

the spark

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IIT KANPUR



STANDING ON THEIR SHOULDERS

The Spark

May 2025

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* Pages 1-492 refer to the Spark Issues #1 - 11, available at <https://iitk.ac.in/dora/spark/>

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Views and opinions expressed in The Spark are those of the Editors and Contributors and not those of the Indian Institute of Technology Kanpur, unless specified otherwise.

Editorial

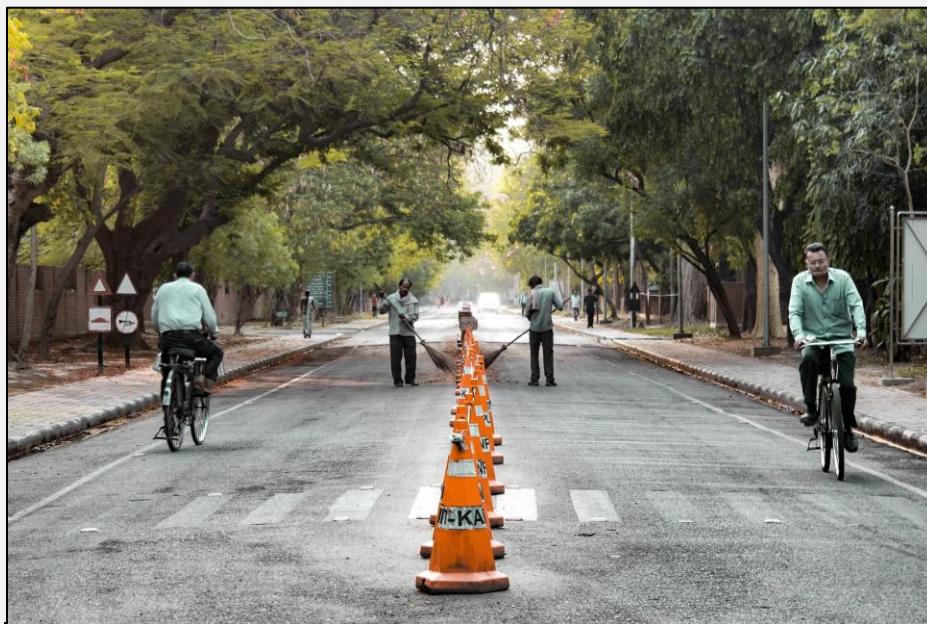
This issue of the Spark celebrates the Support Staff of IITK, those unsung individuals who go about their daily activities to keep the Institute functioning smoothly. Some, like the mailmen who distributed mail in the hostels, knew us by name and interacted with us directly; others, like the mess workers, worked quietly in the background and were mostly forgotten after we had left the campus.

The Spark offers three contrasting stories of these staff members, including the loveable Shishupal, who left a permanent impression with the earliest batches and was remembered by all, and the legendary Gangu Mochi, who for most people existed only in mythical fables for his extraordinary abilities. Our third story shares the dreams of one such individual, who like all of us, wanted to see his children reach a higher level of attainment. This uplifting story is that of a campus *dhobi* (washerman), whose grandson graduated as an IITK alum.

Our photo feature is based on images of IITK's supporting staff from the 1970 and 80s. It would give us immense happiness to do similar features on today's employees. With this in mind, we are asking current students to help us put together their stories and images. Share with us your thoughts of those people who you feel need to be recognized. We intend to start an occasional column to recognize our support staff on a regular basis.

It also gives us great pleasure to see the increasing level of participation from the current student community. With the contributions from Vox Populi, Techkriti, and the Rocketry and Space Exploration Team, we are effectively releasing another double issue; this one ingrained in the present time, as opposed to our usual views in the rear view mirror.

We would like to increase our interaction with the student magazines and reach out to the many clubs on campus. Tell us what you are doing, and where possible, we will tell you the grass roots level of how your clubs started.



*Morning routines on the Main Drive
Picture: Nupur Mehta (BT, ChE, 2017-21)*

Letters to the Editors

Please write to us directly at spark@iitk.ac.in. We love to hear back from you and will try to publish as many letters as possible.

Thank you for the Feedback

I am so happy to see this issue of the Spark (Sept. 2024) though the news of the passing away of alumni always saddens me. I was a Senior Technical Assistant during 1963-64 in ChE, IITK. The photo of Southern Labs brought alive so many of my golden memories of those early days. It was great seeing the photo of Prof Erikson. The words of Dr. Arundhati Sankar, "My God! What great teachers they are!" reflected my own feelings after interaction with faculty in those days. Congratulations on the wonderful work you are doing and keep it up.

I downloaded the new issue (January 2025) and it was a delight. I talked to Prof Mani and alerted him to the article about him. He knows the link and said he will see it. Prof PTN was a class act, and I did attend a concert by him in IITK. Multi talented he was. I also read the note on Prof George. It was exactly what I also experienced. I too attended his course for ChEs. That time, it was the first class in the morning. He would be there in the classroom five minutes early, and as soon as the bell rang, he shot to the front of the room like a bullet and started teaching! I learned a lot attending the course. Reading all this gives me great joy. Thank you for all the work you are doing.

K.S. Gandhi

Senior Technical Assistant 1963-64, Faculty 1971-1986

Dept of Chemical Engineering

Dear Prof Gandhi,

Thank you for your kind words. They mean a lot to us. In the eyes of the Editors, and most students of ChE in the 1980s, you were among the most respected teachers in the department. Many of us took the elective in Polymer Science, others remember your offering on Transport Phenomena (using BSL as the textbook); they were amazing experiences for those who attended them. We also remember you as being very accessible to us when we needed help, on everything from academics to other problems, and several of us visited you at your home seeking advice. Thank you for writing back to the Spark, we are so glad that you are enjoying these issues.

It is wonderful to see that the effort and enthusiasm for Spark has not diminished from our days at IITK. Thank you for giving us an opportunity to share our memories of the classical music scene at IITK during the 70's and 80's.

Thank you for all the hard work and support to get this article out. It was nice for us to relive some memories. I did love the articles on GH memories as well!

Vikram Narasimhan, MSc, Chemistry, 1979-84

Nalini Narasimhan Murdter, MSc, Chemistry, 1977-79

Thank you for the latest issue of Spark. I enjoy reading every issue, and many of them bring back memories of my life as a faculty member in the Chemistry Department during the period 1967-1978. In fact, it was Prof P T Narasimhan who urged me to apply for a faculty position at IITK when I was just finishing my PhD at Columbia University, NY. I did, and Prof Kelkar, who was the Director at IITK, offered me my job, and Prof C N R Rao (then Head, Chem Dept) gave me space for a lab and office next to PTN.

Yes, I was an admirer of PTN and his music, and it helped me to start the IITK Music Club, along with two other colleagues in Mathematics and Engg Departments. Prof Narasimhan helped us to invite several Carnatic Musicians. Reading the current issue of Spark led me to reminisce about these events. IITK was blessed to have had Professor P T Narasimhan.

With best wishes,

D. Balasubramanian

Faculty, Dept. of Chemistry, 1967-78, Institute Fellow 2015

Distinguished Scientist, L V Prasad Eye Institute, Hyderabad

Dear Prof. Balasubramanian (Balu),

We are thrilled to hear from one of the members of the constellation of brilliant chemistry professors at IITK. You may have left our campus, but our memories of you as a young and charismatic lecturer remain!

Thank you for forwarding this digital issue of The Spark. It brought back memories of years '69 to '72, when I was part of The Spark Team (the printed version).

The Spark used to be type-set and printed at Upkar Press, located on the road forming a right fork from the Mall. It was "sold" to students and Faculty, by going from door to door, at a princely 25 paise per copy, the major cost was covered by collecting ads.

The copy that sold out completely was the "Playboy" issue!

It would be appropriate to mention that the Hindi Campus Newspaper at the time was "Alok".

Thank you once again,

Raj Bhuptani (BT, 1967-72)

Dear Raj,

We didn't know that there was a 'Playboy' issue of the Spark. Any chance that you might have held on to a copy that you could share with us. ☺

Thank you for writing back, we are glad that we are able to reach former members of the Spark teams, and look forward to your contributions towards our future issues.

Lovely issue - it's amazing how much IITK still matters and how much it lives in memory.

Jayathi Murthy

BT, ME, 1974-79; Distinguished Alumnus, 2012

President, Oregon State University

Thank you for the "straight from the heart" accounts of what it was like being a female student at IIT Kanpur back in those days. We boys really were an immature bunch - weren't we? I never took part in the "pranks" (nice euphemism there for harassment) but I also never took the time to do something about it or have empathy for what the girls had to deal with. There are probably psychological/sociological explanations one can come up with - so many of us studied in single-sex high schools and were painfully shy, we were young and immature, and our IQ's much exceeded our EQ's.

I am so glad that IITK girls have retained an affection for IITK, warts and all. Over the years I have got to know a couple of IITK alumnae well - Anjali Joshi who is a close family friend, and Jayathi Murthy with whom I have served on work related committees (awards committees, UC Berkeley/UCLA connection) and in both of them I found this ability to cherish the IITK experience beyond all the nonsense.

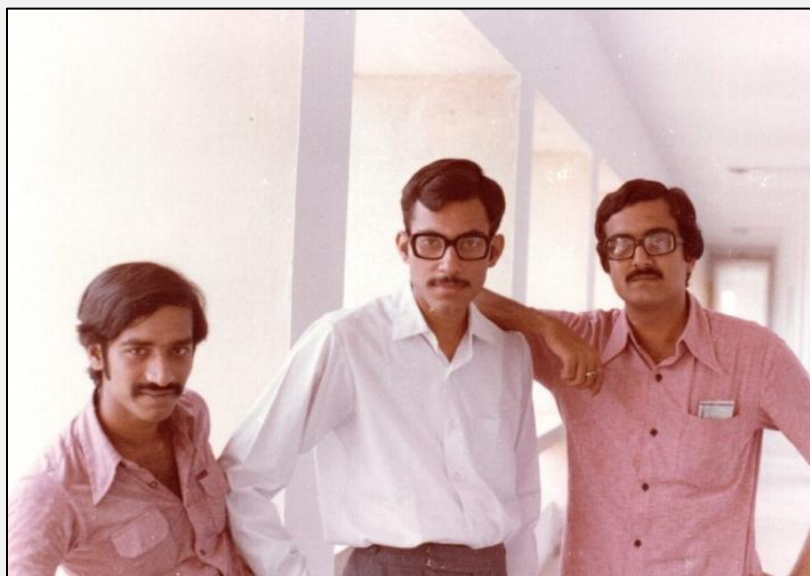
I have very fond memories of IIT Kanpur- it made me what I am - before that I was just a kid from a small town called Jabalpur. But if I was reliving that life I might do a few things better...

All the best,

Jitendra Malik

BT, EE, 1975-80; Distinguished Alumnus, 2007

Arthur J. Chick Professor, Dept. of Electrical Engg & Computer Science, UC Berkeley



Rabin Majumdar (a brave lad from the batch of 1973-78), Jitendra Malik and A. P. Mukerji.

Picture: Batch of 1975-80

*I read The Spark almost cover to cover last night. Loved the articles on life in the GH. Raman Bhatia's drawings are magical though his Malik looks more like Tambe at that age!
Thank you for pulling that magnificent keepsake issue together.*

Dinesh Naik
BT, AE, 1975-80

*The Spark has once again re-kindled so many fond memories of GH in particular!
Love and best wishes for 2025*

Amrita Tripathi Sheikh
MSc-PhD, Chemistry, 1976-84

*Nicely written articles with very nice picture accompaniments.
Thank you for bringing back old memories. It seems a lifetime away.*

Sudha Nair Shelat
MSc, Chemistry, 1975-80

Seven of the eight girls from the undergraduate class of 1979-84 clicked shortly after their arrival on campus. Eight girls in a batch was a new record for those times, surpassing the six in 1976-81.



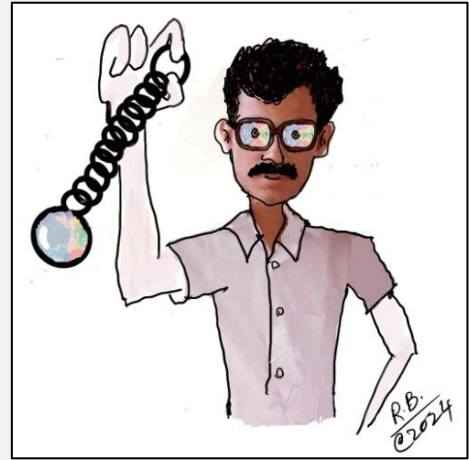
Front – Anuja Mathur, Lovely Datta; Standing (L to R) – Alka Sinha, Nandini Raghavan, Uma Kuchibhotla, Sudha Bharadwaj and Radha. Nisha Srivastava is missing in this picture. Shared by: Lovely Datta

Hypnotic Spells – Part II

The memories of our First Year Hypnotic trances have definitely faded. But here's what I remember:

GP (Gur Prasad Nayyar) and I were in the corner room of Hall 3, Wing1, third floor. One evening as we were starting to figure out what to do next, we heard this huge commotion accompanying Dinesh, Eswaran and a cohort of classmates who barged in claiming that Jitendra Malik had figured out how to hypnotize willing subjects. GP and I were both skeptical but Tambe was offered as a willing proof.

At this point bright eyed Tambe volunteered to sit on a chair in the middle of the room with Malik eagerly commencing the session by dangling an object in front of him. It appeared that Tambe was being genuinely hypnotized as he went through various suggestions including post hypnotic suggestions.



Sketch: Raman Bhatia (1977-82)

At this point I was intrigued enough and volunteered to be the next subject. Malik commenced the session by dangling an object and suggesting that I was feeling sleepy with my eyes getting heavy, etc. While I did not feel any of that, I decided to play along to see if something further developed. Unfortunately, nothing was developing for me.

Given my high school drama experience, I decided to act so as to mimic what Tambe had done. When it was all done, everyone was convinced that I was hypnotized as well. There was a loud cheering in the room. I stayed alert for the post hypnotic suggestion and made sure I acted out the suggestion. That led to more cheering and commotion with Malik looking at the top of the world. I felt good about my acting skills. I debated whether to deflate the balloon, but decided against it as I did not have the heart to disappoint Malik. Obviously my skepticism ensured that this was not going to work on me.

With loud cheers, the "Hypnosis Posse" moved out of our room looking for the next willing participant. I did confess to GP and later Dinesh that I had acted it out. They grilled me in detail of all that had happened and finally got convinced that I was not hypnotized.

Ajay Singh
BT, EE, 1975-80

Afterword

We need to acknowledge the veil of uncertainty here. Mohan Tambe and Ajay Singh claim that they were not hypnotized. But wouldn't we expect them to say so?

I think they were hypnotized. But wouldn't we expect me to say that?

Jitendra Malik
BT, EE, 1975-80

A Pinnacle of Excellence

The 11th issue of Spark had reminiscences of the Chemistry Department from Arvind Agarwal (1970-1975), prompting me to write my memories of the department from the mid-70s. I had started in Aeronautical Engineering but moved to the 5-year integrated MSc Chemistry program, joining batchmates Rajagopal Chattopadhyaya, Anant Menon, and Sudha Nair (now Shelat).

My first chemistry freshman class was taught by **Prof. S. S. Katiyar** ([Wikipedia](#)) who had just returned from a trip abroad with an American accent. Many people remember his green checkered suit as well! The other memorable professors were **Prof. P. S. “Moonrock” Goel**, and **Prof. V. B. S. Chauhan**. As freshers, we were expected to know the full name of **Prof. C. N. R. Rao** – Chintamani Nagesa Ramachandra Rao ([Wikipedia](#)), and **Prof. M. V. George** – Manapurathu Verghese George ([Wikipedia](#))! Together with **Prof. P. T. Narasimhan (PTN)** -- Palliakaranai Thirumalai Narasimhan ([Wikipedia](#)), they were known as the Brahma-Vishnu-Maheshwar of our department, and also in all Indian Chemistry. They, as well as **Prof. Animesh Chakravorty** ([Wikipedia](#)), had all won the prestigious Bhatnagar Award – which was the highest national award any scientist in India could aspire for.

(Editorial note: Some of the other IITK Chemistry faculty to win the Bhatnagar award also include Profs. S. Ranganathan, N. Satyamurthy and D. Balasubramanian, who are mentioned below in this article, and earlier in this issue).

Once in the advanced physical chemistry course PTN asked a rather tough question, and with a grin said that anyone who could answer that question right there would not need to take the approaching final exam. We all sat scratching our heads, but no one could answer right then!

One time I had returned late from vacation and missed some of Prof. George’s classes. I told him it was due to a stomach related illness. He quizzed me about that till it became clear to me that I did not completely know my anatomy of the GI tract! I became so nervous that I started wiping the blackboard with my hand instead of the duster. He said, “Next you will be wiping with your legs”! Later, after he retired and went back to his native Kerala, we remained in touch for a while.



Professors S. Ranganathan, PT Narasimhan and MV George in 1995.

Picture: the Narasimhan family

As a 3rd year student, I started research (and made a little money) working for one of **Prof. Pradip Ghosh's** PhD students. I would go after dinner to the lab where there would be a pile of chemical spectrograph slides that I scanned and recorded the intensity of the lines. Later, Prof. Ghosh visited me at Caltech, and we had a memorable discussion over coffee at Caltech's famous Red Door Café about Nehru's original intent behind establishing the IITs--definitely not to export talent to the US!

Quantum chemistry was taught by **Prof. Pinaki Guptabhaya (PGB)** who joined the department after finishing his PhD from Columbia University. I became good friends with him later along with a group of Bengalis in our batch that included the only son (Nilanjan) of the then IITK **Director Prof. Amitabha Bhattacharya** ([Wikipedia](#)). Our batch had so many Bengalis that Prof. George once remarked "Is there a shortage of fish in Calcutta"? Once, PGB had put rice and lentils to make khichri for lunch, and we started chatting. After some time, he remembered he had not put any salt – so he depressurized the pressure cooker to open the lid and add salt; only later did he remember that it also needed turmeric. But we were more interested in stories and companionship than the actual food.

In our final year we became very good friends with **Prof. Abhijit Banerjee** (Physics) and his wife – we would often hang out in their quarters, and he would drive all of us in his small Fiat to Kanpur city where we would go for dinner. They loved the food in a restaurant on the top of a high-rise building in city center, and would insist on paying since the meals were too pricey for students.

Prof. P. Raghunathan joined in 1978 and conducted the chemistry 'quiz' championship. He was fond of jokes and double entendres. When during the final quiz no team could answer a question on Linus Pauling, he commented "How appalling"!

Prof. N. Sathyamurthy ([Wikipedia](#)) joined IITK in 1978, and was known as one of the most intense young faculty members in the department. He had commented on the inadequate quality of our MSc theses, during the defense exams. It has been a pleasure to contribute to the Sathyamurthy endowed lecture fund which I think is a great addition to the chemistry department's lectureships.

One of my best experiences was in **Prof. Sabyasachi Sarkar's** ([Wikipedia](#)) inorganic chemistry lab, in which he taught us finer details of lab synthesis, and also how to obtain a needed chemical compound. He divided the class into four groups, assigned reaction pathways from different starting materials that all led to the same product, and challenged to come up with the best yield. Our team (with Anant Menon) worked very hard – I remember spending a lot of time in the Central Library doing literature search on how to improve yields in each step. Winning the prize was a great thrill—we gained access to the NMR machine in PTN's lab, which was otherwise off-limits to UGs.

Prof. S. Ranganathan ([Wikipedia](#)) was unique in offering the only Biochemistry course at that time. He had done his postdoctoral work in the lab of Nobel laureate Bob Woodward at Harvard. When Woodward passed away in 1979, Ranga did a special lecture in chemistry – he would write on the board one of Woodward's several iconic natural products synthesis pathways to the accompaniment of Beethoven's sonatas, while tears rolled down his cheeks (possibly a figment of my imagination)! My one regret was that we had few offerings in Biology or Biochemistry.

Prof. Ranganathan's wife **Dr. Darshan Ranganathan** ([Wikipedia](#)) was also an internationally recognized scientist for her work in Bio-Organic Chemistry. She authored several papers with her husband.

Unwritten rules prevented spouses from joining the faculty in the same department on campus, but she continued to do research at IITK through fellowships.



Prof S. Ranganathan and Dr. Darshan Ranganathan in 1995. Picture: Prof. N. Sathyamurthy

For my MSc thesis I joined **PGB's** group. I worked on cooperativity in haemoglobins based on the Monod-Wyman-Changeux (MWC) model. It required reading many papers and understanding the micro-equilibria steps – one critical paper was written by 2024 Nobel Laureate John Hopfield with Shulman and Ogawa. For my PhD I went to Princeton in 1980, with the intention of joining Hopfield's group. But Hopfield had just left for Caltech! I moved to Caltech in 1985 for a post-doctoral fellowship, but Hopfield had gone back to Princeton! I met him later as a postdoc in AT&T Bell Labs. It was heartening to see him get the Nobel for a lifetime of work on neural networks.

At Caltech, I started as a postdoc and was lucky to become a Research Faculty member, working there until I retired in 2019. In 1985 PTN's daughter Nalini Murdter was also a postdoc in Biology at Caltech, so PTN moved there after retirement. Although Nalini moved to the Bay Area, PTN ("Jim" to his lab mates) continued to stay near Caltech. We both worked in Beckman Institute, and met frequently. As a very good flautist, he often accompanied visiting musicians from India, and several times he rode with us to the concerts. He was one of the kindest people I knew, always with a megawatt smile on his face. I am glad his children are sponsoring a music series in his name.

IIT Kanpur Chemistry has had an amazing influence in my tertiary education – I was lucky to have the opportunity to learn from so many intellectual giants in the Indian chemistry firmament.

Siddharth Dasgupta

MSc, Chemistry, 1975-1980

After graduating from IITK, Siddharth completed his PhD in Biophysical Chemistry at Princeton University in 1985. He then worked as a postdoctoral associate, jointly at AT&T Bell Labs in Murray Hill and Caltech, before permanently moving to Caltech in 1987, where he worked for 33 years before retiring in 2019.

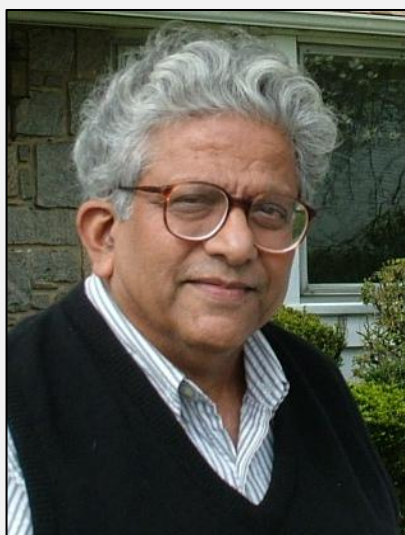
He remains active, working at the biotech company Amgen, in drug discovery, where he works in the cardiometabolic therapeutic area. Siddharth has been an active participant in IITK alumni affairs. He has served on the IITK Foundation board, and helped initiate the SURGE program at IITK, modeled after the Caltech SURF program, with the then DORA Prof. Sudhir Jain.

If You Cannot Procure It... Fabricate It!

Chandra Sekhar Verma (MSc, Chemistry, 1979-84)

Prof. PK Ghosh was a Faculty Member in the Chemistry Dept from 1966 until his retirement in 1998. He was my MSc project guide. In those days, procuring research equipment was extremely difficult; hence Prof. Ghosh and his students had parts fabricated in the IITK workshop to build the required instruments. It was a herculean task, time consuming and heart breaking, but the remarkable results brought international admiration and accolades.

Arvind Agarwal (MSc, Chemistry, 1970-75), The Spark, Issue 11, January 2025, Page 438



Do you remember Chem101, fuzzy hair, eyes shining behind glasses and a passionate voice...urging, coaxing, teasing, pushing, encouraging us wide-eyed heathens, to take a dive into the tantalizing mysteries of the quanta and the cool-looking but totally enigmatic wave function? Yep, that was none other than Prof P K Ghosh of the Chemistry Department at IITK.

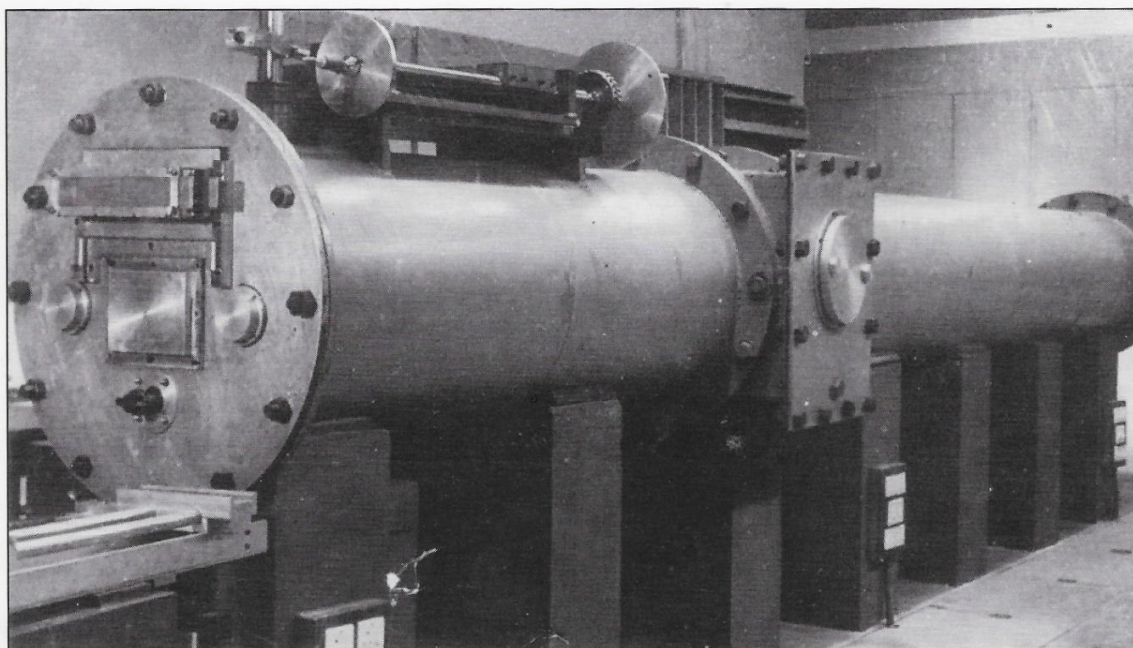
Unknown to most of us, Prof. Ghosh occupied a parallel universe when he wasn't teasing us with challenges of determining symmetries of random objects picked up from his walks. In this universe, his mind was scheming, single-handedly, to pull off the near impossible. Having come from the rich tapestry that labs in the US afforded him, and suddenly faced with the limitations of the fledgling IITK campus, he was determined that nothing would obstruct progress towards achieving his scientific goals.

So he embarked upon building two crucial tools that would help his journey, a very high resolution optical spectrometer and a dynamic mass spectrometer -- which may mean nothing to most of you unless you are geekily widely read. But to give you a hint, his high resolution optical spectrometer, which at first glance resembles a mammoth sewage pipe, is an instrument so complex and fragile in its inner workings, that the mere thought of building one, given his meagre resources, would send shivers of impossibility down the spines of the finest engineers in the world.

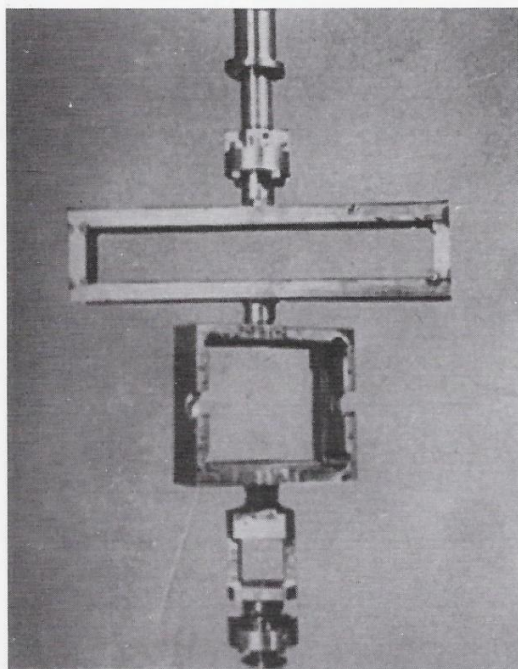
But driven by a passion backed by determination that I am yet to fathom, he pursued his vision of building the mass spectrometer and the optical spectrometer, braved the rigours of travelling in night trains without reservation (a torturous feat that the pre-90s amongst us can relate to with fond memories), slept in dodgy hotels, haggled with scrap vendors and electrical suppliers in the seedy corners of Paharganj (Delhi), Calcutta, Kanpur and Crawford Market (Bombay), and finally managed to assemble what he needed.

Next he gathered a bunch of equally dedicated and smart grad and undergrad students and finally pulled off what may be the first and last such single-handed effort in the world of mass spectrometry and optical spectrometry. Given the impoverished conditions in a country struggling to get to its feet

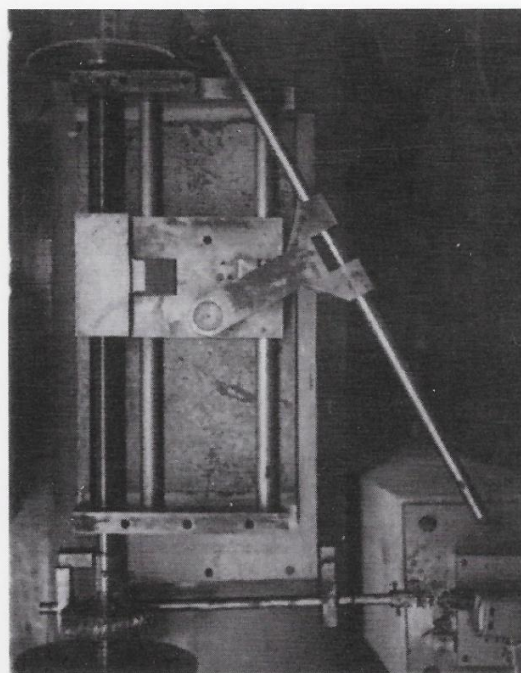
and rear its head in the international technological and scientific arena, his achievement must be close to miraculous and yet remains unknown.



21 ft (6.4 m) Dual-dispersion High-resolution UV-Vis. Spectrometer



The Grating Mount



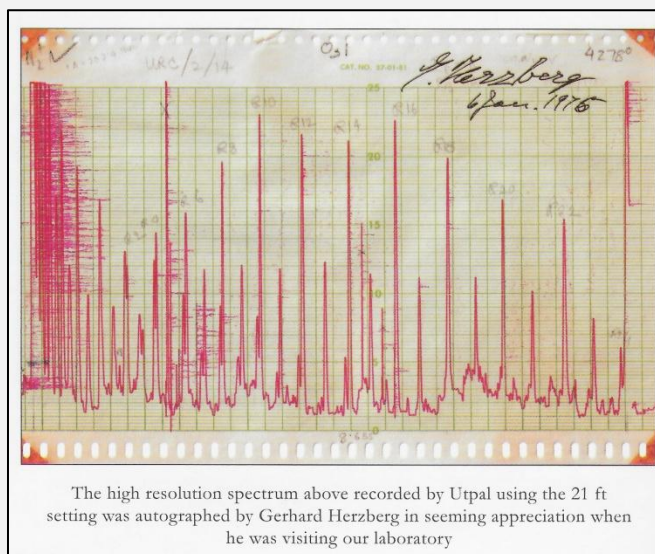
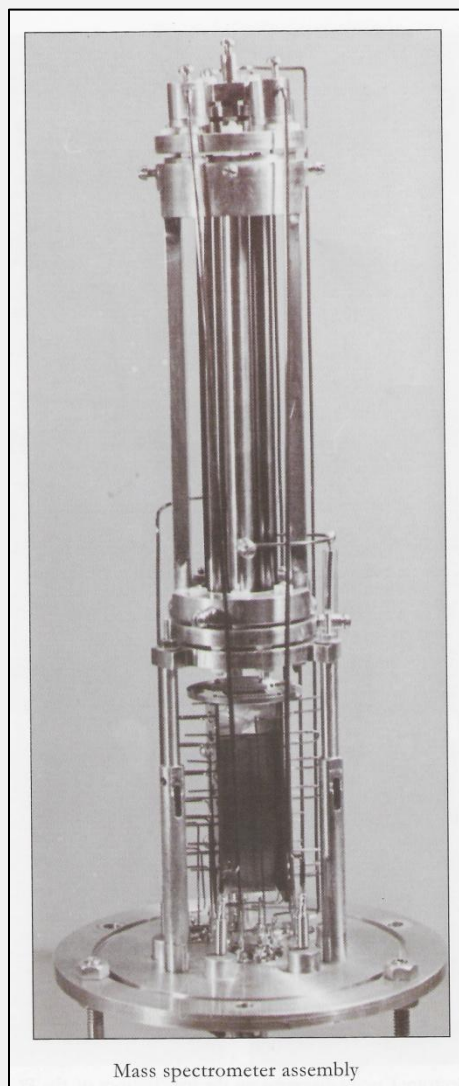
The Grating Drive

Pictures: Lest We Forget Them, P.K. Ghosh, 2021

And then he pulled off another remarkable feat in using it to distil characteristics of elements that suddenly found a voice in the international astrophysical and astronomical arena. When people found out how he had done this, there was admiration and marvel, not just at the spectral enlightenment, but the sheer audacity of building such instruments at a single lab in India, with meagre resources.

I write this as the one outlier amongst his otherwise bright dedicated undergrad and graduate students because I was there when this was being accomplished. He had, rather reluctantly, taken me on as a final year project student, and despite my continued ineptness, I miraculously passed, and we have remained close friends. I do have a claim in contributing to his Herculean effort: I (working with one tall Gopal S.) contributed a small capacitor that we procured, having scoured the depths of Crawford Market, Mumbai (then Bombay).

Until recently, Prof. Ghosh has been teaching in various universities, mostly in the USA, or busy writing wonderful texts. Indeed, such is his drive that he recently stepped out of the seemingly simple and comfortable world of his small molecules to brave the daunting and complex world of structural biology and wrote a fascinating textbook on mass spectroscopy of proteins. And he has written a series of books for kids in Bangla that are mind bogglingly amazing....but that is for another story.



Pictures: Lest We Forget Them, P.K. Ghosh, 2021

Utpal K. Roychowdhury was one of Prof. PK Ghosh's PhD students. Prof. Gerhard Herzberg (Nobel Prize, Chemistry, 1971) visited IITK in 1976.

In 2019 an amazing award was bestowed upon Prof. Ghosh, celebrating a series of amazing achievements and contributions: a **Lifetime Achievement Award** given by the Indian Society for Mass Spectrometry (ISMAS). The associated citation from the award giving ceremony held at the 32nd ISMAS symposium on Mass Spectrometry, BARC Mumbai, read:

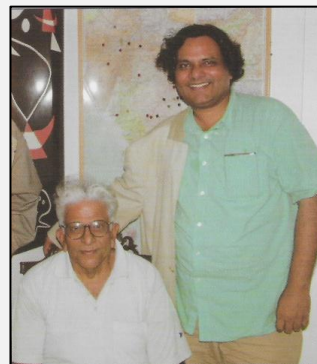
*Dr. P. K. Ghosh pioneered major indigenous scientific instrumentation, from an individual scientist's laboratory. His team designed and built in the mid-1970s the first quadrupole mass spectrometer in India. His research involved studies of collisional and radiative transfer processes in gaseous plasmas. From the mid-1960s to the late-1990s, his group experimentally studied behaviour of diffuse plasmas as a function of plasma electron density and electron energy distribution function – using both optical spectroscopy and mass spectrometry – while developing detailed collisional-radiative models. They also studied a range of properties of quadrupole ion traps theoretically. Further, they designed and built a unique 21-ft dual-dispersion high-resolution scanning UV-Vis spectrometer. Among Dr Ghosh's technical writings in the field of mass spectrometry are two world-class monographs: *Ion Traps* (Clarendon Press) and *Introduction to Protein Mass Spectrometry* (Elsevier); indeed such has been the successful reception of the book on Proteins that Elsevier have taken out a 2nd edition.*

No write-up on this story would be complete without mentioning the supporting staff of IITK who made it possible.

A major contribution to the building of the spectrometers was the fabrication of its parts and this was entirely the result of three excellent machinists in the Central Workshop at IITK – B. I. Rajani, Santlal Yadav and Vijay Rajani. Another significant contributor was Gauri Singh, the office typist, who volunteered his time outside office hours, to prepare the scientific manuscripts containing the text and beautifully crafted figures, which would help establish the international reputation of Prof Ghosh and his team at IITK.

About the author:

*Chandra Sekhar Verma obtained his MSc in Chemistry from IITK in 1984 and then a PhD in Computational Chemistry and Molecular Modelling from the University of York. After a long stint at York University, he moved to Singapore where he heads the Division of Biomolecular Modelling and Design at the Bioinformatics Institute (A*STAR), researching and designing new medicines. An active contributor to the Spark, many of us remember him as the institute drummer boy for a band called Mad and his Hatters.*



CS Verma with Prof PK Ghosh. Picture: Lest We Forget Them, P.K. Ghosh, 2021

Now happily retired, Prof P.K. Ghosh lives a quiet life at his home in India.

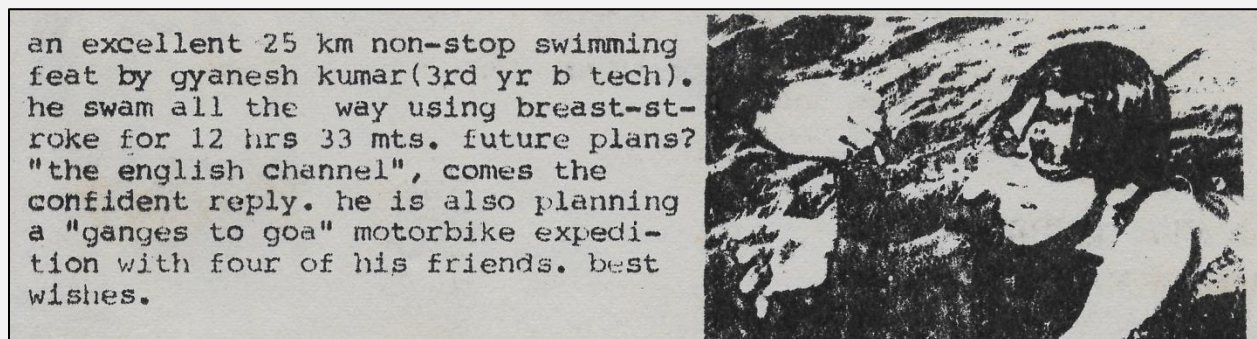
This article was originally written as a post for the IITK Facebook group, 'This Bit of That IITK' in 2019, and is republished, with updates, here.

Congratulations Gyanesh!

Our Congratulations to Gyanesh Kumar (BT, CE, 1980-85) for being appointed the 26th Chief Election Commissioner of India. During his upcoming term he will oversee several significant elections, including the Bihar Assembly Polls and the 2026 state elections in West Bengal, Assam and Tamil Nadu.



Most of us remember Gyanesh as a bundle of energy on campus, always coming up with creative ideas for new ventures. These included starting a correspondence coaching class for IIT JEE during his second year, in which several batch mates participated, and this 25-km swim marathon in 1982 that was covered by the Spark.



Credit: The Spark, November 1982

For the folks wondering, the 25 km swim marathon mentioned here was witnessed and timed by IITK students; it was completed as 500 laps of the swimming pool. Many of us including Prof. SG Dhande (later, Director Dhande) swam 1-km stretches in an adjoining lane, to keep him company.

The IITK Flower Show, 2025

The Annual Institute Flower Show was held in the Nursery over the weekend of February 22-23, 2025. This year's show included a fete and a drawing competition for school children. We share here a few images received from the campus community.





Pictures: Information Cell, IITK



Pictures: Aman Kumar Singh (BT-MT, CE, 2020-25) and Harshit Kant (BT, ME, 2021-25)

Techkriti 2025: A Celebration of Innovation, Valor, and Vision

Lisa Verma (BT, MSE, 2022-26)

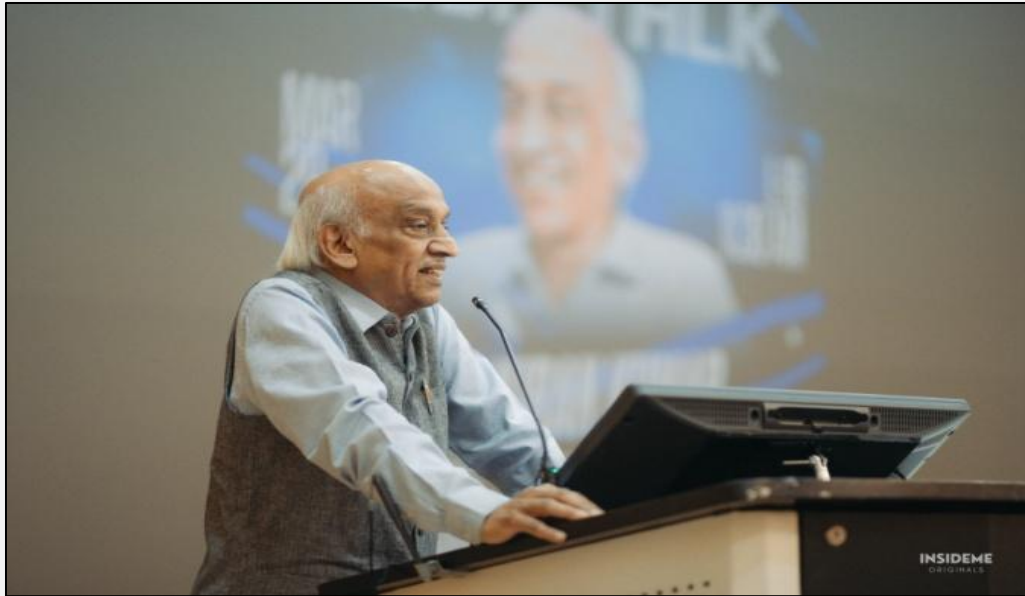
Techkriti, the annual flagship festival of the Indian Institute of Technology Kanpur, is Asia's largest Technical and Entrepreneurial festival. Held every March, it unites brilliant minds, cutting-edge innovations, and an unwavering spirit of discovery. The 31st edition, hosted from March 27 to 31, 2025, continued a legacy that began in 1995, serving as a platform for showcasing ideas, engaging with visionaries, and inspiring the next generation of technologists.

The name 'Techkriti' blends "tech" for technology and "kriti," the Sanskrit word for creation—aptly reflecting the festival's essence. This year's theme, "Panta Rhei" (Greek for "Everything Flows"), symbolized the dynamic and ever-evolving nature of science, technology, and human thought.

Marking a historic addition, Rakshakriti, the Defence Symposium, was launched this year to celebrate India's advancements in defense technology and self-reliance. The symposium opened with a keynote address by General Anil Chauhan, Chief of Defence Staff, on *"Technological Advancements in Modern Warfare."*



General Anil Chauhan, Chief of Defence Staff, at the inauguration of Rakshakriti, Techkriti'25.



Dr. A.S. Kiran Kumar, Former Chairman ISRO delivers a keynote talk on 28th March

Air Chief Marshal Amar Preet Singh, Chief of Air Staff, graced the event as Guest of Honor on March 28, followed by General C.S. Mann, ADG, Army Design Bureau, who emphasized *“Bridging the Army with Academia, Research, and Defense Manufacturing.”* Other notable speakers included Dr. A.S. Kiran Kumar, Former ISRO Chairman.



Air Chief Marshal Amar Preet Singh, Chief of Air Staff (left) & General C.S. Mann, ADG, Army Design Bureau (right) with students from The Air Force School, Chakeri, Kanpur.

On-ground events added a powerful momentum to Rakshakriti:

- The Air Warrior Drill Team (AWDT) performed a spectacular show at the Flight Lab Airstrip.
- A grand Defense Rally on March 29 featured elite units such as the Indian Army, NSG, Para SF, and Garud Commandos, showcasing advanced military vehicles like ATVs and LSVs.
- A live Para SF Drill demonstrated the futuristic *Man-Unmanned Teaming Concept*.

The Air Warrior Drill Team (AWDT) delivered a precision performance at the IIT Kanpur Flight Laboratory Airstrip on March 28, showcasing the discipline and coordination of the Indian Air Force.



The exhibition featured leading defense and space institutions including DRDO, ISRO, Bharat Forge, and forces from the Army, Navy, Air Force, and special ops units.

The iconic Robowars Championship scaled new heights this year, moving to the Open Air Theatre (OAT) for the first time. Robowars is an electrifying competition where custom-built robots, designed and engineered by students from different colleges, battle it out in an enclosed arena. These bots are equipped with powerful weapons, tough armor, and smart mechanisms, all crafted to outmaneuver and destroy their opponents. More than just a clash of metal, Robowars is a high-energy showcase of innovation, teamwork, and technical skill. The energy was electric as teams clashed in thrilling battles across categories:

- Team Decepticon triumphed in the 8 kg class
- Team Xenon dominated the 15 kg category
- Team Orcus (*from VIT Vellore*) reigned supreme in the heavyweight 60 kg battle

** Teams Deception and Xenon were private professional teams, not linked to specific colleges*



(L): General Anil Chauhan with the INDRO Robot. INDRO is India's tallest humanoid robot and has been designed and built by Santosh Vasudeo Hulawale from Mumbai. A remarkable example of homegrown robotics innovation, it was one of the major attractions at the Defence Expo (Rakshakriti)

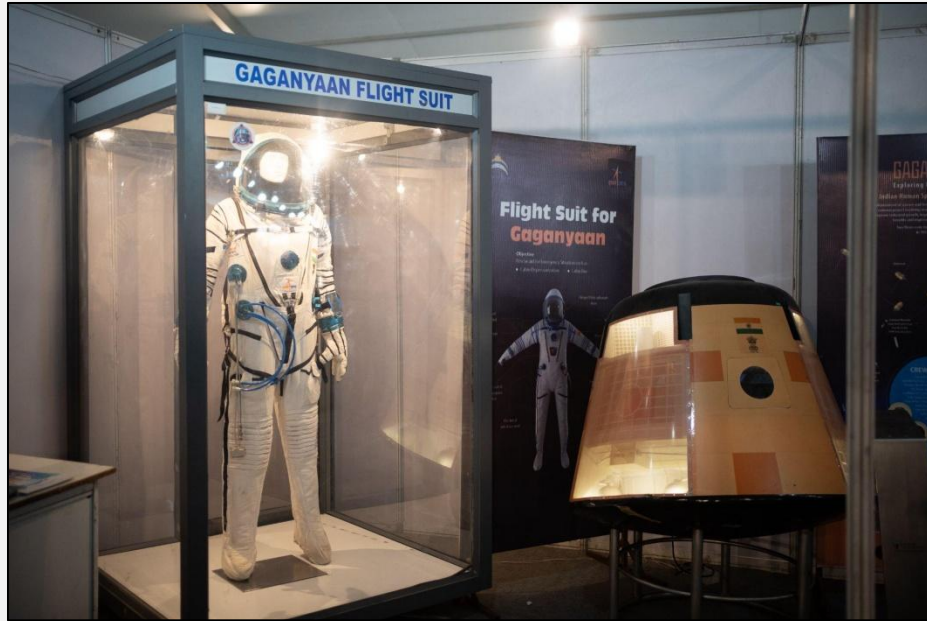


(R) The Robowars Finale at OAT, 29th March.

The event drew record-breaking crowds, transforming the OAT into a powerhouse of engineering brilliance, strategy, and raw mechanical power.



The Para Special Forces Drill was an exhilarating demonstration of the Man-Unmanned Teaming Concept



The Gaganyaan (Indian crewed orbital spacecraft) Flight Suit.

Techkriti 2025 concluded on a magical note with the Pronite, featuring a soul-stirring performance by Sonu Nigam under the starlit sky. The musical evening brought a perfect close to four days of innovation, intellect, and inspiration.



With the launch of Rakshakriti, electrifying Robowars, enlightening keynotes, and unforgettable nights, Techkriti 2025 wasn't just a festival—it was an experience. One that set new benchmarks in celebrating technology, defense, and the spirit of creation.

Sonu Nigam performing Live at Bollywood Night, 30th March.

Text: Lisa Verma, Head, Media and Publicity, Techkriti '25.

All Pictures were clicked by Insideme Originals - Official Coverage Partner, Techkriti '25

In the Vault of Time: Discovering IIT Kanpur's Hidden Capsule

Vox Populi

A time capsule, akin to a time-travelling treasure chest, captures the essence of an era -- our biggest dreams, core values and the milestones that define us—so that generations down the line can uncover and reflect on who we were and what we believed in.

While this might come as a surprise to much of the campus junta, in 2010, as part of its golden jubilee celebrations, IIT Kanpur devised a unique way to safeguard its legacy by preserving it for posterity in a time capsule. Remarkably, this was only the second such capsule created in India at that time. The then President of India, Smt. Pratibha Devi Patil, was present at the event.



President Pratibha Patil lowers the IITK Capsule, March 2010

The director at that time, Prof. SG Dhande had proposed the idea of this time capsule followed by the creation of a committee headed by Prof. SP Mehrotra and comprising Professors Ashwini Kumar, Ashok Mittal, Avinash Kumar Agarwal, Manindra Agarwal, Rajat Moona and Mr Phool Chand Gond as members.

Breaking from tradition, gun-metal, also known as red brass, was used for the outer casing of the capsule instead of the usual stainless steel. The project, led by Professor Avinash Kumar, was primarily designed and executed by about 50 students from the institute in a Mechanical Engineering Lab with a budget of around 2.5 lakhs.



The capsule was designed by students from the institute in a Mechanical Engineering Lab

To ensure the longevity of the contents, acid-free paper was used for storing printed information (regular paper, made from cellulose, can attract insects when exposed to water or oxygen). Most of the information was stored digitally and sealed within a nitrogen atmosphere to prevent oxidation.

Addressing the common issue of data retrieval in time capsules, the team included external hardware -- a 16 GB pen drive holding all the documents in digital format, along with a notebook computer equipped with the necessary software and cables to access the data in the future.

The 3-foot-long capsule is composed of two sections—an inner cylinder measuring 6 inches in diameter and 17 inches in length, and an outer shell that encases it. This shell is made up of three separately cast segments, which were assembled after the contents were securely placed inside. At the time of burial, the weight of the capsule was approximately 285 kg.

Several interesting items were placed inside the capsule after 6 months of deliberation, in both hardware and digital form. These included photographs collected over 50 years, an aerial map of the institute, a replica of the President's Gold medal, copy of statutes, ordinances and acts, a weekly menu of a student hostel mess, information about birds spotted in the campus, annual reports, R&D publications, copy of the 'courses of study' booklet in microfilm, minutes of the first and hundredth Senate meetings and Board meetings, and the IITK movie of 2009, among others.

- a. Aerial map of the Institute.
- b. Institute seal, silver jubilee logo, golden jubilee logo, engraved on silver.
- c. Copy of Statutes, Ordinances and Acts.
- d. Minutes of first and hundredth senate meeting and the Board meeting.
- e. Annual reports 1961-62, 1984-85, 2008-09.
- f. DRPG Annual Report
- g. Photographs collected over 50 years in digital form.
- h. R&D chapter from the Institute history book.
- i. List of R&D projects undertaken by the institute.
- j. R&D Publications (PDF)
- k. Information on birds spotted in the campus.
- l. Students Gymkhana, typical weekly menu of a student hostel mess.
- m. Copy of **courses of study** booklet in microfilm
- n. Academic program chapter (UG and PG) from the Institute history book.
- o. Information regarding non-academic activities of the student life.
- p. Copy of BTech/ MTech/ PhD, and all other degree certificates including printouts.
- q. Replica of the President's Gold medal.
- r. DVD of "Sharing A Dream – Indian Institute of Technology – The First Fifty Years".
- s. Oral record of the interviews conducted by Mr. Sunil Shanbag and the IITK movie of 2009.
- t. Institute blazer crest.
- u. Replica of the scroll signed by Mr. Narayana Murthy during the golden jubilee inauguration

The contents of the Time Capsule. Located for the Spark by Ishan Singh (2020-24)

For readers on campus, if you haven't yet guessed the location, let us break it to you. You might have wondered about the large white rock when passing through the Main Auditorium. Perhaps, you have even taken a picture there, unaware that this marble rock, weighing around 10 tons and transported from Banswada, Rajasthan marks the spot where the Time Capsule is preserved.



The location of the Time Capsule near the Auditorium. Picture: Aditya Raghav Trivedi (2018-22)

The capsule encapsulates the Institute's rich history and the aspirations of our generation, embodying our commitment to shaping the future with our unique vision and ideals. As we reflect on the treasures buried in 2010, one can't help but wonder—if a time capsule were to be buried today, what new milestones, achievements, or symbols of our era would we choose to preserve?

Written By: Ashutosh Sharma, Dhriti Barnwal, Sanket Bansal

Designed By: Arnav Gupta, Kanak, Mitanshi Khandelwal

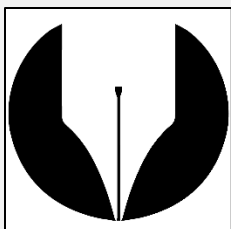
Edited By: Vedanshi Aggarwal

Originally Published: November 2024

<https://voxiitk.com/in-the-vault-of-time-discovering-iit-kanpurs-hidden-time-capsule/>

This article has been updated with additional inputs from alumni Aditya Raghav Trivedi (BT, BSBE, 2018-22) and Ishan Singh (BT, ChE, 2020-24)

Unless indicated otherwise, the pictures are from the IITK archives.



Vox Populi is the student media body of IIT Kanpur. We aim to be the voice of the campus community and act as a bridge between faculty, students, alumni, and other stakeholders of IIT Kanpur

The Spark invites the IITK Student Community to share stories about the many clubs and activities on campus. In the first of this series of articles, the Rocketry and Space Exploration Team provides us a narrative on their organization, current challenges, and recent accomplishments.



IITK's Rocketry and Space Exploration Team

Design. Innovate. Reiterate. Build. Launch.

At IITK RaSET, our mission is to ignite a passion for space technology among students by building next-generation sounding rockets. We aim to pioneer student-led advancements in rocket engineering with the ultimate goal of launching a student-built rocket into space.

IITK RaSET was founded in 2022 as a Science and Technology (SnT) Council project by Atharva Dehadraya, along with his junior teammates, Nandan Madhuj and Shraman Das. Over time, Nandan and Shraman took charge of the initiative, and in 2024, RaSET was officially recognized as an independent SnT Team at IIT Kanpur. The first leadership team included Aniket Nandi, Prabhu Safi, Rangan Pal, and Riya Gupta.

Structure:

Our team consists of passionate undergraduate and postgraduate students. The third-year members, including Team Heads and Senior Team Members, oversee various subsystems, while second-year undergraduates serve as Team Members, continuously learning and experimenting to carry forward the legacy. In addition to the students, the team has four faculty advisors: Professors Abhijit Kushari, Ashok De, Rajesh Kitey and Tushar Sikroria



RaSET team members, 2024-25.

Our work is divided into four subsystems, collaborating to ensure optimal performance.

Aerodynamics & Structures: This subsystem ensures optimal flight performance and structural integrity. We design, analyze, and test aerodynamic profiles for stability and efficiency. Using cutting-edge simulations and innovative materials, we aim to build performant and robust rockets.

Avionics and Payload: This team equips rockets with advanced electronics, including flight computers, telemetry systems, and sensors. We ensure precise navigation, data acquisition, and communication, while also designing custom payload systems for scientific and experimental missions.

Propulsion: This includes the development of advanced solid and liquid rocket engines, at the core of our rocketry endeavours. By integrating theoretical knowledge with hands-on experience, we push the boundaries of performance and innovation, powering our rockets towards space.

Recovery: This team focuses on the safe retrieval of our rockets post-mission. We develop reliable recovery mechanisms, such as parachutes and deployment systems, to protect critical components and enhance reusability, making our launches sustainable and cost-effective.

In addition, finance and business enthusiasts handle the Marketing and Business aspects for our team.

Achievements:

DoraHacks Competition: We participated in a hackathon regarding SpaceX Starship Use Cases, with a novel satellite constellation idea. Our initiative envisioned a constellation of satellites in Low Earth Orbit to extend the lifetimes of existing satellites through on-orbit refuelling, repairs and de-orbiting space debris. We were awarded a cash prize of ₹40,000, being one of three teams winning in the competition's first round.

Prometheus: Prometheus is a supersonic, high-power rocket entirely designed and built by RaSET in collaboration with Indian Rocketry association. This groundbreaking project aims to reach an altitude of 4 kilometers, demonstrating advanced system integration, avionics, and recovery mechanisms.



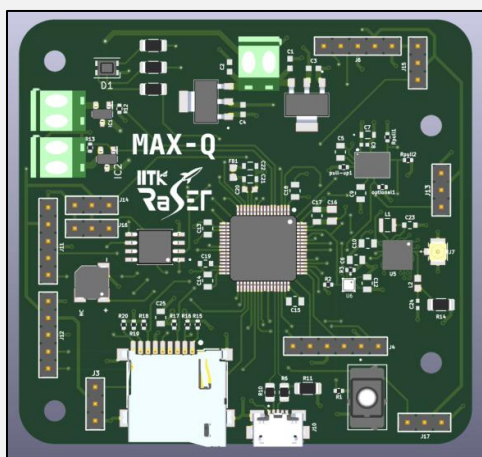
The Prometheus Rocket

Patented Innovation: We have developed and patented our own solid rocket motor liner, utilized for our static fire tests.



A Static Fire test of K-class rocket motor with 2.7kN thrust and 2500Ns peak impulse, conducted at the airstrip. This stands out as one of the most powerful student-built rocket motors tested in India.

Flight Computer: During the past year, we developed a custom Flight Computer, crucial for rocket recovery and telemetry. It integrates high accuracy sensors to measure the altitude, orientation and the GPS location of the rocket. It logs data to an SD card and can wirelessly transmit it over a range of 12 km. It can self-initiate recovery mechanisms, making it a comprehensive solution for successful rocketry missions. MAX-Q has been successfully designed, manufactured and tested.



The Printed Circuit Board (PCB) for MAX-Q, our Flight Computer

Liquid Engine: Our team is designing a bi-propellant liquid rocket engine, Sagarmatha, which will be a rare accomplishment for student rocketry projects. Using ethanol and nitrous oxide, it aims for 6-7 kN thrust and a burn time of 10 seconds. Key components include the *InconeI* combustion chamber with an injector plate and water cooling, pressurized fuel tanks, a precisely controlled feeding system, and a steel test stand. Design considerations include A_c/A_e ratio, characteristic length, and nozzle angles, ensuring optimal performance through simulations and meticulous engineering.

Trajectory Prediction System: This project uses an LSTM-based machine learning model to predict the payload's position in real-time. It runs on a Raspberry Pi 4 using data from an Inertial Measurement Unit, which tracks motion and orientation, and a GNSS receiver, which provides location data. The system is optimized for efficient onboard performance, staying accurate even during GPS signal loss.

Our Target Competitions

- **INSPACe Competitions – Model Rocketry and CANSAT**

Organized by IN-SPACe (a government body promoting private space activity in India), these annual challenges invite student teams to design a rocket to 1km, as well as a size-constrained payload to perform scientific experiments at high altitudes. Our payload features ML-based trajectory prediction and a reaction wheel for active attitude control. Having cleared the Preliminary Design Review (PDR), we are in the Critical Design Review (CDR) stage. The events will be held in Kushinagar, UP during October-November 2025

- **Teknofest Rocket Competition 2025 (Turkiye)**

Held in the midst of the world's largest Aviation and Aerospace festival, the Teknofest Rocket Competition is a prestigious and competitive student rocketry event. We will participate in the International Category, targeting an apogee of 11,000 ft. We've successfully cleared the PDR stage and are preparing for the CDR stage. The competition will be held in Istanbul in Sept 2025.

- **Intercollegiate Rocket Engineering Competition 2026 (New Mexico, USA)**

Largely seen as the pinnacle of student rocketry, IREC (formerly Spaceport America Cup) is a global competition where teams showcase precision and innovation across categories. Due to lack of funding to cover travelling costs, we were unable to participate despite qualifying to the final stage. We plan to participate in 2026 after accumulating sufficient funding sources.

Involvement with the Campus Community

We work to promote rocketry across the IIT Kanpur campus. As the aerospace sector experiences rapid growth, we aim to spark student interest in this dynamic field. Our outreach efforts include:

- Setting up booths on National Space Day 2024 and IITK Samanvay 2024, a corporate engagement summit, receiving enthusiastic responses from both students and faculty.
- Maintaining active internet presence, with regular social media updates and a dedicated website (iitkraset.com)—to showcase projects, achievements, and attract future sponsors.
- Conducting offline sessions about rocketry for the campus community, which increases interest and awareness about amateur rocketry, its significance and complexities.

Through innovation, collaboration, and perseverance, IITK RaSET is pioneering student rocketry efforts in India. Our primary source of funding has been the **Director's Fund of ₹5L** that we received in early 2024, which was pivotal in supporting our initial projects & developments. We have also received about **₹2.5L** from the **Department of Aerospace Engineering** in the past. We've approached the **Dean of Resources and Alumni** to explore the possibility of securing funding from **IITK alumni** for future endeavours.

Contributed by Aniket Nandi (BT, ME, 2022-26), Prabhu Safi (BT, AE, 2022-26), Rangan Pal (BT, AE, 2022-26), and Riya Gupta (BT, CE, 2022-26) - Team Heads, IITK RaSET 2024-25.

Our Bits of That IITK

The Panki Thermal Power Station

The Panki Power Plant has been the most salient feature of the IITK skyline since the late 1960s. The tall chimney on the horizon has inspired Sunday morning hikes across fields (*The Spark, Issue 9, May 2024, pg. 358-360*), and the frequent power blackouts left behind many nights without sleep or study – most famously, from Festival '80, with candlelit dinners and a diesel powered Festival (*The Spark, Issue 11, January 2025, pg. 479-480*). But at the end of it all, Panki was every bit a piece of our lives at IITK, embedded within some of our most precious memories.

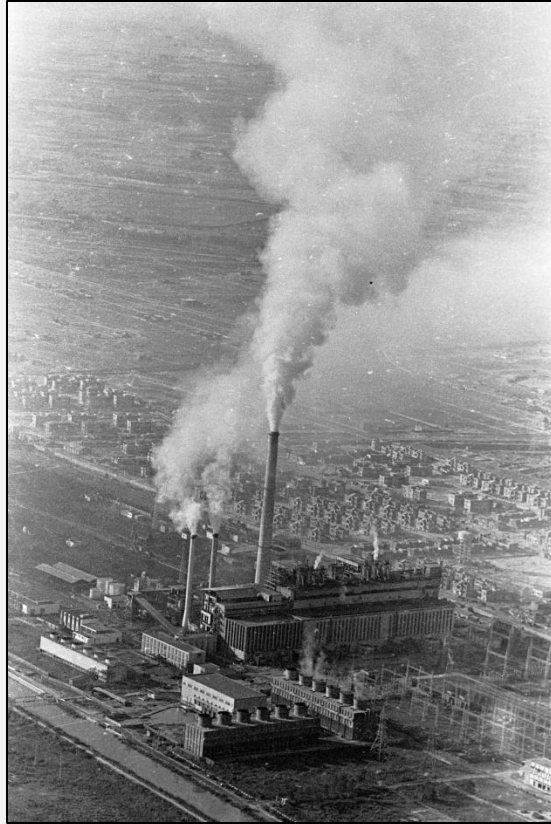


The view from the Faculty Building looking towards the Panki Power Plant in 1968.

Picture: The Frontier Batch (1963-68) Collection

The Panki Plant was first commissioned by Prime Minister Mrs. Indira Gandhi in 1967 with two units of 32 megawatts each. These units were functional from 1967 through 1998. In the second stage of operations two units of 110 megawatts each, manufactured by Bharat Heavy Electricals Limited (BHEL), began operations in 1977. These units were functional through 2018 when they were eventually retired as outdated technologies.

The foundation stone for the third stage of operations was laid by Prime Minister Mr. Narendra Modi in 2019. Spread over an area of 80 hectares, the Plant now features one unit, also manufactured by BHEL, with a capacity of 660 megawatts. After some COVID related construction delays, it underwent trials in Oct-Nov 2024, before becoming fully operational in Feb 2025. Now, this facility directly employs 600 people and indirectly provides jobs to another 3,000. Fly ash is an important by-product; about 3,000 tons is produced daily, which is then used by the nearby cement factories for fly ash brick production. The new chimney stack, with its height of 275 m, is listed among the tallest structures in India.



*Top: An aerial view of the Panki Power Plant. Bottom: The view from Hall V
Pictures: Shirish Joshi, c. 1977*





Top: An aerial view of the Panki Power Plant, 2025. Picture shared by Naresh Singh. Bottom: The Plant viewed from Hall 11, October 2024. Picture: Shakti Chaturvedi (Research Scholar, IME)



Panki Today:



The Power House is home to the turbine-generator unit, where supercritical steam drives the turbine to produce electricity efficiently. In addition, it accommodates the Unit Control Room, the Switchgear rooms, and other equipment. The Chimney Stack and the Boiler are visible in the background. All buildings on the site are new constructions; the old structures including the chimney and Power House were demolished in order to utilize the space effectively as well as to reduce the completion time cycle.



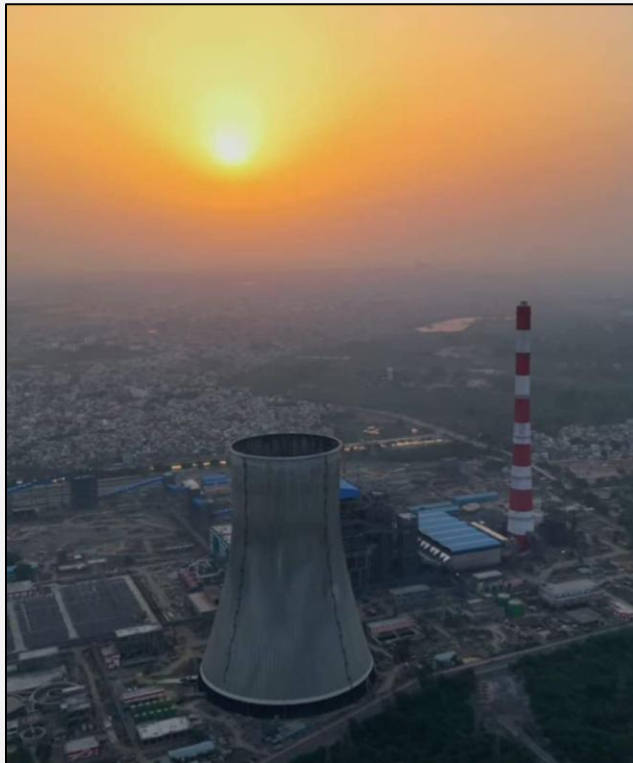
The Cooling Tower, along with the Chimney Stack, is the most visible structure at the site. The cooling tower dissipates excess heat from the condenser by transferring it to the atmosphere through the cooling of water. It helps maintain the efficiency of the steam cycle by condensing exhaust steam from the turbine.

Panki has a Natural Draft Cooling Tower (NDCT), in which there are no mechanical components like fans, motors etc. Hence maintenance cost is very low as compared to IDCT (Induced Draft Cooling Tower).



The Old units (2x32 + 2x110) MW prior to demolition

After Oil and Coal Synchronization trials between Aug and Oct 2024, the new Power Plant became fully operational on Feb 21, 2025.



The Panki Thermal Power Station has made significant strides in environmental sustainability. A key achievement is the installation of Flue Gas Desulphurization (FGD) and Selective Catalytic Reduction (SCR) systems to effectively control sulfur dioxide and nitrogen oxides emissions, aligning with stringent pollution norms.

Demonstrating innovation in water conservation, the plant uses treated sewage water as its primary source, transported through a dedicated pipeline from Bingawan, thereby reducing dependence on freshwater and promoting wastewater reuse.

Additionally, the station incorporates advanced technologies for improved efficiency and adheres to eco-friendly ash utilization practices. These initiatives reflect Panki's commitment to cleaner power generation and responsible resource management, setting a benchmark for

sustainable thermal power operations in India.

Information sourced from [Wikipedia](https://en.wikipedia.org) and the [Times of India](https://timesofindia.com) with thanks to Naresh Singh (BT, CE, 1985-89), General Manager Panki Thermal Power Plant (2019-23) for his inputs. Unless indicated otherwise, all pictures are from the collection of Naresh Singh.

Standing on Their Shoulders

Shirish Joshi (BT, ChE, 1973-78)

You might have seen photographs of IITK from the mid-1970s – probably taken before you were born. You might have marvelled at how the campus looked back then, and how it is now.

Just as you marvel while looking at those photos today, I too stood in awe looking at the big buildings. But I missed seeing something that was much more important. I missed the people who made it all happen.

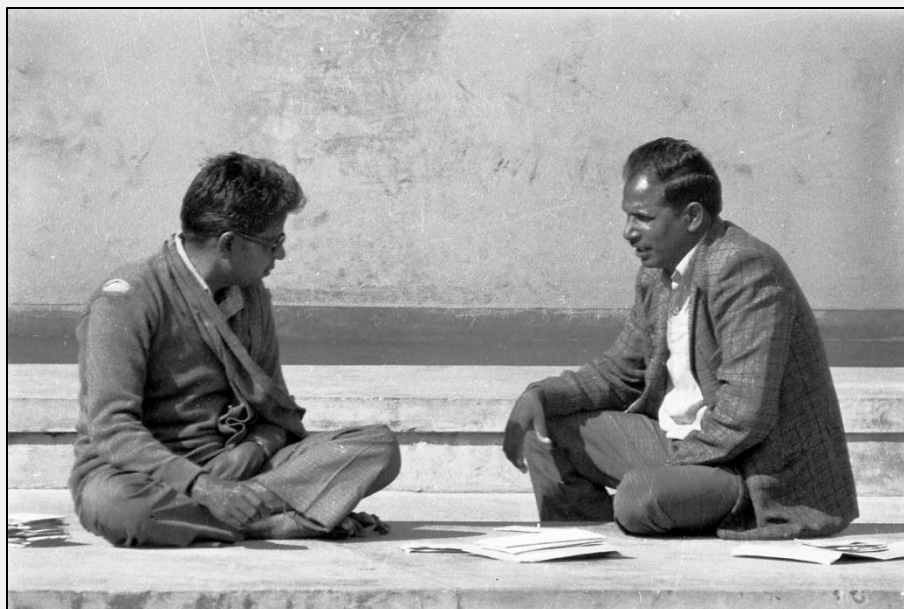
When you were accepted at IITK, you felt good – you were smart, you were one of the few who got in. Life was going to be great. That was true then, and remains true now, but there are some things that you might forget: that at IITK, you are completely dependent on the people who keep IITK running.

Who are these people? They are the dhobis who wash your clothes, the mess workers who cook your meals, the lab assistants who help with your experiments, the technicians who keep the equipment running, the administration people who make the system work, the professors who put their heart and soul into teaching you the knowledge that you will need when you go out into the world.

Unfortunately, you will probably forget all these people the moment you leave the IIT gate.

But the dhobis and everybody else – they will remain, and continue to do their work after you leave. They will continue to prepare successive batches of men and women to go out and make their life.

They do this day-in and day-out, and *if not for them, you would not get to where you are going.*



Ramu (L) and Shiv Charan (R) were a permanent fixture in Hall I in the 1970s and 80s, distributing mail and keeping us connected with family and the outside world. They brought the all important letters from home and the placement opportunities and scholarships for higher studies. Picture: Shirish Joshi

So, pause for a moment, look around you and think: in this tumultuous thing we call life, what is really important? What matters most?

What matters most are the people that you might take for granted: the professor whose course you love, the administrator in the Dean's office, the lab assistant helping you set up your experiments. It's the cook in the mess. It's the dhobi. It's the people who make the system run.

But you might not notice them. Because you are fighting to get a good grade today; perhaps arguing with a professor for one more mark that will take your grade from a B to an A. But you know something? That one mark doesn't matter. Because when you step into the world, your grade sheet will cease to matter. What *will* matter, every minute of every day, is how you treat the people in your life, and how those people remember you. It's the people on whose shoulders you stand.

Were you kind? Were you helpful? Did you treat them respectfully?

Not one person will ever ask to see your grade sheet. Nobody is interested in your GPA. But every person you will meet in your entire life will remember you by how you treated them.

The quality of your life will be dependent on the people around you. Pause for a moment and ask yourself– what matters most?

Respect your professors, your TAs, your cooks, your lab assistants; they prepare you for 'life', so you can be the success you want to be.

Because you stand on their shoulders.



Members of the Batch of 1978-83 with Puttan Dhobi in the Hall II canteen, Feb 2018. Puttan, and his father Raghbir, had been among the dhobis servicing the Hall II students in the 1970s. Raghbir passed away in 1985, but Puttan was still there, in his shop behind the mess, 40 years later.

(L to R): Aseem Shukla, Deepak Sinha, Puttan Dhobi, YK Pandey and Dileep Singh. Picture: Aseem Shukla

The Legendary Shishupal

For many of the earliest students at IITK, the most memorable personality was the bus driver P. Shishupal (1924-99), who shepherded them through numerous rides between the nascent campus and other locations in Kanpur. Shishupal joined the Institute in 1960 and retired in 1984. After retirement, he continued to reside at the IITK campus till he passed away in 1999. He wore many hats. In addition to his role as an Institute Driver, he was a make-up artist and a supporting hand for student activities on campus, playing a critical role in the organization of Cultural Festivals. His recollections, as recounted to the students and reported here, indicate an extraordinary life. An Institute legend, he is fondly remembered by many.

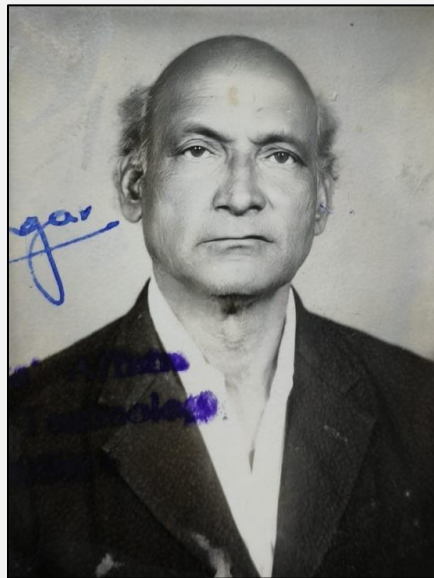


Photo Source: IITK Pension Office Records

Recollections of the Pioneer Batch

At Kanpur Central Station, the legendary Shishupal was waiting with a little blue truck to receive the scores of starry-eyed boys who arrived from all parts of the country. The truck took us to the GCTI Hostel in Gwaltoli, where we lived for almost three years. Every working day, Shishupal and the little blue truck took us back and forth to the HBTI campus. After about a year, the institute got a bus, and our bus driver was none other than Shishupal.

Shishupal was the most colourful character at the institute for forty years until his death in 2000. He was immensely popular with the students, spoke a dozen languages, told great stories, and was a man of many talents. He had a passion for theatre and mime and was our stage prop manager and the make-up man for almost all our early plays.

He had an intriguing personality, and the stories he told us about his life were incredible and unbelievable. He used to tell us that he had been with the Bombay film industry, where he learnt the art of make-up and theatre. Later, when World War II started, he joined Subhash Chandra Bose's Indian National Army, was trained in espionage, and enlisted in the British army as an undercover agent. He

was awarded a medal by the British but soon disappeared as he feared being caught as a spy. He spent time in the Far East, and, after India's Independence, drifted from one job to another until he found his true home with generations of students at IIT Kanpur.

Credit: Abhay Bhushan, BT EE 1960-65, reprinted from The Fourth IIT (the History of IIT Kanpur)



Virender Makker, Abhay Bhushan and Amrit Maini (of the Pioneer Batch, 1960-65) dressed up as Sadhus at a Fancy Dress Dinner, with makeup provided by Shishupal. Picture: Abhay Bhushan

Memories of the Frontier Batch

The very first person truly belonging to IIT Kanpur we all met 50 years ago was Shishupal, the loveable bus driver, who was waiting to receive us at Kanpur Railway Station. He was also the driver for our director Dr. P. K. Kelkar. Shishupal was one of the most liked people and was notable for his colourful personality.

During the early days, there were no letter boxes on campus. We would hand over all our letters to Shishupal for posting in the city post office. Beyond the letters, if we needed any other items from the city, he would happily bring them. Shishupal was also a very good make-up man, and his services were utilized for cultural events organized by students. He was a good guide for all of us - who were new to the campus. He recognised us by face, though perhaps not by name, and would always stop his bus to give us a ride to anywhere in the city.

Shishupal was dark and well-built and always had a ready smile. We all believed that he was a Tamilian as he would chat in Tamil with his co-workers from Tamil Nadu. However, he was also quite fluent in Hindi. Shishupal continued working at IIT Kanpur until he passed away in July 1999.

Source: The Frontier Batch, 1963-68



Shishupal continued in his role as the Institute Driver well into the 1980s. Here he is driving an IITK bus as it approaches the railway crossing on the Main Drive. Picture: Shirish Joshi, c. 1977-78

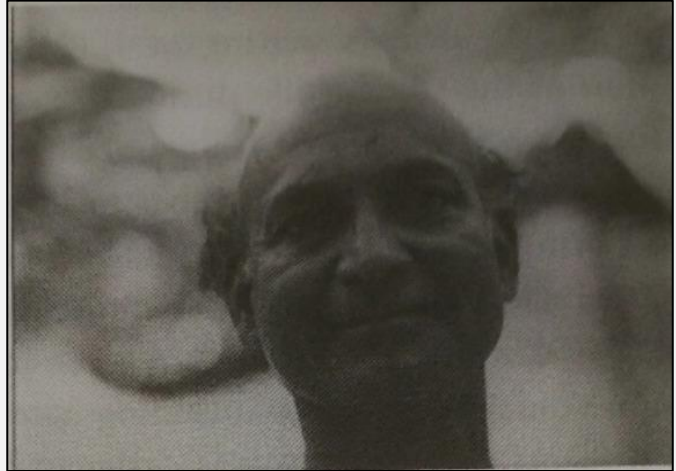


*Shishupal is seen here, standing at the entrance to the Old SAC, c. 1983.
Picture: Raj P Sehgal (BT CSE 1978-83)*

Picture: The Fourth IIT, 2015

The following tribute, originally published in "The Frontier Batch (1963-68)" has been adapted from articles in the Spring 1966 issue of the Spark, and the April 4, 1976, issue of the Cheshire Cat.

Born in Africa, the son of an interpreter, Shishupal went with his family to Ceylon (now Sri Lanka) and later to Poona. When his father died, his schooling ended abruptly in ninth class ("I failed"). At fifteen, he was roaming the streets.



He joined the Navy as an orderly. On the side, he learned the art of make-up, and frequented the studios and theatres in Bombay. One day, the famous V. Shantaram invited him to work in his studios. Shishupal remembers "Maya Machhindra" as the movie in which he excelled. During this time, he also picked up the local languages.

The Second World War resulted in the next major set of events in Shishupal's life. Shishupal left India in 1940 for Malaya (now Malaysia) on a British Navy ship. His stay in Malaysia was brief. He recollected those days as full of terror and apprehension, as the Japanese attack intensified. One day, when a very heavy attack was expected, Shishupal fled to Burma (now Myanmar), where the Indian National Army (INA) under Subhash Chandra Bose was gearing up. Shishupal offered himself to be trained to be a spy and shipped back to India.

The next few years were tense. He joined the army, got a job as a driver very close to a British Army Colonel, and sent his reports regularly to INA. The British officers at Allahabad considered him to be a most conscientious worker for the war effort and awarded him a Defence medal. When the war ended, the British relentlessly prosecuted all ex-INA men. Someone, somewhere, was arrested and talked. Warned in time, Shishupal managed to escape the dragnet. The police were looking for Shishupal; but Shishupal, helped by a false beard and a command of Telugu, was now Shesha Rao, a garrulous tourist from Hyderabad. When the police began to get suspicious about Mr. Shesha Rao, that gentleman transformed himself into Sheshiah, a Tamil coolie. A false moustache and the knowledge of Tamil completed the metamorphosis.

After Independence, Shishupal found too many newcomers on the stage and no room for an old timer like him. So, he drifted from one menial job to another, before taking up the role of a bus driver in 1948 in Kanpur, and then arriving on the IITK campus in 1960.

When asked why he had chosen to remain a bachelor, he paused, sat very erect and said, slowly and deliberately, "I have my pride. Had the INA won, I'd have been discharged honourably; I'd be respected; and then I'd have gone to my ancestral village in Rajasthan and married a comely village belle. But now," he shrugged, "I am a contented happy bachelor, who has had his fill. I get a lot of affection from the students and that pays me well".

Source: The Frontier Batch, 1963-68; Editors: Bimal Srivastava, Ram Behari Misra, Ravi Sethi

Gangu Mochi Talks to the Cheshire Cat

The Cheshire Cat, March 01, 1976



This is probably the only verified picture of Gangu Mochi, the much-vaunted cobbler who was reputed to fix footwear, as well as body parts that had been ripped asunder by some nasty exam, professor or project. Picture: Shirish Joshi

We went to him with a pair of torn sneakers that needed mending. He was sitting on his haunches under his usual tree at the corner of Hall 3. He gave us a toothless grin, then squinted professionally at the sneakers and set to work. It wasn't hard to get him talking about himself. He was only too glad to do so, perhaps he had never had such an appreciative audience...

He wasn't quite sure how old he was. Definitely more than sixty or seventy, so he informed us with finality. And what was his name? Hira Lal - he said with a wry look, he added that he didn't like his name much. Neither did we, we preferred 'Gangu Mochi'.

He had come to the IIT as a construction worker when most of the buildings existed only as blueprints. With the construction completed, Gangu had taken to the cobbler's trade, first in an itinerant way - going around the halls and quarters, a work bag slung over his shoulder, soliciting work, and then, having made a name for himself, he had set up shop under a rather nondescript tree, (no spreading greenwood this) confident that even if he didn't go to the students, they would come to him. And they did. That was eight years ago. They still do, in spite of competition from upstart 'mochis' at Jaggu market and the shopping centre.



*This unconfirmed image from 1970-75 is also considered to be one of Gangu Mochi.
Picture: This Bit of That India, photo yearbook, 1975, clicked by PN Arya (BT, 1970-75)*

Had he been a mochi before he came to the IIT? Oh no – and here his eyes flashed as he began to talk about the past. He even dropped the sneakers he had been working on, the better to gesticulate. He'd been an intrepid freedom fighter in the days of the British Raj; in the forties there couldn't have been any satyagraha, strike or sit-in within a radius of ten miles around Kanpur without Old Gangu. And he'd been beaten up for his pains more than once by His Majesty's police. He'd been a staunch Congressman too, campaigning for the party and contributing every spare paisa he had to it.

And what did he think of boys these days? He shook his head sadly. Just look at his own sons. One had dropped out from a Mandhana College, squandered his father's hard earned money and then ran off to Bombay. Here Gangu wagged a finger at us and pronounced in the manner of an Old Testament prophet – That son of mine won't come to any good, you wait and see. (Incidentally Gangu thinks that Bombay is all of 25 miles away). Another son had left home and a Rs.300/- job at the IIT to marry a girl Old Gangu hadn't approved of. No wonder Gangu had such a low opinion of the modern generation and its new fangled notions of love.

The sneakers had been mended by now - with the strongest thread, so Gangu assured us - and we fired one last question, a professional one this time. Wasn't footwear getting better over the years? Gangu snorted in reply and then qualified his snort with 'These days it's all fancy, multi coloured slippers, but they don't last. Otherwise, I couldn't survive. Why, in the old days you bought a shoe the way you got a wife, to last, for better or for worse, for a lifetime.

Postscript: No write-up on Gangu Mochi would be complete without mentioning the IITK Pledge of Allegiance recited by selected freshers from the 1970s and beyond. For obvious reasons of confidentiality, this oath has never been put on paper, but we do believe that its full text is now available with the Spark, for those seeking a refresher.

Three Generations: An IITK Family

Recounted by Rajendra (Ginger) Kanaujia to Ishan Singh (BT, ChE, 2020-24)

My father Ram Lal Kanaujia came to the IITK campus in 1963 as a *dhobi* (washerman). At that time only Hall 1, the Visitors Hostel, and some old Type 1 through Type 5 homes were on campus. The faculty used to stay in the type 5 quarters. The Institute had allotted us a type 1A house, No. 50A. My father used to wash the clothes of some American families and a few of the faculty members from those times, like Professors CNR Rao, MA Pai, LP Singh, CV Sheshadri, MV George etc. And he used to wash clothes for the guests living in the VH.

My father was a very honest person and he worked very hard to support our family. We were six sisters and four brothers. From 1963 to 1970 we had no problems but after KIAP was over the visiting professors left the campus. Then we were in financial problems, but my father got the *dhobi* work of Hall Two B-wing and Hall One B-wing.



Mr. Ram Lal Kanaujia in 2008

My two elder sisters were married in 1968 from our type 1 home. One of my elder sisters died during her first delivery. At that time we were shocked. But our lives carried on. As I started getting a little older, I also used to help my father in his work.

We all studied in the Opportunity School which was run for the poor children on campus by the faculty and administration of IITK. The Opportunity School was started with 5 students and I was one amongst them. The teachers used to teach for 1-2 hours. They were the wives of the American professors who came to the campus during KIAP. After a while the other professors' wives also joined to teach the kids.

When students used to pass from Campus School in class 6th, the whole batch was sent to the Central School. But from the Opportunity School, this was not possible. So I went to Jawaharlal Nehru School in Kalyanpur and started 6th standard there. But my father wanted me to study in Central School (*Kendriya Vidyalaya, KV*). In my summer vacations after 7th class, I gave a written exam for the Central School which I passed. I went there, but had to study 5th and 6th class again from KV, and I think I wasted two years of my life switching schools.

When I was in class seven in KV IITK, Dr. RN Biswas, who was warden of Hall 1, allotted us a *dhobi ki dukan* (laundry shop), which I ran up to 1988 with my father. It is still operated by my younger sister's husband. I worked a lot here and I won't be able to forget those days. I had a great bonding with the students. In those times, there were many students from foreign countries like Malaysia, Mauritius, Nepal and Sri Lanka and I was good at English so those students also grew close to me. I used to play **Phatta** (*tennis ball cricket played with a tennis racquet and a chair for wickets*) with them in the Hall 1 ground near B wing.

I studied in KV IITK up to 10th standard and then I completed my 12th in the city. I completed BA and MA Economics from DAV College Kanpur and did my B Lib from Indira Gandhi National Open University (IGNOU). When I completed my MA, Dr. SP Palaniswami from the department of Civil Engineering offered me a project and I worked with him for two years.

In 1987, there were some vacancies put up by the institute for a government job in the library. I applied and was accepted for the job. I worked at the Return Counter and then in the Reserve Section for textbooks. I was posted in the evening shift (3:30pm-12am). The job paid well, but I was exhausted doing the night shifts. And I also got married on 2nd Dec 1988.

In 2001, Dr. C Venkatesan was the DOSA and CS Upadhaya was the Games Counselor. Faculty and Staff cricket matches were organised on weekends and I used to play with them. Because I was very good at sports at that time, Dr. Venkatesan called me and asked me to come to the PE section and that made me very happy. I worked there from 2001 to 2020 January and then retired from IITK.

I used to sit in my office in the old SAC and also used to look after the bills of Antaragni and Techkriti. I was respected a lot by everyone in the campus and still go there to meet people. I helped in hosting two Inter IIT Sports Meets in 2009 and 2016. Last year, in December 2024, when the Inter IIT Sports Meet was organised in IITK, I used to go to the campus to watch matches.



(L to R): Mr. Ram Narain (Athletics Coach), an EE staff member, Ginger Kanaujia, IITK Stadium, Dec 2018.

All of my sisters and brothers got married in front of my father and my mother. My father expired in Feb 2010 and my mother in April 2018. My elder brother also expired in a train accident in Feb 1976 on Shivratri day. This was a very sad day for my family, he was at that time only 19 yrs old and studying in CTI Kanpur.

But now, one of my younger brothers is in the Mechanical Engineering department IIT Kanpur as a Junior Superintendent. His elder son is an alumnus of IITK working with VISA in Bangalore as a Software Engineer after completing BS in Mathematics and Computer Science. And his younger son is in KV IITK in 10th standard.

And my youngest brother is in IISER Bhopal as a cricket coach and now he is settled there. He has one son, who is doing BSc second year in biotechnology from Bhopal University. I myself have two children. My son is working in the C3i hub and my daughter is with HR in SIDBI IITK.

We struggled a lot, but this campus has given us everything.

मैं इस मिटटी को सलाम करता हूँ (*I salute the soil of IITK*)!

Dr. Barun Banerjee, who was Professor of Mechanical Engineering used to tell me कुछ तो इस मिटटी में बात है, कुछ तो है अलग (*There is something in the soil here, there is indeed something special*).

I am still in contact with Prof. Banerjee and Prof. Ashok Malik since we used to play cricket together.

I also remember the legendary Shishupal, and knew him very well. The shop near my laundry shop, which is now a photocopy shop, was Mr. Shishupal's store room. When Dr. RN Biswas became the warden of Hall 1, he shifted his store room to under L7, and moved there.

When I used to iron clothes at the laundry shop, I would feel shy whenever my friends dropped by unexpectedly. Despite that, my friends never made me feel embarrassed. They never made me realize that my work was considered menial. They still tell me that I am a self made man.

On the Ginger nickname: There was a KIAP professor, Dr. Charles T. West (*ME, Ohio State, 1968-70*), he had a son, Tyrol West. My father used to wash clothes in his house and sometimes I used to carry lunch to my father in the afternoon. Tyrol used to study in the Methodist School in Kanpur. When Tyrol used to come from school, he used to ask "Where is Ginger"? (Probably, this was how he pronounced Rajendra). The name became so prominent that I myself liked being called Ginger. I was called Ginger Bhai by everyone on the campus.

After retirement I'm staying in our residence in Nankari Village near the campus. If you come this way, please call me. I would like to meet you. Please come to our home.

Thanks for listening to my story.

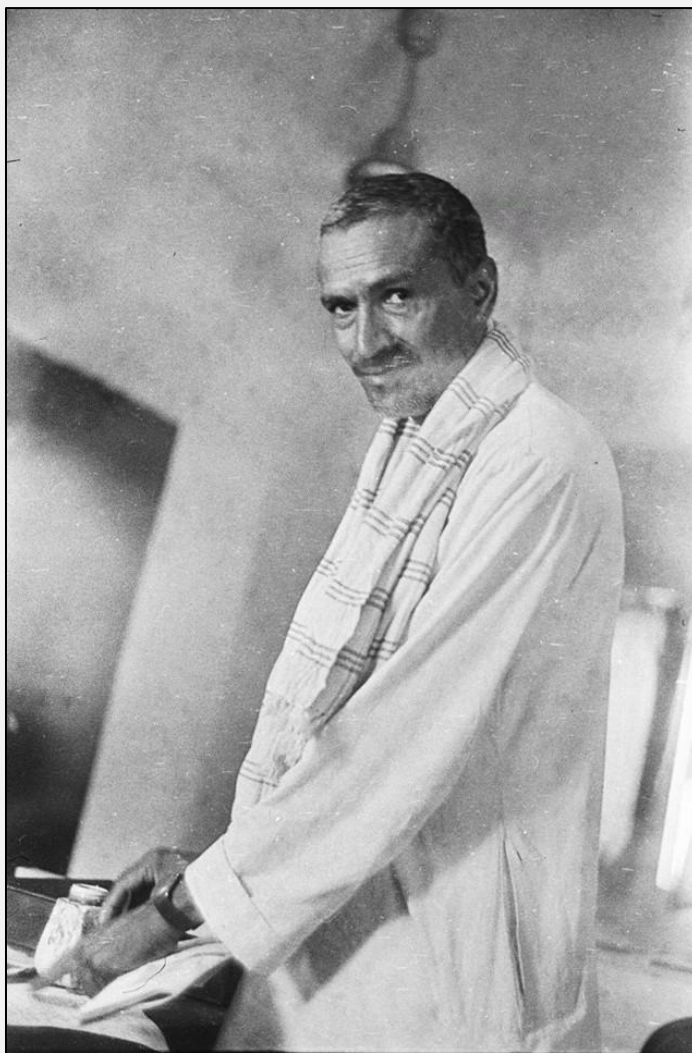
Ginger Kanaujia in his SAC office with Sangeeta Meena and Ruchi Yadav, former member and coach of the IITK women's basketball team.



Standing On Their Shoulders...

Our photo feature for this issue recognizes the many supporting staff on campus who keep IITK going.

The pictures feature employees from the 1970s and 1980s. They are also representative of those people today, the ones who keep the wheels of IITK running. They are not celebrity professors, prominent visiting faculty or famous alumni. They are just the little-noticed people in the background, the people who quietly go about their routine jobs while rarely asking for anything more than respect from those around them.



Ramnathji was the Hall-2 postman in the 1970s.

He walked all the floors, every single day, delivering mail to us.

Forty or fifty years later one realizes that people like him, doing the same work, day in and day out, with no complaints, no expectations, are the ones who supported us quietly in our formative years.



Puran Singh

This young man was the Hall II *anda (egg)* guy in the mid-seventies.

Half fry, full fry, omelettes, onion bhujia - you name it, he remembered it and got it.

He must have walked many many miles every mealtime, back and forth and back and forth from the kitchen to the tables. We do not remember him getting upset or angry or rattled.

Another of those silent people who did their work so we could move on.

Puran was also one of the actors in Theatre Workshop's presentation of Mohan Rakesh's one act play 'Bahut Bara Sawal', c. 1977. Two mess workers were involved in that play and played the roles of Ram Bharose and Shyam Bharose, the office peons. They had a few dialogues each. One of them was Puran.

Hall II mess – washing the dishes

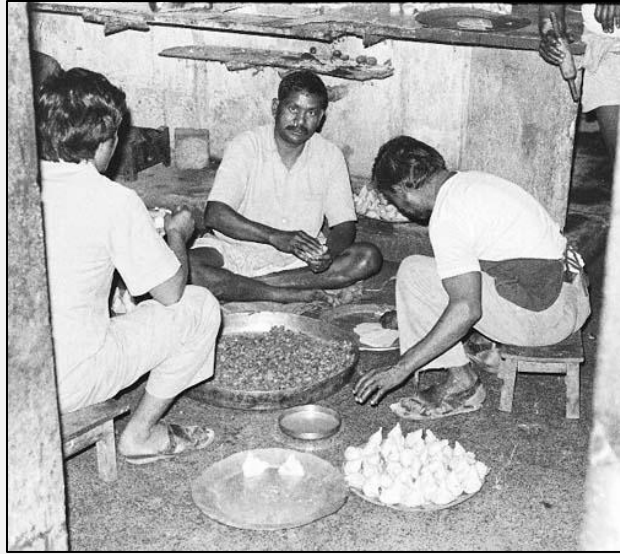
This was the *thali (food tray)* washing station in the Hall 2 mess.

The guy in the back, wearing gumboots was the head thali washer. Thali collectors would pick up used thalis and dump them into a trough. This guy would pick up a garden hose and hose down the stack, then pick them up one by one for inspection, and if there was not too much food stuck on, dump them into a soapy tank (perhaps with KMnO_4). Then haul them out, hose again, and stack them up ready for the next meal.

Nobody got sick.

If you liked to make a lot of noise, throw things around and play with water, this was heaven.

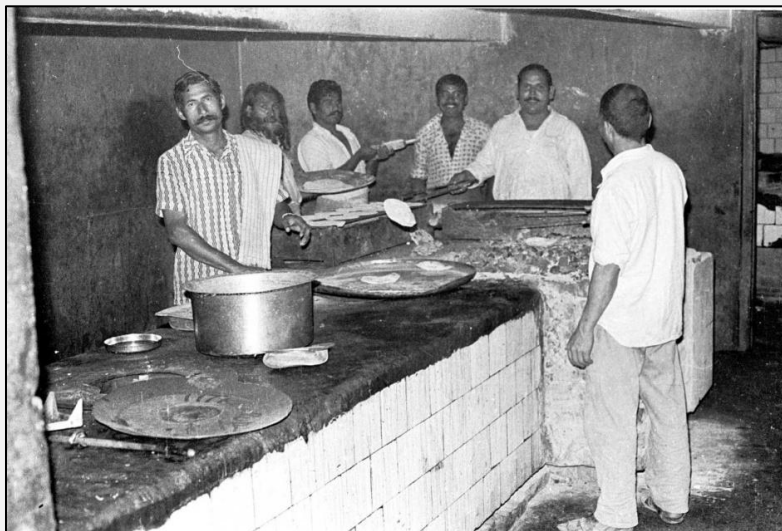




Hall II – making samosas

The floor was where many a *khansama* (head chef) and his assistants sat while making stuff like samosas.

The *alu* (potato) stuffing would be cooked separately., 'non-alu components' picked out where possible, and then those tasty pyramids would be generated, ready to be deep-fried and served for tea. It was much later that proper cooking infrastructure "off the floor" was put in place. Appropriate head coverings, footwear etc. were invented at a later time.



Hall II – Making Rotis

This was the Roti mass production line in the mid seventies and later, till the kitchens were upgraded.

Upto 1,500 rotis to feed 400 hungry mouths, all cooked within 90 minutes, twice a day, every day, not a single day off. Roll the roti, roast the roti (on hot steel plate), finish on fire, butter on buttering plate, stack on serving thali and deliver.

This team did it for years on end. No complaints.



Mr. Ramkrishna Jha was one of the technicians in the TA203 machine shop.

A very competent and committed technician, he helped so many of us in turning, milling, and drilling irregular pieces of mild steel into something that could be shown to the instructors. He has since passed on but his son works at one of the labs



Mr. Vishwakarma, Incharge, TA203 machine shop

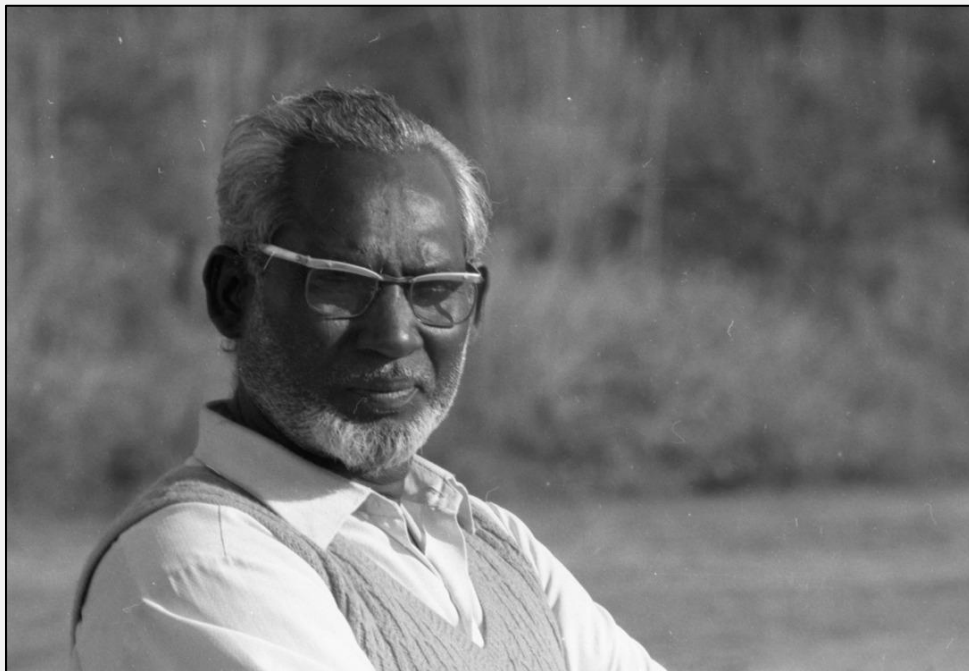
Mr. Vishwakarma was responsible for managing the TA203 machine shop during the seventies.

Always had a smile on his face, even when he saw us doing stupid things with machines and hunks of metal.

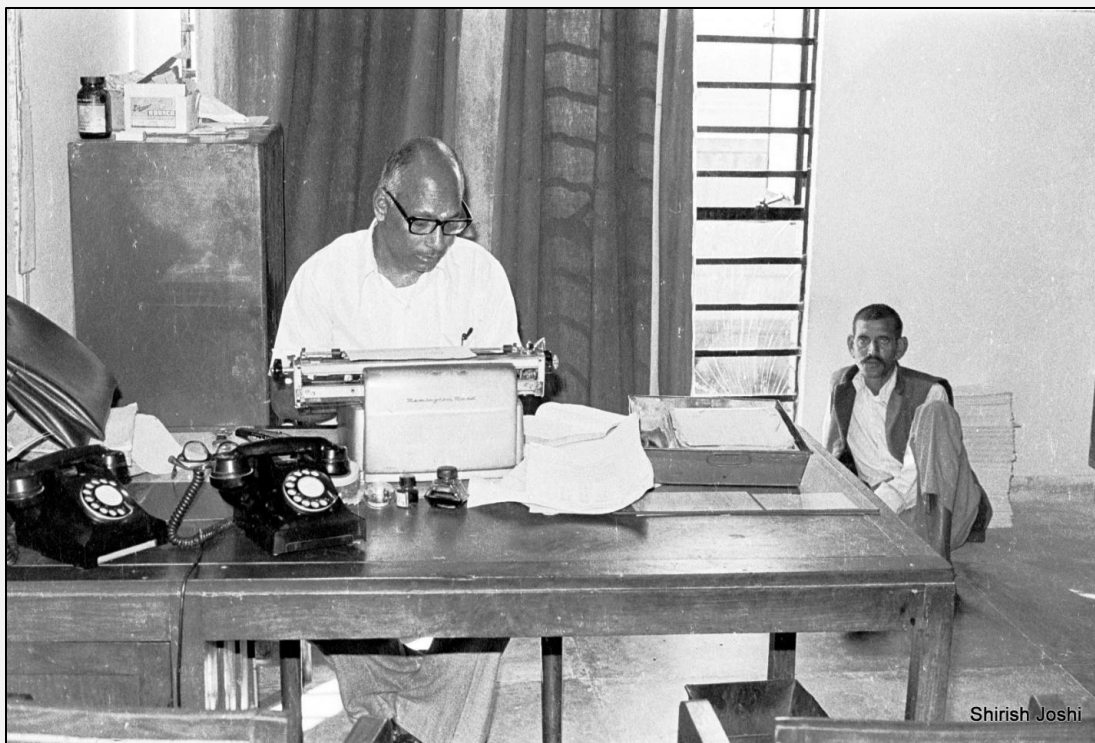
He spent many a late evening in the Labs helping students complete those machining projects. A box of sweets with thanks of gratitude for helping us finish those exercises was all we had to offer.



This is Ramesh. He was posted as a helper in the Flight Lab and used as a driver at the GSC. An all-rounder, he drove the jeep back and forth hauling the glider cable, repairing the cable when it broke, among a ton of other activities.



Mr Haq was another Airstrip employee actively involved in gliding operations and was the Glider Maintenance Engineer.



Mr. M. B. Borwankar in his office at the LHC

That is Mr. Borwankar, who used to manage the Lecture Hall complex operations. He would tell faculty members that they could not lecture wearing sandals and many followed his instruction ever since, even today! Casual dress may be ok for the students but not for the faculty.

There were three Borwankars on campus in the 1970s. Brothers Mr. Moreshwar B Borwankar and Dr. Madhukar B Borwankar managed the LHC and worked in the Health Centre respectively. Their cousin, Dr. JD Borwankar was a faculty member in Mathematics

Office technology from this period featured the typewriter, and two phones, bottles of ink, a relatively empty in-box and a fairly tidy desk.

Every officer had an assistant, aka chaprasi, to fetch files, tea and so on.

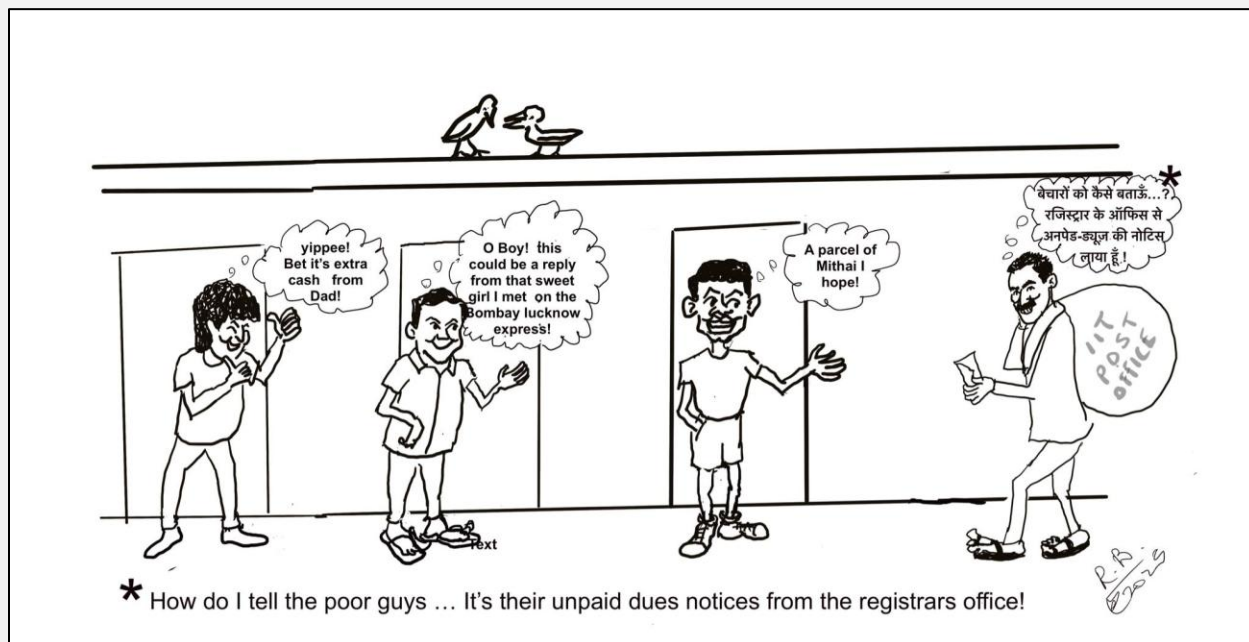
Guys, if you go back to the campus, make some time to acknowledge the people who are there today supporting the current students. Go meet them, tell them about their contributions.

You will make a difference.

All pictures in this featured selection are from the collection of Shirish Joshi (1973-78). Text contributed by Shirish Joshi, with inputs from Aseem Shukla, Ashok Rajpal, Ram Ramakrishnan and Sanjay Bose.

Meanwhile, in Hall-II...

Mail Delivery, F-Top Hall II, c.1979

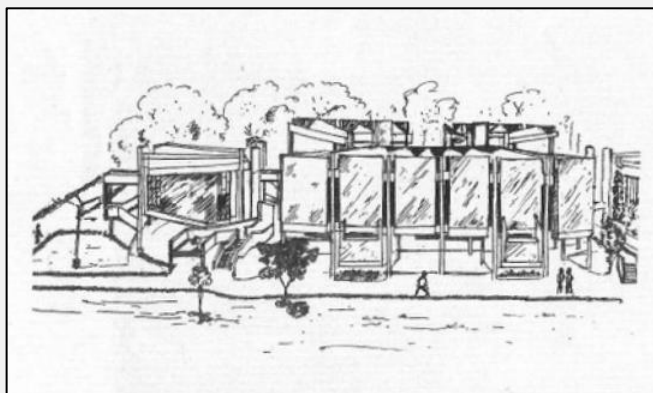


Credit: Raman Bhatia (BT, ME, 1977-82)

Cover Pictures: Front: A Spring Morning at Hall I. Picture: Aman Kumar Singh (BT-MT, CE, 2020-25)

Back: Bridging Generations along the IITK Main Drive. Picture: Shirish Joshi, c. 1977-78

Cover Design: Harshita (Outreach Cell, IITK)



LHC Sketch: Anghu Das (BT, EE, 1970-75)

This Bit of That India, photo yearbook, 1975



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