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Newsletter

APPLIED PHYSICS ALUMNI ASSOCIATION



In conversation with
Professor Dipak Chandra Patranabis

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**100
Years of
Department of
Applied Physics
1925 - 2024**

Reaching from Editorial Desk

Foundation of technical education in India was laid almost at the same time as in Europe but its growth was very restrictive and sluggish till India became Independent. Looking back to historical development of technical education - the entirety of 19th century witnessed gradual evolution of technical education centring primarily civil engineering in Roorkee, Pune and Calcutta. Engineering was yet not classified into several disciplines until specifically the electrical and communication era came into being as a prodigious part of the Second Industrial Revolution at the dawn of 20th century. This historical juncture had been the prelude to establishment of the Department of Applied Physics in 1925 within the University of Calcutta with the vision of producing technologists to make Indian Industries self-reliant. The forthcoming celebration of the Centenary of one of the oldest technological department of electrical & communication era is not only an occasion for retrospect; it is at the same time an effort to look forward. More so to keep pace with the awfully rapid development in the technological world.

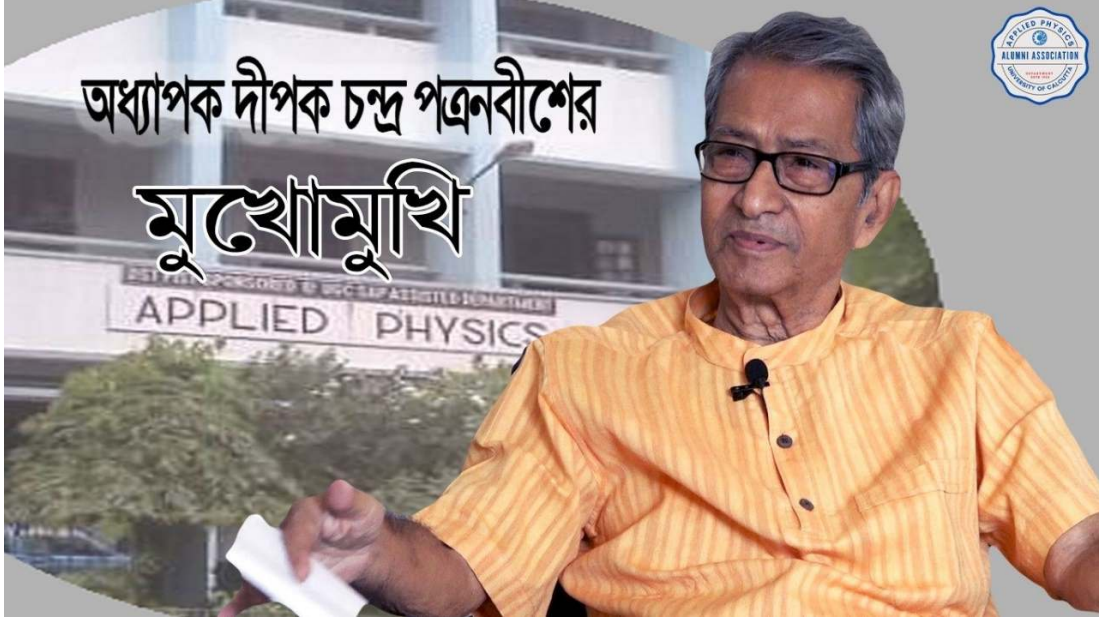
With this debut issue of the Newsletter, it is intended to be one of the platforms of the Applied Physics Alumni Association to foster a spirit of support to the parent department's mission and to strengthen the ties among the alumni. Perhaps it remains a snooping question what made it take a time as long as hundred years to form the alumni association of a premier technological department of the foremost centre of learning like University of Calcutta. Let the soul searching be left for all concerned. For the present it remains a great task before the folk of department and its alumni to give an eloquent shape to the association operating the spirit of imminent centenary celebration. It may be mention worthy that a reasonable nucleus of alumni with great fervour and interest have come forward to give a start-up and maintain sustainability of this dream platform in spite of everyone's awfully busy professional schedule. Tremendous efforts from creation of website to exploring social media, networking of alumni to awareness through newsletter, brand building to financial consolidation are on anvil by the respective sub-groups already formed. It is believed that periphery of active and passionate alumni will go on expanding. This unveiling issue of newsletter requests all of our alumni globally scattered to become part of this exertion by way of lending a bit of their time and precious thought.

-Editorial Group

In Conversation with Professor Dipak Chandra Patranabis

Applied Physics, I And Then

Dipak Chandra Patranabis



[We approached Professor Dipak Chandra Patranabis, an alumnus of our department, for his interview to be published in our Newsletter. He agreed and we sent him a tentative set of questions that might be asked during our discussion. The questions were mainly about his student days, about the condition of our department during his time as student, about the laboratories & library at that time, about the history of the department he knows, about his working experience in industry as well as in University. We wanted to know about his research work and also about his source of inspiration of writing so many books in the area of Instrumentation, Process Control, Telemetry, etc. Our questionnaire included an item relating to spiritual aspect of life. We wanted to know whether being a man with spiritual inclination in personal life is a hindrance to the academic pursuit in the area of science and technology. The interview was videographed to make a documentary on him.]

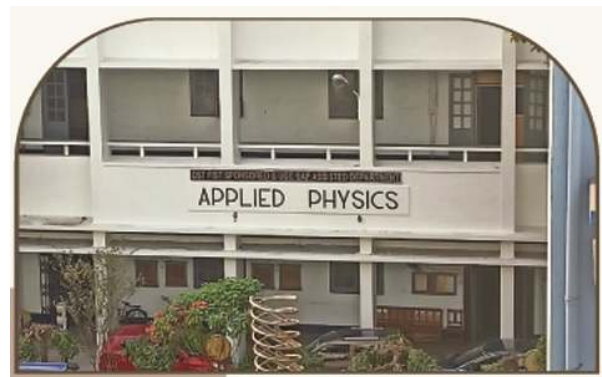
We discussed with him about the problem of making a transcript of the interview before we went to his home. He kept quiet about this matter at that time. But, to our utter surprise, we found that the write-up was ready on the basis of our questionnaire before we arrived his place. Actually, he handed over the piece to us before we started the Interview. What a serious man he is! His house is at Regent Estate in Kolkata. We went to his house on 25th February, 2023 at about 10:00 AM. We were three in number. Siddhartha Pal of 1985 batch, Rabindranath Chakraborty of 1965 batch and our cameraman Akbar Hossain Mallick.

It was a memorable experience of spending about four hours' time in the company of Dipak-da, Sanghamitra-Boudi and their helping hand Utpal. We gave an advance warning to Dipak-da that since we are going for a serious business and our time is very limited, we cannot afford wasting time in any kind of 'Khaowa-Daowa' business. Dipak'da responded by saying that this matter does not come under his 'ministry'. However, he assured us that our prayer will be conveyed to the 'proper authority'.

Yes, true to his word, no arrangement of lunch was made. But, alas, the arrangement in lieu of the lunch was so fabulous that we could not consume even a part of it. Finally, we could leave the dining table with the assurance that we will carry the leftovers with us. Yes, at the time we were getting ready to leave, we found that Sanghamitra-Baudi is standing at the gate with three bags full of various food items in her hand and we could leave the house with those bags in our hands. What a scene it was! Dipak'da remained unfazed throughout this period of our exchanges and Utpal, their helping hand, was definitely amused to see all these happenings. What a gesture of cordiality! The memory of these happy moments will remain with us for the rest of our life.

- Editorial Group]

Who knows what a child would be in future? There are a lot of factors that determine the ultimate to come but the destination as also the journey is pre-ordained and the initiative taken or followed is only a gross appreciation. I studied Physics Honours and applied physics at the instance of my father for the latter one he received a sort of counseling from one of his doctor friends who apparently had some idea about the courses of study different universities offer with prospect of service etc. My father himself was a student of pure physics contemporary of Prof G.N. Bhattacharya of Applied Physics. He studied under Sir C. V. Raman, Prof D. M. Bose, Prof Satish Ghose, Prof P. C. Mahalanobis and all such luminaries. He wanted that I follow the same line and become a teacher and a researcher although he himself had to leave the track because of his association with freedom movement and had to be underground for quite some time and had to flee from society life for a major part of his career.



When I got admitted in the Dept of Applied Physics in 1958, the activities in the department, as appeared to me, were in full swing --- for students, scholars, teachers et al. AICTE was not yet born and technical education was limited in a few institutions in the country --- as a result there were quite a few 'outside' state students who came to study applied physics on a quota basis. In our batch there was one from UP, one from Madras (Tamilnadu), one from Andhra, one from Kerala, one from Gujarat. Every year there were 5 to 6 such students many of whom, however, failed to complete the course

because of difficulty in assimilating the course of study here.

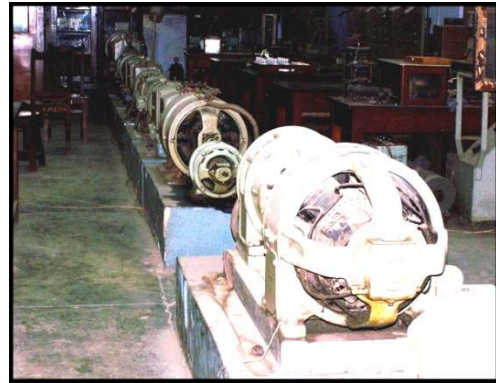
At the time we got into the department, the head of the department was Professor A. K. Sen Gupta and he was the only professor also as per the system followed then in the University with the compliance of the UGC. He was surely very strict disciplinarian and ran the department according to his idea of a technical course to be run. He did his D.Sc. in molecular spectroscopy like his predecessors Professor P. C. Mohanty and Professor P. N. Ghosh, the founder of the department. Professor P. N. Ghosh 'built' and developed this laboratory to make it one of the best in Asia and the East. He subsequently built the other laboratories where design and manufacturing also were features to reckon. However, more in the next. With Mathematics Honours in B.Sc., Professor Sen Gupta completed M.Sc. in applied physics in 1930. Since then, he had been associated with the department.



Electrical Measurements Lab

When we joined as students, we found the course was for three years, after first two years with common curriculum and a university examination specialization could be chosen from among four alternatives (i) power systems, (ii) electrical measurements, (iii) applied thermodynamics and (iv) Optics. I have given the names in short. Most popular was power which almost equivalent if not superior to Electrical Engineering of Engineering

colleges and next was the Measurements special. One or at best two students opted for optics and I have never seen anyone to opt for applied thermodynamics. It may be mentioned here that in 1959 there were changes in the names of the specializations making the scope wider when the three-year degree was also renamed as M. Tech from M. Sc. (Tech) of our time.



Electrical Machines Lab

Three readers of the department were in charge of three specializations: Professor G. N. Bhattacharyya for Measurements, Professor D. B. Sinha for Applied Thermodynamics and Professor M. De for Optics. Head himself was in charge of Machine and Power systems. Dr. B. Karunesh who was the only non-alumnus was also a senior teacher joined the department for teaching Applied Mechanics and as workshop in-charge. Dr Karunesh Banerjee was graduated in Applied Mechanics/Civil Engineering from a Scottish University and was picked up by Professor M. N. Saha for this position. Dr. Karunesh told the whole story of his coming to the department to us when he was ready to start a specialization in Applied Mechanics. It seems Professor Mohanty requested Professor M. N. Saha for a good candidate for this post and incidentally Professor Saha met Karunesh Babu at his Institute abroad and received information about him from his teachers. Karunesh Babu went abroad fleeing his house

at Shalboni in Midnapur and studied Mathematics there for getting admission in the Institute he studied. He was a great opera lover and on the day before his final examination in economics he spent the night in opera house and when went to appear at the exam he found all questions unknown to him as he did not care to study on the previous day.



Library

However, he found one question on market equilibrium and as a devout student of Mechanics, he thought there must be some forces for such an equilibrium to be established and he proposed some forces and mathematically solved to establish some kind of equilibrium and submitted his 'thesis'. The examiner and his guide subsequently called him and asked where he got this theory. He admitted his fault and told the story of his new theory. The economics professor told him that it really is a new theory and for only this answer 'you deserve' praise. This theory goes now as Karunesh' theory of market equilibrium.

Professor M. N. Saha heard this as also his performance otherwise and asked him what was his intention – go back to India and join some service or come to teaching and research. With initial hesitation Dr Karunesh finally said he may join teaching if he finds it suitable. Then he was advised by Professor Saha to go to Calcutta and meet Professor

Mohanty of Applied Physics Department. He did and was asked to join the department immediately as a teacher of Mechanics. He did not join and the reason was he only has a graduate degree and the course he was supposed to teach is a post-graduate one. Professor Saha again met him and convinced him and said whether you are suitable for the job or not that I shall understand and I take the responsibility, go, join and we shall see next.

This episode Dr Karunesh told us – myself, Bibekananda and Hiranmoy when he called us to entice to join the specialization he proposed to start. Unfortunately, it could not be started for some administrative reasons. Dr S. K. Basu and Dr R. N. Basu were his first batch student. The specialization was started next year and three students were admitted who did very well in future.



Process Instrumentation Lab

Professor G. N. Bhattacharyya was a scientist in Lac Research Institute in Namkum near Ranchi. He did his D.Sc. in lac-based dielectric materials and related semiconductor materials. He joined in the department as a reader. He was academically one year junior to Professor Sen Gupta. Dr. D. B. Sinha and Dr. M. De both did their research in Imperial College London and got diploma from there. Dr Sinha worked in the area of standardization and Dr De worked in optical image processing of Bio systems. It is said that the instrument he developed was a crude model of endoscope

which were subsequently perfected in the same institute by his junior workers.

Other members of the teaching staff were Dr. Srikrishna Prasad Bhattacharya, Dr. Lalit Mohan Ray, Dr. Satya Ranjan das, Dr. Samir Kumar Basu, Dr. Rabindranath Basu and a very senior person who, however, joined late in the Department was Professor M. N. Ray. Dr. L. M. Ray started teaching us Mathematics but after a few months left for Roorkee University to join there as assistant professor. Dr. S. R. Das after a Ph.D. degree in Optics went to England on a post-doctoral fellowship and returned at mid of the session. He later taught us Applied Electronics when we could find his unimaginable memory strength. He left the Department to join National Physical Laboratory at Delhi. Dr S. P. Bhattacharya used to teach DC Machines and engineering drawing – theory and practice. In the final year also, we had a drawing course and Dr. Karunesh used to teach that part which consisted mainly machine parts. Dr S. K. Basu taught us Electrical Measurements and Dr R. N. Basu started to teach Electrical Machine but left for Canada on a fellowship and did not return. Electrical machine (AC Machines) was then taught by Professor M. N. Ray.



Power Systems Lab

Professor M. De was to teach us Optics and Optical instruments, but just before the session started, he won a fellowship in Canada and went to avail of it as it provided him with good opportunity for research. His scholar Mr.

Subodh Chandra Som then took over the mantle and was our teacher in the subject. Besides him and Mr. Ajay Sen, Mr. Amal Ghosh was also a scholar under Prof. M. De. Mr. Manindra Nath Mitra was a Tech. Assistant in Workshop and also a scholar under Dr. Karunesh. Workshop foreman was Mr. Indra Mohan Kundu – a person of extraordinary skill and idea. In different laboratories there were some very expert technical hands working both as demonstrators and technical assistants. Mr Satyen Samanta was in Electrical Machine lab, Mr Netai Nag was in Measurement laboratory and Amulya Babu was in the thermodynamics laboratory. Kanai Babu was a very skilled technician for repair and maintenance of equipment specially of the measurement laboratory and Bhupen-da was lab attendant but openly helped students to perform experiments. Sailen Babu- a tall man was there for electrical machine but I heard that he was general maintenance staff. Another very respected Alumnus was Mr. Manindra Nath Ghosh who used to put on Golden colour Punjabi all the time – he was probably a demonstrator. He used to supervise our electronics laboratory where only two experiments were there. He himself performed the experiment and gave the data to the students for report preparation. His contention was if things are damaged, the laboratory work will be stopped so, why take chance! Mr. A. K. Kamaluddin a scholar of Dr. Sinha used to work for his Ph.D. in the Thermodynamics lab and sometimes used to help the students in lab work.

Information from sources is that the Applied Physics department was taking shape from 1910's, when Sir Asutosh Mukherjee was in Chair, Dr P N Ghosh had his Ph.D./D.Sc. form this department, although students were not admitted till then. It was in 1920 with the donation Sir Rashbehari Ghosh finally it was

established and students' course was started in 1925.



Sir Asutosh Mukherjee

The course designed to train the students to learn design and manufacturing of electrical instruments and gadgets as also lab equipment. Professor Ghosh was a member of the managing committee of IACS, Chairman of the Industrial Survey Committee of the Bengal Govt., President of Physics section of Science Congress in 1941, fellow of Asiatic Society and Vice President of Bengal Industrial Research Board. There were other honors also with which he was decorated.



Prof. P. N. Ghosh

Nothing much is known about Professor Mohanty's achievement but he recruited Dr. Karunesh as said already going beyond the norms of selecting the alumni. He himself was perhaps not an alumnus. Dr. Karunesh was a very talented person, he did his Ph.D. under N. R. Sen – a famous applied mathematician and

was a consultant to various organizations like Port Commissioners. He designed and developed a few testing machines one of which a fatigue tester was there in our laboratory when we were students.

After Part I, most of us flocked to take Power System as specialization. Professor Sen Gupta tactfully managed the situation and students were divided almost equally for Power and Measurements. There was only one in Optics who was a repeater. I would not like to comment on the quality of teaching. The cross section of students was a criterion for the deliberations to be assimilated. It was generally true that the students coming from other states on quota basis had poorer adaptability --- one reason for which may be that they were not honors students. It may be mentioned that of our classmates from other states --- the one from U.P. and the one from Kerala left midway as they were not able to follow the course of studies and lectures. One from Gujarat, Arvind Suryaprasad Dave, left to look after his father's business in South Africa, still another one from Tamilnadu V. V. Vishwanathan scored less than 10 percent marks in Part I and did never return to complete the course. However, Vishwanathan learned Bengali well and even sang Rabindrasangeet. The lone quota candidate Sri Vavilala Venkatappa Appaya Shastri from Andhra completed the course and I heard he was absorbed in the State Electricity Board of Andhra as an Assistant Engineer. One interesting thing was that all the repeaters, quite a few of them were there, did successfully completed the course with us.

We found out that General Electric Company selected every year the first boy or the topper of the Department for a fellowship to GE England and it was possible for the fact that Dr Sinha's class-mate Mr. Subrangshu Ghosh was

the head of selection board. Mr. Sudeb Chaki our topper got the opportunity accordingly and went to England by ship as that time flight was rare and very costly. It was not mandatory that the candidate on successful training should join GE, a selection was also required there. Sudeb, however, joined GE India and stayed there till the last.

Since ours was a technical degree, we were required to undertake survey work during course of studies. Earlier students used to survey the science college campus, for the first time we were able to break this barrier went to survey the Dhakuria lake. As it was big area students were divided into four groups, each group surveyed one area. It sure was a wonderful experience, Professor S. P. Bhattacharyya was our mentor and used to visit the lake every day when we were working there. Another breakthrough we made was in industrial visits. Usually, one or two visits in and around Kolkata was considered good enough. We made local visits to Mulajore thermal power station headed by Mr. Ajay Sen, to Mahindra Instruments at Taratala where we found two of our ex-students working as design engineers. But then we made long trip covering Hirakud dam and power house in Odisha, Bhillai steel plant in Madhya Pradesh, and Atomic Energy Establishment at Mumbai. Also, we made cultural visits to Ajanta and Ellora, Aurangabad and some areas nearby.

For smooth running of the tour, our professor-in-charge Dr. Samir Kumar Basu divided the troupe into some ministries like home, food, travel etc. and each such ministry was under a minister. I was home minister and I thoroughly enjoyed in arranging for stay at different places as other ministries must have also enjoyed. After return, prizes were awarded in the form of books signed by Dr. Basu for performances. Mr Shib Charan Mukherjee

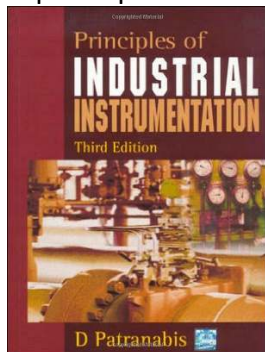
three years senior to us and GE employee accompanied us. It was a nice fun time and also a learning time. While returning from the tour somewhere near Bengal-Bihar border, a pensive looking middle-aged man got into our compartment. In course of journey, we picked up conversation with him and came to know that he was employed in IISCO at Burnpur. He further commented at the time he got his degree in technology no one knew about it and he had to struggle hard, it seems, to get a job. We were inquisitive and asked him about the degree. He said 'Applied Physics'. We kept quiet for some time and finally said – we also are so.



Photo session of a reunion function in 1960s

Reunion is a big festival in each department which usually is organized/ solemnized at end of winter and onset of spring. We celebrated this mostly for two years and did this with a bang. Programs consisted of usual formalities of garlanding and short speech-making by the committee members and technical lectures, technical exhibition were part of academic demonstration. The other parts are cultural function where in general songs are sung, some recitations and other performing arts. One year we had president of the reunion committee was Mr Bibhuti Sarkar, managing director of Annapurna Glass and Krishna Glass. He also had a theatre group 'Manchamugdha' and it was a professional unit. He decided to stage a play 'Shahjahan' -- he played the role of the emperor, his wife Krishna-di played Jahanara, Mr Hiren Basu, an ex-Applied Physicist and Registrar of Saha Institute played

Auranjeb, our classmate Hiranmoy played the role of Dara, Mr Sarkar's young son Kunal (Kunal Sarkar now a famous heart surgeon in Kolkata) played Dara's son, Manas Gupta-- a student of our next batch played the role of Dildar, I played a minor role of a courtesan, so some others did. On the previous year we enacted Mora Hati Lakh Taka -- a one act play by Narayan Gangopadhyay where Mr. Sarkar did not play any role nor his family members but he directed the play and it was an all-student performance. The function was a grand success and we organized the theatre show by renting professional theatre house like Rangmahal. Reunion ended with sumptuous lunch and Annual General Meeting. Secretaries were Mr. Ajay Sen and from student side Kamal Gobinda Basu. There also was a group photo session and some sports for the students and the teachers who were willing to participate.

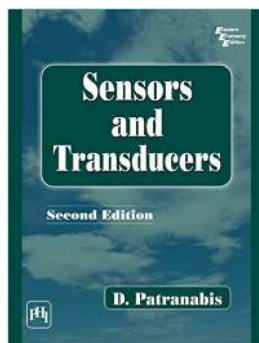


Remaining perfectly idle for about a month after the completion of the course in Tech Hall as a guest of Sri Sankar Sen Gupta, a radio physicist who joined Saha Institute as a research scholar, I was gradually becoming a little frustrated when I got a call for interview from 5, Esplanade East where there was the office of the Government training department. There were other offices also. When I went there, I met Ajit Basak one of my B.Sc. (Hons.) classmates who later completed his B.E.Tel.E. degree from Jadavpur University. He asked me first why I was there I told him that I came for the interview for a stipend. He was a little

upset and said then I have no chance. On further conversation it came to the light that he had come for an interview with Philips Eindhoven for a foreign fellowship at Netherlands and I came for petty Rs. 150/- stipend of GOI training scheme. He was assured and he did get the fellowship and had a good training at Netherlands Philips company.

I got selected for training at DVC so were two others from our department – Jyotirmay Mukherjee and Kalyan Sankar Ray. Kalyan-da actually was a year senior to us but completed the course with us. The training authority wanted to put us separately in different locations of DVC organization but Jyoti was scared to learn this as he was not accustomed to such living and requested the authority to put us together. After a great deal persuasion authority agreed and We three joined Panchet Hydel Station for three months as a first leg of the training. We were given a big room in a dormitory meant for trainees and for food we contacted hospital canteen as per the instruction of the authority. Our training period of a year was divided into 5 legs, three months in Panchet Hydel generation, three months at Nimiaghat in Hazaribagh – transmission and distribution system construction, three months in Bokaro Thermal generation plant, two months in Howrah substation, distribution and line compensation, and one month in head office for design and document study. I completed the training and, in the process, met quite a few persons from whom I learnt many things of technology and also human engineering. Meanwhile DVC conducted an interview for recruitment of electrical engineers in permanent positions. We three were also candidates and were selected as well. When the selection list was put up on the board, we found there were 42 names and my name was

the last one. Thank God! My name was there. I put up some sort of a convictional fight with one of the board members and being angry he left the board temporarily. Also, at the end of the interview I told the board and DVC chairman some unpleasant words contextually. The chairman Mr. Mishra was good enough to advise me that I should not put such skirmishing quarrels in the board and I should be more polite and accommodative. 'Probably this is your first interview, please remember what I said' - he said. Obviously, I had no hopes. Jyoti and Kalyan-da got appointment and joined DVC before completing the training program. I finished the training and again was a guest in the hostel and was waiting for the appointment letter or for any other opportunity to come. As a stop gap, I joined Surendranath college as a teacher in Physics and then shifted to Vidyasagar college also as a teacher as there I was supposed to take only honors classes. The head of dept of physics as also vice-principal was the famous H. P. De. Incidentally when my father studied honors in Physics in Vidyasagar college Prof De was just a junior teacher – joined the institution after completing his P.R.S.



There was no training and placement cell in the Science college. However, Dr D. B. Sinha used to help students in the affairs of placement. He used to receive information from prospective industries and then conveyed the same to the deserving candidates who were seeking employment.

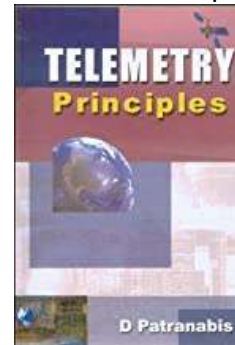
One day in the hostel Kalishankar Mallik, a one-year junior to me in Applied Physics, told me - 'Dr Sinha has asked you to meet him'. I heard the short detail. Dr Sinha asked him who of the pass outs last session are yet to get jobs? He told my name as also of Sambhu Charan Sannyasi – he was my batchmate but with power specialization. Next day, I met Dr Sinha & he told me that M/S Guest Keen Williams Ltd wanted some instrument engineer trainee, could he send our names. We gladly agreed. I also suggested Mrinal Pal's name. So, we three received interview call in due course and when we reached at their factory office, we found three more candidates were there from Jadavpur university Electronics and Telecommunication Engineering. We face big board of six, the chairman was Professor A. S. Sen, their Personnel and Training Manager, another Indian was from south Mr. Ananthanarayanan, deputy of Electrical Engineering Dept. and six others were white Britishers. I was satisfied with my performance and was expecting to receive positive response. I got it. After sometime I received a letter asking me to appear for a further interview. I went and met Prof. Sen, he clearly told that "you are selected. You and Mrinal scored same marks but you are stronger in physique we see which is needed for shift duties, so we have chosen you. The Head of Electrical Engineering was not present that day and he wants to see your face once". The Head Mr. S. N. Ghosh a football blue from BHU asked one or two technical questions on instrumentation as he knew and then shifted to football. He was apparently satisfied with my knowledge and advised me to wait for a few days for the appointment letter.

Days passed by and weeks and then a month and more. In the meantime, DVC called me to join and finding no alternative I joined DVC and fortunately was I posted in the head office at

Calcutta New branch at Hyde Lane. Then, I decided to write a letter to GKW. Promptly, I received a letter asking me to appear for a further interview. I became irritated at it and went straight into the room of Prof. Sen ignoring the security and put a sort of a challenge 'you are going to give Rs. 350/- as a stipend and for that asking to appear at interviews so many times, what really is your intention?' He felt my condition, said good words to me to calm down and said it should be for medical test. He contacted deputy Personnel manager and shouted at him for issuing such a letter which meant another technical interview. However, that day itself I went to their site medical unit and got some tests and then to their main medical unit at Harrington Street. After about fifteen days I got the appointment letter. Salary was Rs 90/= less than what I used to get in DVC. Besides, DVC was a Govt organization and job was permanent. Yet, I thought to take a risk at that stage and submitted a resignation letter to DVC. However, the personnel manager Mr. H. K. Ray refused to accept it as the service had an agreement that I could not leave the job before three years and my service then was only for 1 month and 19 days. I approached the P.A. to the chief engineer Mr. Gokhlani and explained the situation, he satisfied himself by asking a few questions about GKW and my inclination etc. and finally said - "I shall try my best to get your release' and he did it. So, I joined GKW as an instrument engineer designated as senior supervisor.

I was supposed to undertake 1 year's training before taking up the charge of a shift, but by seeing what I was doing, the second boss in the section commented 'you are a genius and do not require training 'and immediately put me in shift duty. Senior to me were 4 south Indian engineers all DMIT's and they were expert in pneumatic systems but less conversant with

electrical and electronic instruments. As there were lot of the latter varieties and also some test instruments like CRO maintenance of these was necessary and I did that with the help of mechanics quite well and in time which was most important to avoid plant shut down.



Then the quality control section decided to import a spectroscopic machine branded as 'quantovac' from Associated Electronics of England for analyzing the composition of steel manufactured. The Works Director Dr Anjali Kumar Bose, himself a metallurgist educated in Sheffield had the impression that such a machine could be handled only by persons from Applied Physics and since I was already there in the plant I was called and conveyed that I would be sent to the factory of 'quantovac' for three months for training and I will have to take charge of the machine on return. It was a costly machine, that time its price was something like 7 lacs. But condition was that I had to change the department and go the Laboratory where steel samples are analyzed and suggestions for improvement are offered to the production shops. I refused first to change the department but my chief Mr. S. N. Ghosh assured me alias -go now I shall take you back. My passport -visa was all made ready, flight ticket for UK was booked. There were others also to go with me, my section boss Mr. M. Sriramulu and a mill foreman.

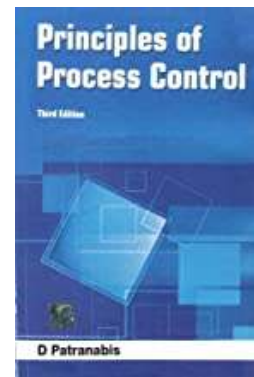
In the meantime, a rumour started to spread in the factory/plant that I was going to join Jadavpur University as a professor in Instrumentation. I took this definitely as a

rumour as I was not at all aware of it. Within a couple of days chief Mr. Ghosh called me and curtly told me that 'I have first-hand information that you are going to Jadavpur University and since I have this information, I have to tell this to my Boss Dr Bose. He will take action as required.' After a day or two Mr. Ghosh called me again and took me to Dr Bose's chamber where Professor Sen was also sitting. After a very rigorous brushing and my retort to the same, I was asked to sign a bond that I shall not go to Jadavpur University. I refused when Dr Bose told me 'You can remain as you are, you do not go abroad, do not get special training, matter is settled'. I asked for a proof that I was going to Jadavpur as a teacher. He declined to give any proof and dismissed the meet. I came back to my section with a heavy heart. Within a couple of days there was an advertisement in The statesman for teaching and non-teaching posts for the department of Instrumentation and Control Engineering Department of Jadavpur university, the department is going to be started soon. With the mental condition in a swing, I decided to apply for a Reader's post and did so, and, in due course I was called for interview. During interview I could feel that the Vice-Chancellor Dr. Triguna Sen was favouring me while the Dean of Engineering was thinking otherwise. I do not remember who were external experts, probably I did not know them, it was not a bad interview, neither was it very remarkable. After about two days I went to meet the Registrar, Mr. P.C.V. Mallik and he was kind enough to meet me. I explained to him my position in the factory and my position as a whole with developments as seen then. He was also there in the interview board and with a smile he took out the file and checked and said, your name is in position one and if nothing goes wrong you sure would come here. I asked for pay protection and position (as a Reader), he passed over these

issues without commenting and said Dr. Sen is there you need not worry.

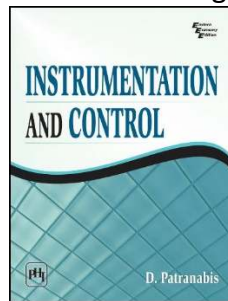
I got the appointment letter in time with pay protection for which I was given eleven increments but I was not given Reader's post. I was told in the interview that after a year or two with performance and some research experience the position could also be given.

Before receiving the letter, I submitted my resignation to Mr. Ghosh in the factory, he asked me to take it back and said, 'although I said you are going to Jadavpur as a professor, I know you have not got a job, get a job and then resign.' I said 'As I have learnt the trade in theory and practice, I would get a job, I do not want to withdraw my resignation letter. He told he would keep it with him and gave time to me to think over.



However, everything was settled in a manner it should have and I joined Jadavpur but only as a lecturer to start a new department, and, then I started facing all odds as the dean, who also acted as the head of my department in absence of a senior Teacher (a professor or a reader at least), did not want my selection. But all departmental activities for a new department as also teaching became my responsibility. Concurrently, I had to be involved in research work. The dean, however, took the initiative in this respect and asked one of the senior teachers of the department, Mr. U. S. Ganguly to help me in my research. I am

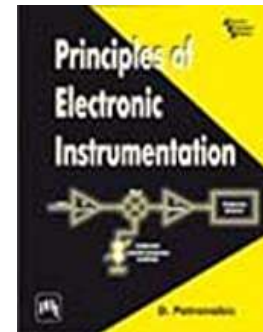
grateful to Professor Ganguly as his mentorship had been a boon to my research work, I learnt a lot from him, and I have no hesitation in calling him my research Guru. In about two years and a half I did whatever he asked me to do, but there was no publication and he completed his D.Sc. and left the country to settle in Canada. That also was a boon to me. That is a different story. But following what he showed me I started working of my own and soon succeeded in earning a name as a good research worker. In absence of Professor Ganguly, I chose Professor P. C. Sen another senior teacher of the Electronics and Telecomm Engineering Department as my supervisor as he used to encourage me to do something.



I was not allowed to get registered for my Ph.D. at Jadavpur University as our M. Sc. (Tech.) degree was not considered there as a postgraduate degree. I went to Professor A. K. Sen Gupta and told the details, he asked me to immediately go to Dwarbhanga building take a form and fill it up and submit, in next meeting he would arrange for registration as that was his last meeting after which he would retire. The job was done, I got registered and in course my Ph.D. There also were some in between stories, but as in Sanskrit one says -- Alam Ati Bistarena.

While talking about my research, inevitably Professor Arun Choudhury comes into the picture. Dr. Ganguly asked me to find out an analytical solution of a class of root loci which I did and showed the same to him as also to

Kanti Bhusan Datta, a lecturer in Applied Physics and two yours junior to me. He used to come to my room at Jadavpur and we thought of collaborative research. Dr. Ganguly wrote the introduction for a paper, with this work and that was before any other work I did with and without him. He wrote the introduction in pencil. I gave this to Kanti asked what we can do with it. Kanti as per his understanding completed the writing of the paper also in pencil and submitted the same to Prof B. Karunesh who was the editor of the Journal of Applied Physics. It went to Prof. Arun Choudhury for review who immediately called me and asked a few questions, (1) who wrote this introduction, it was more of an English literature than an introduction of a technical paper? (2) why the paper was written in pencil? (3) why was it not shown to Dr Ganguly? Kanti put my name as a sole author. I replied to all his queries and he rewrote the introduction, advised not to show own work to anyone else and also to write papers in ink, better type. That was my first paper to be published.



Later when my Ph.D. thesis was adjudicated, the Indian examiner, Dean, Panth University U.P, informed that he would not be able to conduct my viva voce, then Professor Choudhury who was a member of the board offered to conduct the viva in his chamber. It was done that way. It may be mentioned here that I had a joint paper with Kanti Bhusan Datta, a lecturer in Applied Physics, on 'Limit cycle stability' but after that Kanti did his work

alone in rigorous Mathematical Control but kept touch with me all the time. I successfully guided about 14 Ph.D. students and published singly and jointly over 150 research papers about 80 -85 percent of which are in foreign journals.

Taking a diversion, I may mention that I came in contact with a great Soul Brahmachari Sisir Kumar after my marriage. He was a teacher of Ranchi Brahmcharyya Vidyalaya where my father-in-law was a student in his childhood days. I used to meet him often, though he was a spiritual person his feet were not in the air and advised many students for their Ph.D. work specially in the areas of religion and philosophy. He himself wrote about 150 books mostly on the topics mentioned. When he came to know that I have started a new discipline and teach the same he asked me 'are there enough books for the students to consult?' With my answer on the negative he again asked 'do you give notes'? I again said "no" and also said there are no books to consult as such. He kept quiet for a while and then said 'in that case you have to write books for them and start immediately'.



Sanghamitra Patranabish seeing us off

Thereafter whenever I met him, he used to ask - 'how far have you progressed?' With such a motive force it was perhaps not possible to remain cool and avoid the task. So, my first book was ready by 1972, though it came to light only in 1976 because of publishers'

problem. Presently there are six books authored by me published by two publishers in equal proportion McGraw Hill Education and PHI Learning.

What was my quality of teaching? This was question I used to ask myself, there was not enough feedback initially, besides my young age appeared to be a deterrent to quality teaching. However, I strove hard with my experience of the factory and study in the library of books and journals related to the subject and I was partially at least happy that I had been able to deliver things. I never took any notes/papers/books/ pamphlets to refer in the class but could keep in memory what I wanted to say.

My father was a God-fearing man so also my mother, I inherited this trait to certain extent. Then my association first with Brahmachari Sisirkumar and then with Prajnanpurush Sri Sri Babathakur inspired me to be spiritually more involve. Brahmachari whom we called Kakaji edited and published a spiritual Magazine which still is in circulation edited and published by a person of the Nimbarka sect of Baishnabism.



Dipak Patranabis & Utpal

I had, at Kakaji's instance authored quite a few articles which had been published in that

Magazine called SriSudarshan. Besides, Kakaji asked me translate the famous Dilip Kumar Ray's Yogi Sri Krishnaprem from English to Bengali which was published in Sri Sudarshan serially. Kakaji wanted it to be published as a book, but the publisher who published the original English version (Rupa) declined to publish the Bengali version even though Sri Dilip Kumar Ray wrote a letter to do so. At the instance of Kakaji I transformed prose version of the life of Swami Ramdas Kathia Babaji written by Swami Santadas Kathia Baba into poetry version which was also serialized in that magazine and was latter published by

Nimbarka Ashram at Sukhchar. There is a society called Saccidananda Society which was started with Sri Sri Babathakur as the Central Spiritual Identity. I am associated with this and came first inspired by my mother. I was its President also for quite a few years. We publish the Master's deliberation which were either typed or written by hand (earlier) and also, we publish a magazine called Sri Sanai. I have contributed number of essays, poems and translated speeches of the Master in this magazine. I do not know how much spiritual I have become, but I like to do such jobs and get sort of a divine inspiration.



Glimpses of the dwelling places of Professor Dipak Chandra Patranabis

Reaching from the Newsroom

Functional Groups <i>as formed for implementing vision of Alumni Association</i>			
Group Name	Mission	Members / Batch	Gr. Email Id
Networking Group	To update and consolidate the digitised list of alumni with essential data as per finalized google form	Samarjit Sengupta (Coordinator) (1973) Alok Chaudhuri (1971) Jitendranath Bera (1990) Kallol Bhattacharya (1984) Kaushik Das Sharma (1998) Rupendranath Majumder (1973) Siddhartha Pal (1985) Siddhartha Sen Majumder(1976) Sourav Banerjee (1998) Subrata Pal (1982) Ananda Jana (1998) Surajit Chattopadhyay (1998) Susanta Bhattacharya (1989) Susanta Chakraborty (1980) RN Chakraborty (1965)	ap-alumni-network2023@gmail.com
Social Media Group	To take care of the publicity for the department and alumni community to broader section of people	Debabrata Sarkar (Coordinator) (1981) Dibyendu Datta (1989) Budhaditya Pal (2002) Kaushik Das Sharma (1998) Kanik Palodhi (2000) Mahuya Gupta (1998) Nirmal Murmu (Faculty) Ranjan Ghosh (1970) Saswata Banerjee (2001) Semanti Chakraborty (2000) Sumi Pal (2001) Surajit Das (2003) Susanta Chakraborty (1980) Uday Banerjee (1983) RN Chakraborty (1965)	apalumni.cu@gmail.com
Student Liaison Group	To support present or outgoing student by mentoring as per requirement to take up challenges in industries	Sumi Pal (Coordinator) (2001) Achintya K Mukherjee (1971) Ananda Jana (1998) Amalendu Kumar (1973) Arunabha Debnath (1996) Gautam Basak (1979) Jitendranath Bera (1990) Saumendra Gupta (1985) Siddhartha Sen Majumder (1976) RN Chakraborty (1965)	
Editorial Group	To publish e-newsletters for maintaining living contact with alumni members; periodicity will be finalized in due course	Kanik Palodhi (Coordinator) (2000) Achintya K Mukherjee (1971) Debasish Ghosh (1986) Jayanta Mukherjee (1973) Satyaban Roy (1975) Semanti Chakraborty (2000) RN Chakraborty (1965)	appliedphysics.alumni@apnews.com
Brand Building Group	To find means to develop a bright brand for the dept as well as association	Dibyendu Datta (Coordinator) (1989) Debabrata Sarkar (1981) Ranjan Ghosh (1970) Uday Banerjee (1983) RN Chakraborty (1965)	Same as Social Media Group

Reaching from Newsroom

<i>Applied Physics Alumni Association work in Progress</i>	
<i>We are progressing for</i>	
Target infrastructural job	Status updates
Website	To be opened as www.cuapaa.com
LinkedIn profile	Already opened as Alumni Association Applied Physics, CU
YouTUBE Channel	In Progress
Registration under WB Society Registration Act	In Progress
Office Room within Dept premises	Under active consideration of the Department of Applied Physics with due authorization of CU authority
Google form for getting digital record of Alumni particulars	Already finalized and responses coming with approximately 800 alumni forms received so far https://forms.gle/xAXZcrMt6ejXAbx56
e-Newsletter	Debut issue released
Financial Resources	Under active consideration

Tentative Program of Centenary Celebration

<i>1925~2024 Centenary Celebration of the Department of Applied Physics as conceived</i>		
Event	Date	Venue
<i>Inauguration date</i>	24 January 2024 (foundation day of the CU)	Any conveniently located hotel
<i>Inauguration by</i>	An internationally renowned Scientist with the stature of a Nobel Laureate or alike	
<i>Inauguration Guests</i>	VCs of reputed Indian Universities	
<i>Felicitations to</i>	Past and present Professors and Faculty Members of the Department	
<i>International Conference for 3 days</i>	25, 26 and 27 January 2024	Any conveniently located hotel
<i>Reunion 2024</i>	28 January 2024	Dept premises
<i>Year-long programme</i>		
<ul style="list-style-type: none"> ✓ 2-day Tech Fest ✓ Industrial Exhibition ✓ Career Fare 	July 2024	
<ul style="list-style-type: none"> ✓ Technical Seminar (2 days) 	September 2024	
<ul style="list-style-type: none"> ✓ Technical Seminar (1 day) 	November 2024	Online
<i>End of Programme with Reunion 2025</i>	January 2025	Dept premises

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 Chandan Chakraborty, *IIT Karagpur, India*
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 Mihaela Albu, *Polytechnic University of Bucharest, Romania*
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 Celia Shahnaz, *BUET, Bangladesh*

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 Rajarshi Gupta, *University of Calcutta, India*
Technical Program Co-Chair
 Subhajit Kar, *IEM, Kolkata, India*

CALL FOR PAPERS

Original research work, neither published, nor under consideration are invited in 4-6 pages complying IEEE conference template in the following areas, but not limited to:

Track 1: Control and Automation

Linear and nonlinear control theory; Adaptive control; Robust control; Network control; Intelligent control; Application of Control in Robotics.

Track 2: Instrumentation and Measurement

SMART sensors, real time measurement systems; Image Processing and Vision Based Measurement; Instrumentation and Measurement in Medical, Biomedical and Healthcare Systems; Instrumentation and Measurement for various industry applications; Instrumentation and Measurement for industry 4.0

Track 3: Power and Energy Systems

Energy conversion and energy management; Power electronics and drives; Energy system-Smart grids, FACTS, Advanced metering, Power quality; Power system stability, protection and deregulation; Renewable Energy Systems; Demand Side Management; Condition Monitoring of Electrical Equipment.

Track 4: Communication and Networking

Communication in smart grid; IoT based Monitoring applications; SCADA systems, Wide area networking; Wireless sensor network applications for monitoring and control; Communications for smart transportation.

Track 5: Computational Intelligence Applications

Internet-of-things and cyber-physical systems; Intelligent transportation systems & smart vehicles; Big data analytics, understanding complex networks; Neural networks, fuzzy systems, neuro fuzzy systems; Deep learning and engineering applications; Global optimization, Meta-heuristics and their applications.

REGISTRATION

Category	Registration Fees
Authors	Indian: INR 8000 Other country: USD 350
Authors (Member IEEE, IET)	Indian: INR 7000 Other country: USD 320
Authors (Members IEEE CSS/IMS)	Indian: INR 6500 Other country: USD 300
Non-Authors	Indian: INR 5000 Other country: USD 200

IMPORTANT DATES

Submission Deadline	31 st July 2023
Notification Acceptance	20 th October 2023
Camera Ready Submission	30 th November 2023
Author Registration Deadline	30 th November 2023

Technical Co-sponsors:



In Association with





Appeal to Alumni

Submit your particulars as per google form to update digitised list of Alumni

<https://forms.gle/xAXZcrMt6ejXAbx56>

Join Applied Physics Alumni WhatsApp group to get in touch with Alumni Association

<https://chat.whatsapp.com/Fa0KVpFjpxMLMfpXYWLAPH>

Volunteer yourself for the ongoing actions related to formation and maintenance of Applied Physics Alumni Association

Send your best technical article (with photograph and present/past position) in brief for the feature article page of Newsletter

< appliedphysics.alumninews@gmail.com >

Send your notable experience in work field (with photograph and present/past position) in brief for the Reaching from work field page of Newsletter

< appliedphysics.alumninews@gmail.com >

Please come forward

Coordinators for networking of alumni

Batchwise (entry year) Coordinators for networking

1. Rudradeb Mukherjee (1961)
2. Rabindranath Chakraborty (1965)
3. Amit Mazumdar (1969)
4. Ranjan Ghosh (1970)
5. Alok Chowdhury (1971)
6. Anup Kumar Mandal (1972)
7. Samarjit Sengupta (1973)
8. Satyaban Roy (1975)
9. Siddhartha Sen Mazumdar (1976)
10. Saswati Banerjee (1977)
11. Biswajit Chakraborty (1978)
12. Soumitra Ranjan Mitra (1979)
13. Kalyan Mukhopadhyay (1981)
14. Subrata Paul (1982)
15. Siddhartha Pal (1985)
16. Debasish Ghosh (1986)
17. Asish Saha (1987)
18. Prabhakar Pal (1988)
19. Sushanta Bhattacharya (1989)
20. Jitendra Nath Bera (1990)
21. Arijit Sarkar (1992)
22. Abhijit Mandal (1994)
23. Rajarshi Gupta (1995)
24. Arunabha Debnath (1996)
25. Adhiti Mukhopadhyay (1997)
26. Kaushik Das Sharma (1998)
27. Surojit Roy (2000)
28. Sumi Pal (2001)
29. Budhaditya Pal (2002)
30. Susmita Srimani (2003)
31. Anik Mishra (2005 M. Tech)
32. Pallav Dutta (2007)
33. Shrabasthi Ghosh (2011)
34. Payel Paramanik (2014)
35. Sayan Basu (2015)
36. Abhishek Mazumdar (2015 M. Tech)
37. Rohit Mahajan (2016)
38. Kousik Das (2018)

We need co-ordinators from all the batches. Kindly volunteer for the rest.

Next Issue of Newsletter

Interview with alumni of eminence

Kunal Sen – 1975 batch (Global Chief Information Officer, Encyclopaedia Britannica) speaks

Feature Article

MPFM @ Offshore well head tower - by Gautam Basak -1979 batch (Management Consultancy Mentor)

Reaching from work field -Alternative to conventional power system of ball mill - by Saumendra Gupta -1985 batch (VP, SAI Project Solutions)

Editorial Group

Kanik Palodhi (Coordinator) (2000), Achintya K Mukherjee (1971), Debasish Ghosh (1986), Jayanta Mukherjee (1973), Satyaban Roy (1975), Semanti Chakraborty (2000), R N Chakraborty (1965)