colleagues. My family and I consider DD as a dearest friend and a family member. His visits to Uppsala always leave nice memories. I wish him all the success he deserves in his career and personal life. DD will continue to be an icon for all of us.



Ever youthful...

*-A tribute to DD on his 60th birthday
from Sudipta.*



Research and motherhood

I first met him when I wanted to ask him if he would give me an opportunity to work in his lab as a post-doctoral fellow. He was very positive and then I told him that I was pregnant expecting that his smile would disappear, but to my pleasant surprise he was even more welcoming. He said "If you don't take this decision we don't exist".

What I liked in him the most was his outspoken yet polite (a very rare combination) behavior.

He was very strict too! I asked him for 4 months maternity leave and he told me that I couldn't take more than 3 months leave saying that once a mother always a mother, so a working mother should believe in quality time with a child and he gave me example of his own. I was very irritated that time but very soon realized that he was the 100% right.

Another day, he suggested to me to attend a conference in Coorg. I didn't really want to go but couldn't say NO

to him. On the way to Coorg I was very sad. DD came to me and asked how I was feeling, bas kyatha, I started crying. He said, "Don't worry, after the conference you'd feel proud of yourself and your family". At the same time, he would suggest me to enjoy the motherhood as much as I can as this the most wonderful phase in one's life and given an opportunity he'd love to go back in time and enjoy the time with his children!

I know few brilliant women researchers (mothers) who were discouraged by their surrounding (sometimes adviser included) so much that in spite of their excellent background they are not able to use their full potential. Thanks a lot DD for letting me learn from your experience and helping me grow as an independent researcher and happy mother.

Our scientific community needs many more DDs.... Amen!

-Amrita

Super-fast Memory!

It has been a great honor and pleasure working with DD and to know about his various interesting faces. When I met him first, I was very nervous and afraid, which continued little longer (was it little!! 😬). My interaction with him in the scientific discussions was not always pleasurable because of his shouting on my mistakes. I only correlate those with my parent's shouting while growing up. It was a lesson for me to grow my passion about science. I have always been surprised during many discussions about his amazing scientific skill where he switches effortlessly between theory and experiments and while doing theory it helped me enormously. I definitely owe him one. Another point is his super-fast memory and it was shameful for me that he reminded several times about old results which suppose to be remembered by me. He bet us that his memory is better which I agree the best without any doubt. He is always open for any helpful discussions other than academics including personal, financial and even psychological problems 😊. I must remember and thank him for helping me to recover from a health issue.

During lighter moments in conferences, restaurants, parties we got to know about his good humor and I must say he is number one in pulling others' leg. Those were really enjoyable moments. His good humor, personality, courage and vivaciousness made him very popular among us as super DD. I must say that there are many positive things still remaining to be learnt from you. I wish you happy birth day and many many happy returns of the day. I know in the sweet 60 you are young enough to carry forward a long journey as a good scientist and moreover an extremely passionate man. Last but not least, we all love you, DD.

-Ashis Nandy

How often do we feel lucky? Lucky, not because we won a lottery or bought a house or a car but because we do what is meaningful and what makes a difference to the lives of others. I do feel lucky when I meet people who remind me of this...about the importance of vision and values which drives you towards the journey of life.

I first met Prof. Sarma (Whom we call DD with love) after finishing my Masters to join his newly founded lab at IACS, Kolkata. My first interaction with him was eye opening, as I did not know anything about research and I was interacting with a person who had devoted his life for the research. I instantly decided to do PhD with his group (I was also lucky to get a chance to start my research career under his guidance).

I can surely say the research foundation and approach towards the problem which I learnt from him is the best gift I have ever received from any person till now. However, we were not so lucky to cherish his presence with our group for long, as he had to return to IISc, but still the first training he gave us is memorable and precious.

I remember one very emotional moment I shared with him. It was the time when DD was moving back to IISc. I was quite upset with it but still I had respect for his decision, so I went to his office and told him "You don't worry about us and I promise you from now on I shall be doing more hard work and will make you proud one day." I am not sure if I have made DD proud yet or not, but still the promise is in my mind and that gives me inspiration to do my best when I feel low in research.

I know he is turning 60 but the youth he has inside is still 30 (I guess!!). I pray to God that his youthfulness remains forever. I wish DD a healthy, peaceful and much more successful life. I wish him a very happy 60th Birthday

-Bhupendra

Lucky!

When you are with DD, you have to be cautious always; you don't know how the ball will swing completely, rooting off your stumps within seconds.....imagine sitting in the lab and you face an innocent question of "What's the score?" and you trying to be the first girl in the class to raise your hand and give the update...and suddenly within split second the bouncer came, "How did you know?"...and you helplessly see your middle stump blowing off (I had the feeling for quite a significant number of times...)

A particular example I vividly remember is: some of our seniors went to get DD's sign in one of the reports...the next moment we saw DD storming into the lab and asking everybody in Bengali "kemonacho" (How are you?).....completely unaware of the context, the obvious answers were "bhalo" (good in Bengali)...remember only one of the lab mates saying "ok" (that too I am quite confident was accidental)....The next moment he was shouting at all of us, "How many times have I told you not to speak in Bengali in the lab?".....And then came the story, he was quite upset with the quality of English writing and blamed it entirely to the fact that in Kolkata we use only the native language to speak, and for the others to interact it's their duty to learn the language...Now staying abroad within a mixed culture society (when you are in abroad even Chinese people become your fellow countrymen...having "at least we live in the same continent" type of feeling), I can feel how alienated a person feels when everybody around you speaks in their own language and how justified his anger was in those days...

With DD, there is never a dull moment...the lessons you learnt stay with you....the famous being "Your data cannot be wrong, you have to interpret it correctly". It's like Biblical quotes you remember in your tough time. These small but significant interactions guide you through not only in academics but also in other aspects in life. As they say, "When something is small, then only do you value it more." So are my interactions with DD: the informal interactions during the group lunch parties, sneaking in for short discussions in his otherwise tightly packed schedule....I am recalling almost everything now while writing this piece...Hope there are lot more of such to bring a smile to your face in your leisure time in future.

Small but Significant

-SuchetaSengupta





DD looks for a Rabbi

In 2006, DD and I arranged an India-Israel binational meeting on materials that took place at the IIS and JNC, Bangalore. One of the important (non-scientific) issues that we discussed in planning this meeting was food arrangements. Before continuing, I need to describe some basic information on Jewish dietary laws.

Jewish dietary law proscribes certain types of food and combinations of foods in order that the food be 'kosher' (i.e., fit to be eaten according to this law). Only certain animals and fish can be eaten (e.g., pork or shellfish are not kosher). Meat and milk products cannot be mixed at the same meal and different dishes/cutlery should be used for meat and for dairy foods. Also, for food served outside the home (e.g. restaurants or meetings), rabbinical supervision is required. Not all Jews keep strictly to all these rules – the very religious do; medium religious may keep many of them and non-religious may not keep any (or keep some for cultural reasons).

To return to the food arrangements for our conference, DD and I agreed that the simplest solution would be to have the whole conference vegetarian (as a vegetarian myself, this was an excellent solution, but it clearly also seemed to answer the potential problems that could arise from including meat).

It took some time for DD to get back to me with one problem that he could not solve (and that I had not even considered) – the inability to find a rabbi who would supervise the food arrangements. Based on the information on kosher food I gave above, this was an obvious problem. However, in practice it was not a problem (for the Israeli participants involved – it would have been for a very religious participant). After DD informed me that in India, vegetarian and non-vegetarian kitchens are separate, and since we could be assured that food prepared in a vegetarian restaurant would not have any meat products, even 'hidden meat' (such as the presence of meat fat in a dish), I was able to inform DD that the absence of rabbinical supervision was not a problem (and that the past few days searching for such supervision were wasted – maybe I didn't dare put it exactly like that).

So everything turned out fine and we had excellent meals, I, as a vegetarian, have come to expect when I visit India.

My memories with DD

- Swarup Kumar Panda



Just after I joined my PhD, we all (around 20 persons) were invited to one of our senior's home. We reached there early. We were chatting amongst ourselves. Some of us were sitting on the chair and others were sitting on the bed. DD reached there a little later. He came and sat on the open floor without any hesitation. Soon after, many of us followed him and sat on the floor. Since I just joined the lab, I only knew him as a great scientist. I got amazed to see such simplistic behavior of such a big person. Here is an interesting photo of DD from that day.!



DD had organized a conference in Kolkata. After the conference he invited all of us, (total around 40 people) who took some responsibilities in the conference for a lunch at Mainland China restaurant. I was surprised to see that he himself was serving momos to everyone. After serving it, he was going to every table and talking to everyone. After some time, he came to our table and told one of our seniors, I heard that you are now spending your entire time at PPMS lab (actually DD somehow got to know that my senior recently was in a relation with a girl whose lab was just beside PPMS lab). My senior was scared and was thinking what should he reply. Within few seconds, before he could utter anything, DD asked him with a smiling face, "Who is that unfortunate girl?" We all started laughing. DD then asked who does not have girlfriend in the lab? Everybody was showing finger at me, indicating that I do not have any girl friend. DD again with his usual smiling face told me, "Why are you breaking the tradition of the lab Swarup?"



He always wanted to see us very honest and advised us to be a good human being. In an incident related to wrong claim of the contingency money, his comment was remarkable. Here I quote him "A little money will not make you rich, but it will make your impression so bad that you can never get it back."



“If someone does not know what is good for him, that is bad for him”, he once told me.

DD made a rule in the lab that everybody will talk either in English or Hindi. He asked us not to talk in Bengali inside the lab so that our English communication skill would get improved. He also noticed that we often do not follow that rule in the lab. One day DD came inside the lab and started asking everyone in Bengali ‘Kemon acho?’. We were all replying him in Bengali ‘Bhalo achi’. After asking few of us, he asked the same question to one of the post-doc of our lab, Rupadi. She replied in English “I am fine, how are you DD?”. DD smiled and told her that she has passed and the others had failed. After scolding us for not following the lab’s rule, he started laughing at us for trapping us so easily.

I was a bit angry on DD for not correcting my manuscript. I went to his office and reminded him that he had promised me that he would start working on the manuscript after seven days and now those seven days had passed. He replied me with a big smile that $t=0$ has not started yet!

DD: An optimistic person, full of life, joking around with great sense of humor. All of us would love to express our respect, gratitude and caring for him.

-Bharati

Saroj Nayak:

I came to know DD personally through scientific collaboration although I had noticed his name and his work through papers in PRL. With so many PRLs coming from someone in India, my image for him was building up- some with admiration and some with jealousy!

So when I had an opportunity to work with him I took that without hesitation, of course!

First through several emails and then in person I met DD first in Bangalore. There are many incidents I can narrate but one I particularly would like to mention is my moving to India.

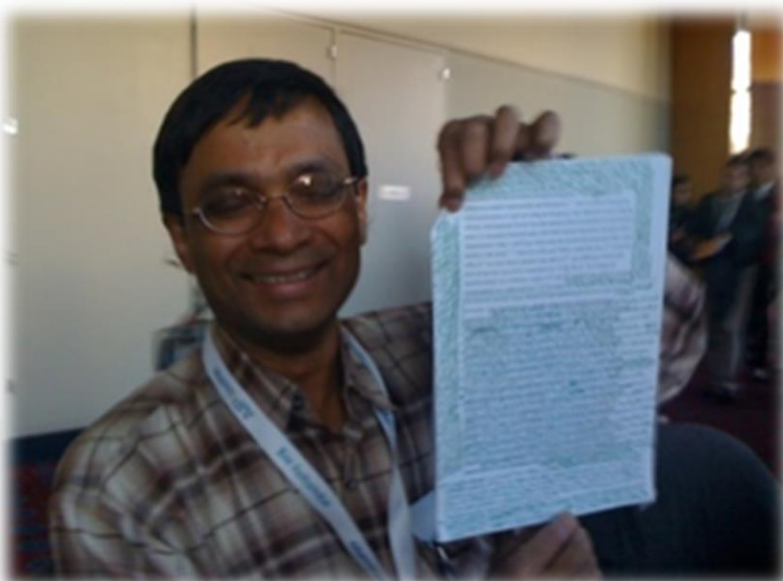
What is that to do with DD?!

Well, I never worked outside USA until 2011 when I spent part of my sabbatical at Cavendish Laboratory in Cambridge, England. After staying in Cambridge, somehow my family and I wanted to explore working outside USA. When I mentioned to DD that I am considering a position in UK he told me two things- (i) first I should look to the east and in particular in India (ii) second if I am thinking about moving to India then I can only be allowed to move to IISc Bangalore! This is the first time I realized the power structure in India! And I had to beg DD that, for family reason, I should be allowed to consider other places like Bhubaneswar. As we know DD, he gave me his approval to apply elsewhere! With this experience, my jealousy disappeared while my admiration for DD still continues.

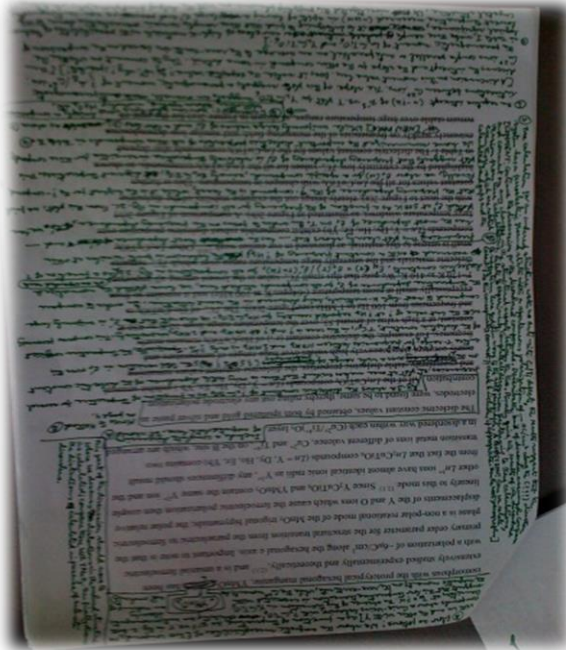
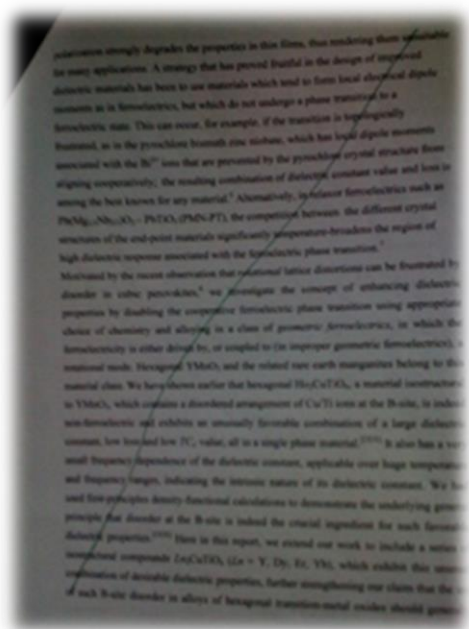
I am truly grateful to DD for increasing my phase space while considering working outside USA and here am I enjoying so far!

Nicola Spaldin:

A particularly enjoyable component of collaborating with DD, in addition to the interesting science of course, comes in writing the papers. First of all, DD's writing is precise, pedagogical and entertaining. But in addition to that, I learned a lot from DD about how to provide



detailed and constructive feedback to students on their own scientific writing.



Carlo Mariani:

I was appointed as Chair of the "Proposal Review Panel" at the Elettra Synchrotron Radiation Facility in 2011, where I was previously Chair of one of the sub-panels, following DD Sarma in that charge. He left because of his large number of research and organizing activities.



On the one hand, it was a great honour for me to follow in that role, given the excellent quality, experience and great equilibrium demonstrated by DD in the previous years (he was a real example for me); on the other side he constituted such a "benchmark" in leading the Panel, that

I still wish to reach 1/2 of his value!

And, I would like to recall that, after the long discussions we had in the panel, at the end of the meetings, often we had a drink with good wine, common Indian and Italian style that strengthened our friendship, as in the attached photograph (I am the second from the left). My best wishes to DD for his first 60s!

TO DD, WITH LOVE

Prof. D. D. Sarma's Group -2015¹

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Considering the wit and humor that DD is known for, every day in the lab becomes lively with jokes, comments and sometimes even humorous scolding. We found it very difficult to choose what to write in this article, since there is so much that could have been penned down. However, we shall try to narrate a few experiences that all the group members cherish.

Keywords: DD, memories, laughter

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DD has inspired, influenced, enlivened and enlightened several people's lives. This journal encloses a brief account of such experiences by senior students, collaborators and friends. In this article, we unfold some of the most recent additions to this bundle of memories.

We begin with a non-classical description of DD: It was the last slide in a colloquium in SSCU and the acknowledgements mentioned the chairman, "Prof. D. D. Sharma". DD pointed out, "I won't suggest corrections in this slide, except that you have spelt my name wrong. As someone told me once, D.D. Sarma is quantum mechanical – he comes with a h crossed (\hbar)". Fig (1).

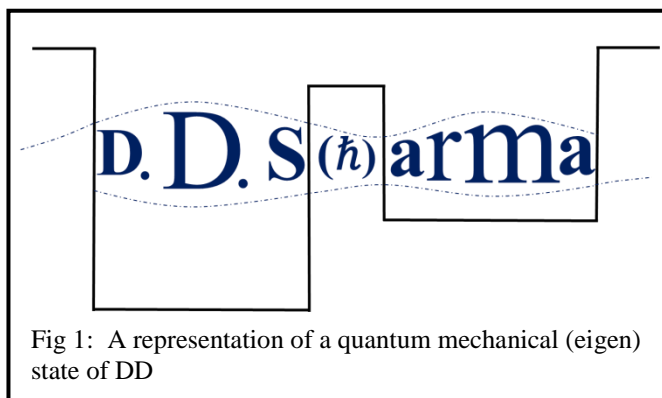


Fig 1: A representation of a quantum mechanical (eigen) state of DD

When we go to Prakruti (earlier Tea Board) with DD occasionally, the chairs in front and either side of DD's chair are clearly the last ones to be occupied! DD remarked one day, "Don't think that if you sit far away from me, I will forget to discuss the progress of your project. Let us start with the one sitting at the end – What progress have you made?" While this is an unexpected discussion that we would have hoped not to have at this point, there are times when DD is looking for us; and that sure means trouble.

One day, DD walked into the lab and asked where Sumanta is. We told him that he was here for a short time;

he had some pain in the eye and left early. DD asked, "Did you tell him that I was looking for him? He doesn't need his eyes to listen to my shouting. It is usually loud and clear!"^[1]

We are sure most students would agree with this!

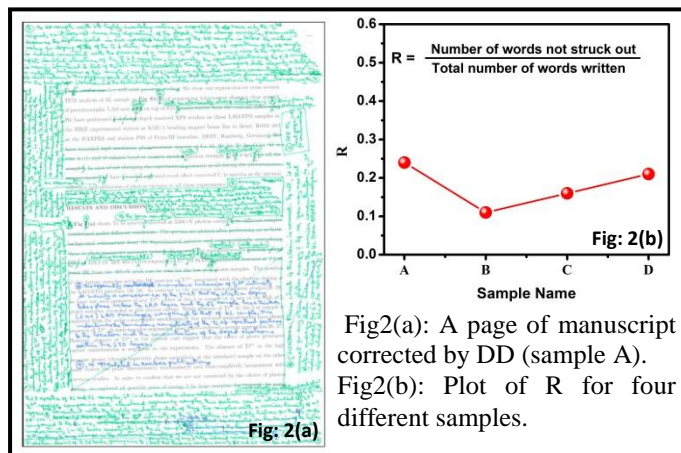
Many times, it need not be a scolding: a taunt is enough to get us working. Sharada was once discussing the results of the experiments that she had done three days ago. DD complained that she had taken too long a time between the experiment and the discussion. While looking at the data, he pointed out some numbers that had too many insignificant digits and said, "Ah! What precision! That explains why you took so long. At this rate, yours is going to be a long, long thesis!"

"Science is all about precision" is something that DD emphasizes until it gets embedded in our head. He eloquently expresses it in various forms. We recall one such instance vividly.

Once when Pratibha was shuttling between labs to prepare samples urgently, DD caught her and asked, "Are your samples ready?" She confidently replied "Yes, they are". DD interrogated further, "Do you have the XRD pattern?" "No", she murmured. "Then how do you know?" demanded DD. Perhaps she was thinking of defending herself and said, "As reported, a yellow precipitate has formed at the final stage"; but was too slow to propose a valid counter argument. The other victims of a similar tragedy (lab members) were enjoying the show silently. DD remarked, "She has X-ray vision. She can see the crystal planes. Ha ha ha..." his laughter echoed in the corridor and the crowd gave up its silence and started laughing along with DD. He continued, "Do you have any solid argument against it? Can you defend yourself?" She had clearly given up and as usual DD had made his point without leaving any ground for further arguments.^[2]

All his students would be familiar with Fig. 2(a), which shows a page of manuscript that DD has corrected. We have taken fresh samples to calculate the ratio R of the

number of words not struck out to the total number of words written by the student in the manuscript. Fig. 2(b) shows a plot of R for different samples in the recent times.



The mean value of R comes out to be 0.18 with a standard deviation of 0.06. We can clearly see that this value is much less than even half.^[3]

After giving his colloquium, a student asked DD, “How was my colloquium?”

“I have a good and a bad comment to give you. Which one would you like first?”

“The bad one first.”

“Your colloquium was horrible.”

“What is the good comment?”

“It could have been worse!”

Abhinav had been planning to go home and was wondering how he would say this to DD. He took Soham’s advice and discussed some results with DD and finally said, “I have to tell you one more thing. I want to go home for two weeks”. As DD started, “Two weeks! It is your responsibility to push your projects...”, DD saw both Abhinav and Soham smiling. On being asked the reason, Abhinav said, “You are saying exactly the same things that Soham had predicted!” DD said, laughing, “Watch out! These guys have been here for too long now!”^[4]

On the other hand DD also observes his students well enough to predict what they might say or do in a particular situation. He once asked Somnath to bring a few quotations for the electromagnet and then discuss the issues with them. Before Somnath came in, DD told Abhijit, Soham and Banabir who were there, “Now, sit and watch. Somnath will come and start –‘Actually, DD...’” Sure enough, Somnath entered and started – “Actually, DD...”! DD has told us “There is no actually” many times.^[5]

With the reputation that DD has for scolding his students, he once told Somnath, Banabir and Sharada after a grueling session, “I am fine as long as I am shouting. If I stop shouting at you, it means that I am angry beyond that or that I have given up hope. So make sure that you keep me shouting!”

Anticipation of the *gaali*: Usually before the sentence, one is summoned to the court for a trial and this call is suggestive of the impending doom. Call it fortunate or unfortunate, we do not fall in the conventional category of victim or perpetrator, so we do not receive the official invitation (notice) for the trial. Eventually, over the years, we students have managed to identify the onset of *gaali* (scolding) and have sought numerous unconventional ways to survive or avoid it.

It all begins as we enter the chamber and the interminable striking of keys indicates the extent of DD’s work. We promptly sit down to wait. The computer screen continues to receive input from the keyboard for a while. The events until this point may occur on any random day with a finite probability. The first step is the dislocation of the golden framed spectacles. Until now these pseudo-eyes were peacefully resting on DD’s nose in companionship of their real counterparts; but now they find a place on the shining glass slab on the wooden table amidst several conference invites/directories and of course, exquisite fountain pens. This motion is the whistle blower. Following the relocation of the spectacles, boss’s chair stretches itself slightly backward and his feet promptly cross each other to render a position of extreme comfort. The hands so busy in typing till then, now subtly rub themselves against the face which gives the final indication: the redness of the face. Since the red color has longest wavelength, it is supposed to be visible for longer distances; however we are able to see it only at this moment and not a second before. And then, yes my friend, we are there, right there in the middle of the ‘*chakravayuh*’. We did know how to enter it (either by not doing work on time or by doing something wrong), but we are absolutely clueless when it comes to fighting our way out or rather, to be precise, escaping our way out (Let us be pragmatic: Fighting is really not an option if we want to come out alive). So the session convenes, progresses with a series of demanding logical questions, analytically followed with philosophy and terminating at a death sentence that leaves us wandering, burdened with the guilt of our ‘*karma*’ in the after- life!^[6]

Surely, the students are also familiar with “shouting emails” that DD writes when he is traveling. Soham was once explaining the nature of “shouting emails” to DD, categorized in terms of how grave the situations are! “Level 1: E-mails with other lab members added in cc, is to impress upon the concerned person a sense of urgency, thus an immediate action is recommended to control the situation. Level 2: E-mails directly addressed to other lab members to check the whereabouts of the concerned person means you missed at least two summons big time, and you are on the verge of losing control over the situation! Level 3: Emails containing the phrase ‘Can you please explain...’, clearly means the situation is beyond explanation! The damage is successfully done. One doesn’t generally have the choice of not trying to explain, but in

any case, you have to wait to digest the scolding face to face. Any last wishes?"

We shall assume that most of DD's students would agree that a lot of his shouting has done them good! We need not mention that behind this, there is a lot of love, care and concern; which all of us would warmly relate to and recall several instances when this has uplifted and motivated us.

On a different note, we do enjoy with DD a lot. Birthdays celebrated in lab are a lot of fun. After counting the number of people present, DD says, "13! Aha! You have to cut the cake into 13 equal pieces!" gleefully. He even goes to the extent of measuring the length and breadth of the pieces with a ruler! (Fig.3) (By the way, DD did manage to cut the cake into 17 pieces on his previous birthday.) Even when it



Fig 3: DD cutting his birthday cake, with in an error bar of 1 mm.

is an even number, he finds something or the other to tease us. Pointing out to the uneven pieces after an even division on someone's birthday, DD asked, "You don't cut vegetables at home, do you? I can see it very clearly."

Banabir had just returned from home and told DD that he got married. He said, "It was a legal marriage (registered), not social marriage". "Then, did you marry antisocially?" asked DD.

Once Prof. Ramasesha gave a faculty colloquium in SSCU. DD introduced him to the audience and before leaving the stage, asked Prof. Ramasesha in a loud whisper – loud enough for all of us to hear – "Are you nervous?"

SSCU auditorium now has a collar mike which goes around the ear, with the microphone protruding from one side. It is very uncomfortable and falls off quite often. After introducing the speaker of that day's student's seminar, when DD sees the student struggling to hold the mike straight, goes forward to help the student with it, saying, "This way, I get a chance to twist the student's ear!"

Sharada once entered DD's office with a kerchief held to her nose – she had a bad cold. DD asked, "Does your nose run when you have a cold?" "Yes", she said.

"Do your feet smell when you wear the same pair of socks for a few days?"

"I don't wear the same pair of socks for more than two days usually, but yes, my feet would smell if I wore them for long."

"You are upside down: your nose runs and your feet smell!" Sharada, baffled, was trying to figure out what was wrong in that sentence when he explained that the correct words would be that you have a runny nose and your feet stink!

DD once came in to the lab and said, "I had a strange dream last night. In my dream, I was going for my morning walk with a friend. I saw three people running and exclaimed, "Oh, those three are my students! They must be really drunk!" "How do you know?" "Don't you see? With their heads down and bare-feet, there are trying to run away from me!"

After narrating the dream, he continued, "I am sure who the first two were, but I cannot recall the third one's face now. It was a very strange dream, and what do I make out



Fig 4: Last slide of DD's talk in Coorg conference

of it? It probably means that I keep thinking of my students all the time!"^[7]

Not leaving a chance to 'boast', DD once gave us numbers for his walking speed during his morning walk. (The number is large, by the way!) He said, "It is necessary to do some physical exercise every day. Anyone is welcome to join me during my walk. I walk too slow for the joggers and too fast for those who walk, which is very irritating to most people. My purpose is served!"^[8]

A conference was going on in a coffee estate in Coorg and there were many members of our group attending it. There were placards all over the tea garden with sayings of different kinds. Whether anybody took them seriously or not, DD certainly did: The last slide of his talk (Fig. 4) showed a photo of one of the placards saying, "If you win an argument, you lose a friend!"^[9]

DD doesn't mind mocking at himself either. While coming back to lab from tea one day, the topics of discussion hovered around music and a new student in the group asked DD, "Do you sing?" DD said, "If I sing all the seven *swaras* will be at the same frequency. I am sure no good singer can do this! What's more, with my pronunciation, many English words sound exactly the same. For example: 'wire', 'where', 'were'. When my son was in school, he used to have a lot of fun asking me to pronounce 'wire'."^[10]

We were once waiting for a discussion in DD's office, while he was busy signing papers brought by the staff of SSCU office. He was talking to them in Kannada. Pratibha later exclaimed, "Oh! You speak Kannada also! How many languages do you speak?" DD laughed and said, "If you call that speaking a language, I can speak Mandarin, French and Italian, to name a few!"

Over the years, students, while working with DD have attained the ability to escape with minimum damage in certain situations. One such instance is a perfect testimony of their skill. One fine day after a discussion with DD, Sharada and I (Pratibha) came back to our sitting room. Glancing at the plots, we were revisiting the points mentioned by DD and taking Bono da's (Banabir) opinion on it. After having savored a delightful "discussion" with DD, I was still hungry for a tangy lick of *mango bite*. So, I reached for them and shared them with Bono da and Sharada. Bono da promptly started relishing it, like me. However, Sharada did save it for the night; considering it as a help during sleepy hours. At this juncture, DD entered the room to remind us of some finer changes in the plots. Startled at his entry, I tried to reposition the *mango bite* so as to conceal its presence in my mouth. Being an amateur, I failed terribly or rather, DD being perspicacious, caught me red-handed, "What is in your mouth?" "Mango bite", I mumbled, and in my defense, I proclaimed that Bono da was also a partner in crime and demanded how he had missed him. Bono da then proudly described that he had positioned it in the center of his tongue, had his lips sealed and was just smiling throughout the episode. To put an end to my futile attempts to comprehend Bono da's wittiness, DD remarked, "He is an Old criminal: Old and Criminal". Since then, I have observed quite a few times, the prowess of this lot of senior PhDs who have learnt to work out an escape route from such unpredictable encounters.^[11]

We must certainly describe some incidents where DD has shown how enthusiastic and young he feels.

DD holds meetings with students of SSCU to find out if they need anything or if there are any complaints. In one such meeting, DD stood in front of the dais and looked behind. There was a table on the dais. DD asked, "Do you think I can jump on to that table?" There was a murmur in the crowd. "Do you think I am young enough to try it? I shall show you." He tried, and ah! There he was on the

table! We have serious doubts on how many students would have liked to try it.^[12]

DD once asked a post-doc student: "What will you do when you get to know that a paper of yours has been accepted for publication?" "Nothing, I will be happy; maybe distribute sweets in lab", replied the student. "What?! Wouldn't you jump up and down saying that your paper has been accepted? I would certainly do that. I don't like people who don't jump up and down with excitement!"

Recently during a conference, everyone was getting ready for a group photo. The atmosphere seemed quite serious with people discussing several things. Suddenly, putting his fingers into his mouth, DD let out a loud whistle. For a moment, everyone was startled; and then, the entire crowd broke into laughter. After DD had lightened the atmosphere there, you can be sure that the photograph came out very well.^[13]

With such an enthusiastic person to guide us, we have always hoped that we can feel that enthusiasm, or at least a fraction of it. He still says "Look at my eyes! I am 60, and still eager to pick a fight!"

ACKNOWLEDGEMENTS



The entire group would like to acknowledge **Prof. D. D. Sarma** for his critical inputs and for inspiring the research published here. We have chosen the title of this article considering the most common phrase in all of his e-mails to students.

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I agree about the dress part in IITK, to add to the story- we used to have Mr. Debonair in IITK for the best dressed, and so the radical kind started (I don't remember what they called it) for just the opposite and DD won it, I still remember him on the stage for it and that's just one of the times that I fell for him, agreeing philosophically for the sentiments of course.




When DD came home to meet my parents for the first time in Lucknow, besides the dress, he had 2 different chappals in 2 feet, one a Hawaii sleeper and the other was just not a different strap but altogether a different kind- one of the leather kind, and of course old and coming apart.



My mother nearly fainted, to my father it did not matter- he was always a different kind

.....Abha





The Six $\times 10$ Shades



Unlimited Compassion



Contagious Passion



Infectious laughter



Childlike Curiosity



Razor-Sharp Intellect



Everlasting Enthusiasm

