

Bulletin of



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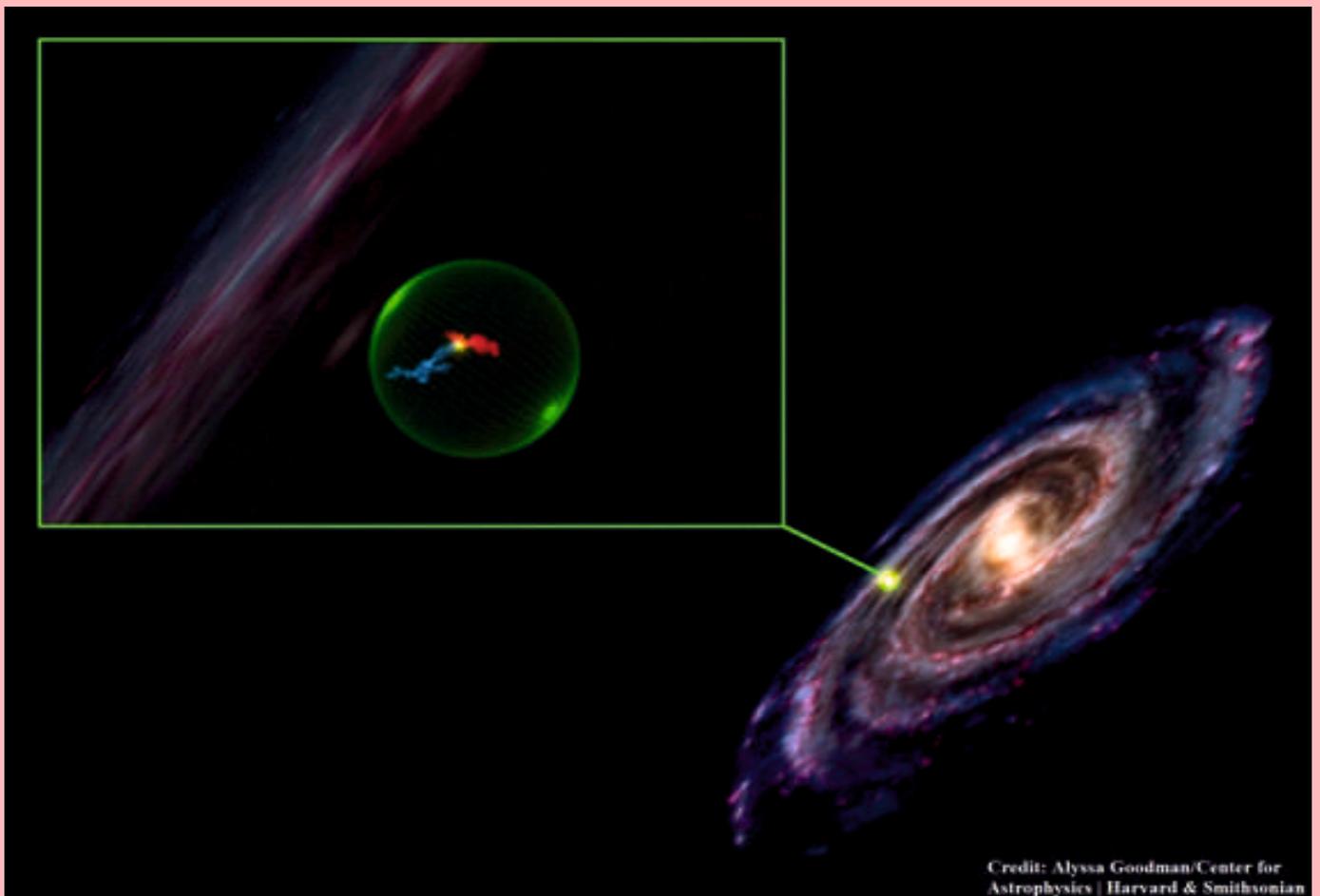
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Credit: Alyssa Goodman/Center for Astrophysics | Harvard & Smithsonian

Astronomers have discovered a giant, spherical cavity within the Milky Way galaxy; its location is depicted on the right. A zoomed in view of the cavity (left) shows the Perseus and Taurus molecular clouds in blue and red, respectively. Though they appear to sit within the cavity and touch, new 3D images of the clouds show they border the cavity and are quite a distance apart. This image was produced in glue using the World Wide Telescope. The 3D map of the bubble and surrounding clouds were created using new data from Gaia, a space-based observatory launched by the European Space Agency (ESA). The maps represent the first-time molecular clouds have been charted in 3D. Previous images of the clouds were constrained to two dimensions. (<https://scitechdaily.com/astronomers-have-discovered-a-gigantic-sphere-shaped-cavity-in-space/>)

THE ANCIENT ASTRONOMY

PRE COLOUMBIAN-MESOAMERICA

There are monuments and inscriptions remaining of the four cultures of pre-Colombian- Olmes, Maya and Aztec. (1800 BC-250 AD) These document and structure show their advancement in complicated calendar system, based on celestial phenomenon and movement of the Sun and Moon

The stamp with serial number tab- depict the symbol of the moon in Mayan Codex



Sun encircle with various celestial figure represent elements of Aztec cosmological knowledge



The Dresden Codex- depicting a Mayan almanac, about eclipses and synodical revolution of planet Venus. This table is also used to calculate significant positions of the planet Venus for various ritual prevailing in the culture



Drawing of Nazca-Peru, (500 BC) are very large geoglyphs showing giant figures of spider and humming birds cut on the ground of Nazca Desert, can only be visible from sky, are 2000 years old supposed to represent some heavenly shapes of celestial bodies like constellations or nebula

**BULLETIN OF
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The Bulletin is the official organ of the IAPT. It is a monthly journal devoted to upgrading physics education at all levels through dissemination of didactical information on physics and related areas. Further, the Bulletin also highlights information about the activities of IAPT.

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An Appeal to the IAPT Members

Our monthly bulletin is sent to you all by post, and is also uploaded on the website *indapt.org*. The members have already been requested to opt for the soft copy, if they do not need/ use the hard copy as such. We appeal to you again to opt for soft copy, as far as possible. Further, please write to us whether you wish to receive the HARD COPY or the softcopy of the bulletin, at the following mail ids, mentioning your name and Life-membership number, by November 10, kindly.

<bul.hardcopy.iapt1@gmail.com> or,
<iaptknp@rediffmail.com>

We appeal to all to help us reduce the expenditure as the cost of producing the hard copy has risen substantially over the years.

K. N. Joshipura
General Secretary

Announcement/Notice

The General Body Meeting of the IAPT will be held offline (in person) at 4.00 pm on **Monday November 29, 2021** during the 35th IAPT Convention to be organized at SVVV University Indore (MP). The meeting Agenda, venue and other details will be uploaded a month in advance, on our main website, *indapt.org*. All IAPT members are requested to attend. Kindly note that no TA/DA will be admissible for attending the meeting.

K. N. Joshipura
General Secretary

PHYSICS NEWS

Physicists control the flow of electron pulses through a nanostructure channel

Particle accelerators are essential tools in research areas such as biology, materials science and particle physics. Researchers are always looking for more powerful ways of accelerating particles to improve existing equipment and increase capacities for experiments. One such powerful technology is dielectric laser acceleration (DLA). In this approach, particles are accelerated in the optical near-field which is created when ultra-short laser pulses are focused on a nanophotonic structure. Using this method, researchers have succeeded in guiding electrons through a vacuum channel, an essential component of particle accelerators.

As charged particles tend to move further away from each other as they spread, all accelerator technologies face the challenge of keeping the particles within the required spatial and time boundaries. As a result, particle accelerators can be up to ten kilometres long, and entail years of preparation and construction before they are ready for use, not to mention the major investments involved. Dielectric laser acceleration, or DLA, uses ultra-fast laser technology and advances in semi-conductor production to potentially minimise these accelerators to merely a few millimetres or centimetres in size.

Read more at : <https://www.sciencedaily.com/releases/2021/09/210923115651.htm>

Original paper : Nature (2021). DOI: 10.1038/s41586-021-03812-9

Study unveils strain-induced quantum phase transitions in magic-angle graphene

Over the past few years, many physicists and material scientists worldwide have been investigating the properties and characteristics of magic-angle twisted bilayer graphene (MATBG). MATBG is a strongly correlated material that was first experimentally realized in 2018. This unique material hosts a diverse array of highly correlated phases, including metals, semimetals, Chern insulators, quantum anomalous hall states and, perhaps most interestingly, superconductivity. Researchers have recently carried out a study investigating the effects of uniaxial heterostrain on the interacting phase diagram of MATBG. Overall, the findings suggest that strain is an important 'turning knob' in MATBG as it can elicit phase transitions, thus it should be measured and characterized whenever possible. This observation could have important implications for future research in materials science, as it could help to improve the performance of twisted bilayer graphene.

Read more at : <https://phys.org/news/2021-08-unveils-strain-induced-quantum-phase-transitions.html>

Original paper : Physical Review Letters(2021). DOI: 10.1103/PhysRevLett.127.027601

Researchers realize a spin field-effect transistor at room temperature

In experiments using conventional materials, engineers and physicists have so far only observed coherent spin precession in the ballistic regime and at very low temperatures. Two-dimensional (2D materials), however, have unique characteristics that could provide new control knobs to manipulate spin precession. Researchers have recently demonstrated spin precession at room temperature in the absence of a magnetic field in bilayer graphene. In their paper, they used 2D materials to realize a spin field-effect transistor. The researchers presented the first spin field-effect transistor at room temperature using the spin precession strategy they developed. In the future, their work could pave the way towards the practical implementation of energy efficient spin-based logic.

Read more at : <https://phys.org/news/2021-09-field-effect-transistor-room-temperature.html>

Original paper : Physical Review Letters(2021). DOI: 10.1103/PhysRevLett.127.047202

Pankaj Bhardwaj

Friedrich Alexander University
Erlangen & Nuremberg, Germany

Inauguration of an Office and Laboratory for the IAPT APhO Cell at Graphic Era Hill University (GEHU) Dehradun

On August 26, 2021, the Vice-Chancellor of GEHU, Prof. Sanjay Jasola, inaugurated an office and laboratory dedicated to the IAPT_APhO Cell. Many dignitaries of GEHU, including the Pro Vice Chancellor, Registrar and Heads of various departments graced the occasion. Many local members of IAPT RC-5 inclusive of Prof. B.P. Tyagi, CCE, Dr. Anand Singh Rana, Coordinator NSE, Dr. Vijay Kumar, member IAPT_APhO Cell and secretary RC-5 along with Dr. Ravi S. Bhattacharjee, Coordinator IAPT_APhO Cell, were present.

The laboratory has already been equipped with some of the experiments from the past Asian Physics Olympiad. The faculty of the Physics Department, GEHU, is being trained on these experiments, The local authorities even think to introduce some of the experiments in their MSc

curriculum.

These facilities will not only help in the organisation of APhO-2022, but in future will be the hub for exposing teachers and students to these often complex, state of art equipment to lead them to an alternative paradigm of imparting multiple skills and assessing multiple skills, as opposed to the current one-dimensional assessment of reproduction skills, through "Hands on Experiments with Physics Olympiad Equipment" not only to urban but also rural participants from different parts of the country. The IAPT thanks GEHU for their support and commitment.

**Ravi S. Bhattacharjee
Vijay Kumar**



National E-Workshop

The Department of Physics & Mathematics of S. Govt. College of Science Education & Research, Jagraon (Ludhiana) Punjab in collaboration with IAPT RC-02 organized a National e-Workshop on August 17th, 2021. The College Director Dr. Mrs. Sukhwinder Kaur accorded a warm welcome to the resource person, Dr. Jaswinder Singh, National Awardee Shiksha Ratan. 650 participants not only from India but also from other countries joined. Dr. Rajeev Kumar Sharma (Secretary RC2) said that IAPT is a grass root organization working for the up gradation of physics teaching & physics

teachers by conducting various academic programs and activities throughout the country.

Mrs. Akashdeep Kaur introduced the resource person to the audience & acknowledged his innumerable achievements. In the workshop, Dr. Jaswinder Singh demonstrated the concepts of Physics & Mathematics by using easy methods and objects of daily use. Mr Parminder Singh proposed the vote of thanks to all present in the e-Workshop.

Rajiv Sharma

Guidelines for the contributors

The IAPT Bulletin recommends for publication:

- Articles, reviews and short notes on subject matter related to physics content and physics teaching at secondary, undergraduate and postgraduate levels. The write-up must offer some new insight into the topic under discussion. Mere reproduction of information available on the internet be avoided.
- Letters and comments on matter published in the Bulletin.
- Reports, news and announcements about important physics related IAPT activities/events in the country.

Articles, reviews and short notes

- Research papers in specialised fields of mainstream physics may not be sent. Research journals catering to specific areas of physics already exist. However, reviews of recent developments in various fields are welcome.
- All the matter should be sent by email to iapt@pu.ac.in. Acknowledgement via email will normally be sent within 10 days. Submissions received via post without soft copy may be considered provisionally, but if accepted for publication then soft copy must be provided. Authors should retain a copy of their write-up, rejected articles will not be sent back. Contributors should give their contact number as well.
- The length of the write-up should not, ordinarily, exceed 6 pages of the Bulletin, including diagrams, photographs, tables, etc.
- All matter received for publication is subject to refereeing. The editors reserve the right to abridge/alter the write-up for the sake of clarity and brevity.

IAPT activity reports

The report must contain the following:

- Name of the activity
- Date/duration
- Venue of the activity
- Name of the coordinator/convenor/organiser along with address, email and mobile number
- Organising institute along with collaborators, if any
- Sponsors, if any (IAPT, RC or any other funding agency)
- Summary of the activity

Maximum two photographs, if available, may be sent separately via email, preferably of the activity or audience.

Please send the report soon after the activity is over, not later than, say, three months.

If you are sending reports of more than one activities for publication in one issue of the Bulletin, kindly send a consolidated report of all the activities in a single communication.

National Level Online FDP in Science Pedagogy

The Department of Physics and Internal Quality Assurance Cell (IQAC) of Dwaraka Doss Goverdhan Doss Vaishnav College, Chennai organised a National level online faculty development programme in Science Pedagogy in association with IAPT RC-13, aimed at empowering faculty members with innovative pedagogy and technology tools and enhancing their abilities to carry out independent research, write successful research projects and to manage them. The program was coordinated by Dr. V. Ranganayaki.

The program started on August 9th, 2021 with the inaugural address by Dr Santosh Baboo, the Principal of the college. Dr T S Natarajan, Professor of Physics, IIT Tirupati delivered a talk on **the significance of experiential learning in Physics**, stressing upon learning by doing. The second day had a session of Dr. O.S.K.S.Sastri, Professor of Physics Central University of Himachal Pradesh on **simulation methodology: a step-by-step approach to pedagogy of computer simulation Labs**. He introduced simulation and modeling techniques with solution of quantum mechanical problems as example. The third day we had an incredibly thought-provoking and inspiring presentation from Dr D Uthra, Associate professor and Head, Department of Physics Dwaraka Doss Goverdhan Doss Vaishnav College, on **Differentiated classroom for STEM teachers**, highlighting various pedagogical approaches and their implementation in the classroom and introducing the learning environment under the new education policy.

On August 12th, 2021, Dr. Anupma Harshal, Consultant, Science Communication and public engagement, IISER Pune outlined research methodologies, managing project proposals and the art of story-telling. Shri. Anoop Jaiswal, retired DGP and a passionate Physics enthusiast, the speaker on the fifth day of the FDP, motivated the audience by demonstrating how to bring out fascinating concepts of physics with simple household materials. It was really an awesome experience.



Sri. Anoop Jaiswal, retd DGP and a Physics enthusiast demonstrates a simple experiment

It was a wonderful presentation on **Research Based Pedagogical tools, what are they and why do we care?** on the sixth day of the FDP. by Dr .Apurva Barve, Coordinator, CoSME, IISER Pune. The 5R's of Recognise, Require, Refine, Report and Reward, and the systematic approach of how to equip students with research skills were explained. The concluding session of the FDP was on August 16th, 21 by Dr. C. Vijayan, Professor of Physics, IIT Madras on **The adventures of Science teaching**, explaining how to use innovation and creative thinking in Physics teaching, through puzzles, paradoxes, tips and tricks. He urged all teachers to explore books such as 'Totto-Chan', 'Surely you must be joking, Mr. Feynman' and 'Why the Sky is Blue'.

The Convenor of the FDP thanks IAPT RC-13 for giving support, suggestions and for helping this FDP to reach out over You tube to around 300 teacher participants from Colleges and schools across the country, handling Science subjects. The participants were assessed by online tests and were awarded certificates. The links for all the lectures will be submitted to the IAPT website.

C.Vijayan

President, RC-13, IAPT

ANNOUNCEMENT

National Graduate Physics Examination – 2021 Part C (An Examination in Experimental skill)

NGPE – 2021 Part C (an Examination in Experimental skill) has been conducted online on 29.08.2021 and five recipients of NGPE – 2021 Gold Medal has been identified as follows:

Centre Code	Roll No.	Name	College
1. G-1221	21504	Aman Bhuker	Miranda House, Delhi University, Delhi
2. G-7103	21013	Bikram Pain	Midnapore College Midnapore (WB)
3. G-7129	21620	Priyanka Samanta	Bangabasi college Bangabasi, Kolkata
4. G-7129	21512	Prapti Mukherjee	Bangabasi College Bangabasi, Kolkata
5. G-8101	21503	Madhulika Roy	St. Xavier's College Ranchi (Jh)

The experimental test was held online on the student's own desk. A kit of the complete set of apparatus was sent to each student and he was directed through videos to set up and perform the experiments. A team of 24 teachers headed by Prof B.P. Tyagi, Dr Anil Kumar Singh and Prof S. C. Samanta worked hard for about a month to bring the whole program to a success. Dr Makhanlal Nand Goswami at Midnapore College worked as Examination Superintendent for NGPE - 2021 Part C.

Dr. Anil Kumar Singh
Coordinator NGPE

Prof B P Tyagi
Chief Coordinator (Examination)

ANNOUNCEMENT

IAPT DSM UG teacher Award – 2021



It is a pleasure to announce that, **Dr. Pius Augustine**, from the Department of Physics, Sacred Heart College, Thevara, Kochi(Kerala) has been selected to receive the *IAPT Dinbandhu Sahu Memorial UG teacher Award* for the year 2021. His selection followed the detailed assessments of his all-round academic work by the jury, and their recommendations. This award is in recognition of his notable contribution to the UG teaching, and to the cause of physics education in general. We greatly appreciate his '*love for Physics and Humanity*', as evident from the numerous modes and methods he has been exploring to reach out to his students. On behalf of the IAPT, I hereby convey hearty congratulations and best wishes to Dr. Pius Augustine for all his future academic endeavours. Dr. Pius Augustine

I am happy to thank Prof. P. K. Ahluwalia (C) from Shimla, Prof. Y. N. Mohapatra (IIT Kanpur) and Prof. C. Vijayan (IITM, Chennai) for acting on the panel of jury for this Award. I also thank Dr. Sarmistha Sahu (Bangalore), the member-secretary of the Award Committee.

The Award presentation Ceremony will be held later in the year and will be announced duly prior to the date.

K N Joshipura

EXPLORING THE ROOTS: Parents of Dr D P Khandelwal

“To understand and reconnect with our stories, the stories of the ancestors, is to build our identities.” - Frank Delaney



Sitting on Chair: L -> R DayaPrasadji Khandelwal, Sualalji Rawat (Father), Chand Devi (Mother) with Santosh (Nephew), PremAdharji Rawat (Brother)

Sitting on Floor : SaranSwaroopji Rawat (Brother)

Standing : L-> R PremLata (Sister) , ShantiDevi Rawat (Bhabhi), RatanDevi (Sister)

As we celebrate Dr Daya Prasad Khandelwal's centenary year, we take a journey down the memory lane, pre-independence, to understand the social constructs and values shaping his upbringing. The below note on Dr. D P Khandelwal's parents shares a glimpse of their lifestyle, profession and ideals.

Dr D P Khandelwal's father, Shri Sualalji Rawat, was born in Beawar in Rajasthan. He was Custom and Excise Officer at Dungarpur Riyasat Rajasthan.

He was known for his work ethic and discipline. He would start his day at 4:00 am with prayer, follow his planned schedule, and usually continue to work until 10:00 pm. He was known as a visionary social reformer who believed in implementing the reforms through hard work. He solved many issues, like creating a bridge over the river and ensuring the construction of roads to boost the local economy.

Pre-independence, when the norm was to educate only male members of the society, he took a strong stand in favour of women education. He was also against the custom of Parda pratha. He set the example by publically boycotting the dowry system that was prevalent during those times.

A patriot in the true sense, he donated his farm to the congress workers for nation-building. In addition, he was a benefactor for the poor and provided help to the needy at times of natural disaster.

An education evangelist at heart, he felt every student who desires to study irrespective of financial status, should be able to avail facilities. He believed regular study builds a strong foundation. With a focus on holistic development, he also advocated regular exercise and sports along with studies. He was highly influenced by the works of the Hindi author Premchand.

He believed in living with simplicity and keeping high bar for ideals. He always insisted on working honestly. While he had people always willing to help in day to day chores, he ensured that everyone in the family has to do their own-work.

Because of his benevolent nature, he gave away most of his wealth. Thus, when he unexpectedly left for heavenly abode in 1942, his family faced financial hardships. However, education, hard work and strong character instilled in children helped the family ride through the storm.

Smt. Chand Devi, his mother, was also literate. She always started her day by reading Radhaswami's pravachan. Both Shri. Sualalji Rawat and Smt. Chand

Devi shared the ideals. Even after her husband's demise, she carried forward the values propagated by him. They have 17 grandchildren, all well educated and contributing to society in multiple fields.

The above information has been derived from a write-up by younger brother (Late) Shri Saran Swaroop Rawat and further some facts have been gathered from Smt. Premlata Badhera, younger sister of Dr D P Khandelwal.

Dr. Abha Khandelwal
(niece of Dr D P Khandelwal)
(Retd) HOD, Dept. of Computer Science
Hislop College, Nagpur

BABUJI - DR. D.P. KHANDELWAL **(Through the eyes of his daughter)**

His dream- IAPT

IAPT today is result of his great vision to bring together entire physics fraternity on one platform and enhance physics research and education under one umbrella. As a college going Girl I have been witness to the period when brain child of my father IAPT was born. I have seen him toiling day in and day out to bring up this child with firm belief and dedication towards its cause. Sometimes we used to feel if his hard work was going to result in fulfilling its goal, but today it is so heartening to see that IAPT has entered its adulthood and is flourishing under the care of dedicated IAPT family. It is a matter of great pride that his dream has come true and our apprehensions have proved wrong.

Babuji's persona was so full of illustrious aspects to it, it is very difficult to describe it in words His IAPT family is very well aware of his professional and academic accomplishments. I as his daughter would be bringing to light some unknown facets of his social and personal life.

Biodata :

Place of birth : Udaipur, Rajasthan

Father's Name : Shri Sualal ji Rawat

Mother's Name : Smt Chand Devi Rawat

He had 2 brothers and 3 sisters

He did early schooling at Dungarpur, Rajasthan. There he used to get best student award

High School studies at Udaipur

Graduation from Government College, Ajmer

Post Graduation from Agra College, Agra

Ph.D. in Nainital Degree College, under Dr D D Pant

His Family

Wife: Our mother Lt. Smt Shakuntala devi played a great role in his and our lives. While Babuji was always engrossed in his professional, social and academic engagements she managed and looked after household single handedly so beautifully. All outside and in-house chores were managed by her. Babuji never commanded or demanded anything at home. Our mother understood his and everybody's needs and fulfilled them with extreme care.

Children

Daughter : Sarita Khandelwal, 75, is M.Sc. Physics. Stays in USA with family.

Son: Anil Khandelwal , 72 , Electronics Engineer from IIT Kanpur. Retired from PHILIPS INDIA, lives in Pune.

Daughter: Anita Khandelwal, 68, M.Sc.

Chemistry. A software professional , retired as Systems Manager from UNIVERSAL CABLES Ltd – Satna . Stays with her family in Gurgaon.

Daughter: Benu (Sunita) Gupta, 66, M.Sc. Physics, lives in Agra with her family.

As a Father :

He was very a gentle, affectionate, lenient and liberal father. He believed in free development of children and always appreciated and encouraged us to pursue our interests other than studies .He never put any restrictions on us and did not impose his opinion on us. He admired even small things we did. He believed in all round development and not just academic. He and our mother made sure that we grow up to be independent individuals equipped with all worldly skills. We never faced performance pressure. He allowed us to bloom freely. We had a very happy carefree childhood as a close knit family.

He taught us to be self dependent in all respects. We never took any tuitions or coaching .Only our brother was given tuitions to improve his clumsy handwriting Today his handwriting is as good as Babuji's. After finishing school he never helped us in getting admissions or reservations. He expected us to find our way through struggle.

His Interests Other Than Academic :

Travel: He believed that seeing the outside world was also part of education to develop broader outlook and better understanding of life . On most summer vacations we used to go for a holiday or for a stay with relatives. Wherever we went he used to make sure to take us to all historical or cultural spots along with tourist attractions.

Socialising : Wherever we went he used to make sure to visit close or distant relatives with us . That built a vast social base for us. We are still recognized as Daya Prasad ji's family and given same love that they gave him.

News and Sports: Keen follower of current affairs and politics, Used to read news papers thoroughly. Morning and evening news on All India Radio was regular routine. Cricket commentary and Hockey Commentary was also of great interest to him. That's how we also developed interest in politics, current affairs, reading and cricket.

Playing Cards: He was a very good bridge player. At home also during holidays he used to play cards with us and when free he used to play patience all by himself

.During family gatherings and festivals he used to play Flash.

Writing Letters: he was a great communicator .He used to write beautiful letters. He stayed connected with all close and distant relatives, friends, colleagues and students through regular correspondence. He always acknowledged and replied each and every letter he received. Receiving his letters was looked forward to by us. Postman was a daily visitor at our door.

Writing Poetry: In his youth he used to write poems. He wrote patriotic poems during freedom movement, poems of affection for his new born daughter, poems on his struggles and dreams. His poems are still available in his handwriting.

Babuji used to do type writing a lot. Sound of the type writer was part of our household.

Generosity towards Students

He was always very conscious of difficulties faced by his students. In Nainital we had a house with spare room. He would offer needy students to stay there free of cost. Few of those students even after moving out treated Babuji as their guardian and us like their family.

He used to give free tuitions to weak students. Only when he was studying and needed finances he did tuition for money. If any student was short of money he would pay their fees and ask them to repay when convenient.

In 1965 there was student unrest in Agra. Students raised slogans and took out processions. On one such occasion while he was talking to students trying to pacify them, there was suddenly a police lathi-charge and in the melee he received a blow on his head. He was brought home with bleeding head but he refused to move to hospital so that students remain calm with having him in front of them.

He did two stints at Agra College, as a lecturer during 1948-54 and as a professor during 1964-69. In the Physics department there used to be a student- friendly scheme - Quarter Price Library. Physics books at PG level, mostly by foreign authors, were very costly and many students could not afford to buy them. A student could get issued a book from QPL at quarter price (non refundable) for the whole session, to be returned at the end of the session. If one wished to retain the book, one

could by paying the balance. During his second stint, he found that the QPL was in bad shape with only some books in stock. He revived it, in a big way, purchased enough books (some with his own money) and earned the gratitude of students.

His Beliefs

He was an Atheist, in Hindi a Naastik. He believed that there is a Superpower which controls entire Universe. He did not believe in idol worship. In temples he used to admire architecture and gardens but never performed rituals but at home he used to participate in traditional poojas on festivals. His Idea to worship was honesty ,integrity , sincerity , morality , and devotion to good causes .

He was honest to the core and expected the same from others. He was a man for principles and fought for his stand.

He never paid bribes and confronted those who asked for it. He used to travel so much for work but never paid bribe to TT for a berth and always got one.

Social Reformist

He was dead against dowry system. He got all three daughters married without dowry. In his son's marriage he did not accept any dowry. Whatever he gave his daughters was out of his sweet will not on demand. From his in-laws he used to accept only one rupee and Nariyal (coconut). We also follow his ideals.

He was against Parda or Ghoonghat tradition and actively worked to eradicate this custom .He persuaded my mother to allow my Bhabhi (Madhu), his daughter-in-law, to wear dresses and saree without parda . He also believed that young widows should be remarried.

Participation in Freedom Movement:

He took part in the freedom movement and due to this, he was sent to jail when he was studying at Agra College, Agra. He had to leave his M.Sc. studies incomplete. As he was under the scrutiny of the British Government, he had to change his surname from Rawat to Khandelwal and had to shift to Karachi. He came back to Agra before the partition. After returning, he joined again and completed his M.Sc.

Services to Khandelwal Community :

For upliftment of young generation of Khandelwals he extensively worked for Khandelwal Mahasabha organization. He believed higher education is the strongest tool for social and financial upliftment of young generation and well being of their families. He used to collect funds for Mahasabha which gave scholarships to deserving financially weak Khandelwal students for higher education. Many such students are today highly placed and have uplifted financial status of their families. Today's Khandelwal generation is highly educated and prosperous.

Advisor and guide to Relatives and Friends

He was a very patient listener and was very fair and balanced in his judgments. He used to help relatives in resolving their family disputes, personal problems to the satisfaction of all concerned. His decisions were highly respected and obeyed by all as everyone had strong faith in his fairness and wise judgment.

He advised many youngsters in the family on their choice of career or education. He never imposed his opinion anyone and encouraged to make their choices freely. He also advised relatives in choosing matches for their children and fixing marriages

Before his marriage my Nana ji expired. My mother had four brothers. Three of them were unmarried. Babuji played the role of their guardian at that young age. He helped them finish their education, found matches for them and got them married and helped them in settling down.

My Tribute :

I thank God for blessing me with a father as virtuous as My Babuji – Dr D.P.Khandelwal

He was a great human being. A man of high moral values, honest, selfless, generous, caring, patient, compassionate and so much more. His gentle, loving, smiling, inspiring presence will always be missed by all his loved ones forever.

Anita Khandelwal

Dr D P Khandelwal – A Tribute

I feel myself honoured to get an opportunity to express my deep regards to my teacher Prof. D P Khandelwal. I had the privilege of being his student during my post graduate studies (1965-67) at Agra college Agra. As a student we felt little scared of the person, heading the physics teaching faculty of nearly 30 brilliant teachers, but our fear soon disappeared when he started taking our classes. Since then till his death, I found in him a sincere guardian of myself.

Dr. Khandelwal relentlessly worked throughout his life for upgrading physics education at all levels, be it school or university. He was instrumental in bringing a quantum change in physics syllabus of Agra University by introducing syllabus based on Berkeley Physics Course at undergraduate level. Same year a new paper 'Solid State Physics' was inducted at post graduate level in the university and he took the responsibility of teaching same to our batch of six students who offered this paper in that year. As a teacher, he went deep in the subject and made it crystal clear to his students. He always emphasised more on the physical aspects of the concept rather than its mathematics, so as to create interest in the subject.

This motivated the students of our batch so much that all of us started our career as physics teacher (1. Mr S D Saxena at Rajasthan University, 2. Mr. V P Tripathi at IIT Delhi, 3. Mr. Y S Jain at NEHU Shillong 4. Mr. S. C. Goyal at Agra College Agra 5. Mr V K Goyal at Allahabad and myself at St. John's college Agra). While teaching he deeply involve himself with mind and body to explain the subject. I can visualise him even now going along the length of the black board from one end to other end of the class with hand extended and whole body going up and down to explain SHM and oscillatory motion at one of his lectures.

Dr Khandelwal had equal commend on English and Hindi language I heard him at several occasions

teaching physics in fluent hindi. I have not come across many science teachers with this talent

He was convinced that to improve physics education there is need to brush up quality of teachers involved in physics teaching at college levels where majority of students get their education. With this objective in mind, soon after the change of syllabus he got organised several summer institutes (in 1967 at Agra college, Agra in 1968 at St. John's college Agra and in 1969 at D.B.S college Nainital). In the same year (1969) in Nainital Dr Khandelwal was busy with Dr JK Ghose, Prof. G M Ram and other colleagues from St John's college and DBS college Nainital to device new experiments for physics teaching. During my short stay at this workshop, I remember him saying 'there is nothing like seeing' He believed that students can be motivated to physics study at higher levels if they are taught through demonstrative experiments at lower levels.

Dr. Khandelwal was a man of principle and never compromised on issues of moral and integrity of a teacher. It was the talk of the town when he resigned from his post, without a second thought, on the inaction of college managing committee against the teacher of his department for behaving inappropriately with a girl student in college laboratory. He remained jobless for some time before joining as Professor and Head of the department at HBTI Kanpur. For Dr Khandelwal the high moral values of a teacher and justice to students were more important than his personal benefits and gains.

Dr S. P. Tripathi
Former HoD Physics
St John's College, Agra

Dr D P Khandelwal : A True Human Being

In 1957 when Dr Khandelwal moved to Nainital to join Nainital degree college he took on rent one of our flats in Savitri Niwas property. With time My father Sh Kishori Lal Shah and Dr Khandelwal started interacting with each other. Very soon our families started visiting each other and we became very close family friends.

After few years, sadly, my father Kishori Lal ji died in an accident. He fell from the roof of our hotel while supervising some work. I was the eldest child, just 16 years old at that time. I had three younger brothers. Our family was devastated and whole responsibility of looking after everything came on my shoulders. Dr Khandelwal in that difficult time became a pillar of strength to me and my mother. He guided me in picking up knowledge about my business.

My mother was a simple housewife Dr Khandelwal slowly persuaded her to come out and assist me in looking after hotels and guests. His encouragement helped a lot in building her confidence and she started settling down as a

working lady. After our business became manageable he advised me to go back to my studies. I joined college and did my LLB. That education was of great help in building my personality and ability and I could start practicing as a lawyer.

Today my son is a leading practicing lawyer in Nainital high court. My daughter is also a lawyer and practicing. It has been 60 years since Dr Khandelwal and family left Nainital, bond between the two families is still alive.

Humane side of Dr Khandelwal was extremely remarkable. His honesty, devotion and dedication to sail our family out of rough times will always remain etched in our hearts . My tribute to him for what he was as a highly admirable & respectable human.

Mahesh Lal Shah
Advocate, Nainital High Court
Ashok hotel, Nainital

Prof. D. P. Khandelwal - My Physics Dronacharya

Prof Khandelwal my mentor and guru changed my life completely after I came in contact with him. I had just completed my graduation from St. Johns College in Agra and was interested in studying Physics for post-graduation. In those days St. Johnians did not like to go to Agra College as it was a very large group of students and some activism and Unionism used to creep in, this was completely absent in St. Johns in those days. I had no option as the MSc physics was available in Agra College only and so I got admitted to Agra college with fears and apprehensions. Soon I discovered that Physics Department was a totally academic island in the large ocean of Agra College. The man responsible was Prof. D.P. Khandelwal Head of the Physics Department.

I vividly remember my first meeting with him, he encouraged us to think out of box and also to learn from the great theories developed by great physicists. Prof Khandelwal went out of the way to help and guide his students, even helping them financially. His lectures used to be a never miss event, I still remember his lectures on

Optics and the concepts imparted by him in our impressionable mind. His interest in developing laboratory was supreme. I specially remember one experiment – the Michelson Morley experiment for measuring the speed of light. It was a difficult one and in the dark room I used to sweat in the intense heat of sodium lamp and was not able to observe the fringes. One day I felt the presence of Prof Khandelwal behind me. He helped me to complete the experiment which I always remember.

Prof Khandelwal used to deliver special lectures on various topics one topic dear to his heart was “Photoluminescence “. This lecture, well illuminated with Luminescent crystals demonstration, was very interesting as it introduced us to the world of Crystal and Solid-State Physics. In fact, due to his pioneering effort a specialization in MSc was started in Agra College, the first in the whole of Agra University. I along with four others were the first batch of Students who specialized in Solid State Physics in the year 1967.

Prof Khandelwal was the first to start summer school for Physics lecturers from colleges for improvement of Physics Teaching. A number of physics teachers benefitted from this programme. He also managed to get Physics teachers from USA under the PSSC programme a joint effort of Indian and US Govt. This programme was a great hit with the physics teachers who used to look forward to join the summer schools at Agra College.

After my MSc I was appointed lecturer at Rajasthan University, I was privileged to work under Prof. B.L. Saraf who was associated with Prof. Khandelwal in a project on Book writing and developing laboratory experiments for Schools through a project funded by NCERT. In this project many renowned Physicists of India including Dr. D.S. Kothari had evinced a keen interest. Prof Khandelwal was the main force behind this project and he used to work tirelessly for the project sometimes continuously for 10 hours at a stretch. He used to come to Jaipur by train and work continuously for hours and then will catch the train back to Agra. It was due to the pioneering efforts of Prof Saraf and Khandelwal that very useful books were launched by NCERT changing the very concept of learning.

Prof Khandelwal was committed to bringing in a movement of science and Physics learning in India. With that in view he founded the Indian Association of Physics

teachers (IAPT) – his biggest contribution to the country. IAPT has now blossomed into a big vibrant organization of over 8000 physics teachers (at all levels) spread all over the country. The activities of IAPT are multifarious; all aimed at doing what Prof Khandelwal wanted to do."

I always respected him for his principled approach to life. He resigned from the cozy position of Agra college on matter of principles. He finally took over as head of the Physics at the HBTI college, Kanpur. Agra college loss was the gain of HBTI, as he set up excellent labs and teaching facilities at the institute. I always remember him with reverence and regard he was committed to physics education and for creating excellence in the field of Physics learning in India. When I think of him I am always reminded of the lines by William Shakespeare: -

***“His life was gentle; and
the element so mixed in him
that nature might stand up
and say to all the world,
THIS WAS THE MAN”***

S. D. Saxena

Fmr Lecturer Physics Raj. University
Retired Civil Servant

Dr D. P. Khandelwal - A Quintessential Teacher and a Humanist

DPK, was my mother's cousin brother and was very close to our family due to his association with Agra, a city, I was born and studied in. We used to call him DP mamaji. His visit to our home was always a special one when he took stock of our education and related activities. He was passionately committed to education and we experienced it in full measure. My elder brother Krishna Gopal Khandelwal (A resident of London now) tells me that once in early fifties DP mamaji on his visit to our home found my brother playing marbles on the ground floor that too when high schools exams approached and this disturbed him so much that he told my mother to pack my brother's bags to stay with him to prepare for exams. Till today, my brother remembers this and attributes his success to this critical intervention on the part of DP Mamaji.

He was very affectionate to our family and in all important matters my parents sought his advice. He was a final arbiter in any issue where there was difference of opinion in our family. He always remained neutral in his approaching in resolving conflicts and he always favoured and took sides with ethical values.

I was doubly privileged to be his student first in Agra College in B.Sc and later at HBTI, Kanpur while pursuing my chemical engineering degree. He was one of the finest teachers of physics who could make physics teaching very interesting. He taught with greatest passion and his teaching was student centric. When in class, he moved from one corner to another as if he was in trance of teaching!

He stayed with us for over a month sometime in late 70s

at Jaipur when he came to work with Prof Saraf at the University of Rajasthan. During this time, I felt very close to him when after dinner, we would discuss a whole range of subjects from International politics to state of nation. It is at this time that I closely observed him, his daily routine, dedication to work and humane attitude. These have been guiding post to me in my professional career. He was one of the finest family and community man who found time to help/ guide people in their career journeys. Whenever, he visited a town, he visited relatives, professional colleagues and friends. His time management was amazing.

He was no arm chair academic but a realist who understood the problems of a struggling nation in 50s and 60s and had a vision to take science teaching from labs to field. He has been an Institution builder in his own profession of teaching and can be credited with founding IAPT. Although he had to face a number of problems during his career but he faced the same with courage and never made departure from his value system. He was truly an inspirational leader who could inspire people by his commitment to professional values, ethical conduct, social and extension motivation.

One could never see him angry and he was the finest role model for us in the larger family for complete emotional control during crisis times. He never controlled any one but by sheer weight of his personal credibility and authenticity, he inspired one and all, his students, researchers and others, who came in contact with him. He was a multi-faceted personality- a teacher, researcher, writer and a social reformer.

His personality type is very aptly described by Shakspeare:

*“What piece of work is a man, how noble in reason,
how infinite in faculties, in form and moving,
how express and admirable in action, how like an
angel in apprehension,
how like a god!”*

From Hamlet by William Shakespere

Anil K Khandelwal
Former Chairman and
Managing director, Bank of Baroda

Social Reformer : Dr. Daya Prasad Khandelwal

He was a very active social worker. At societal level, his contributions were no less. He observed that the literacy level in his community was very low. Therefore, around 1960, he joined and actively participated in “Khandelwal Vaishya Mahasabha” (A frontal organisation of our community - Khandelwal's are a business community mostly living in Rajasthan.). He laid the foundation of making the community understand the value of education & gave the slogan that “कोई भी मेधावी छात्र धनाभाव के कारण शिक्षासे वंचित नहीं रहेगा”. As its Secretary, introduced innovative schemes to facilitate higher education, by providing financial assistance to students who otherwise could not afford higher education on their own.

He requested all industrialists & businessmen of his IAPT Bulletin, October 2021

community to help him in achieving this goal. Also persuaded and convinced his family members to contribute towards this noble cause. He was personally supervising the work of collecting applications & awarding the scholarships. During that period aspiring students or their guardians had to just send a simple request with details of admission to a professional college & the annual fee of the college was being deposited by Khandelwal Mahasabha. Hundreds of students benefited by this goodwill gesture of Mahasabha and have earned lot of appreciation as Engineers, Doctors, builders, Professors, Administrators, Accountants etc. in India and abroad. Many benefitted from such scholarships and held high positions in their career.

Later a higher education scholarships fund was established in 2003. Till today more than Rs. 5 Crore 25 Lakhs has been distributed to about 700 girls and boys. Rs. 42 Lakhs were distributed as scholarships from this fund to 68 students last year.

Children of his family were influenced by him. They were encouraged to design their future as per their choices. There are seven engineers, six post graduates (one holding double doctorate) in his next generation.

[यह उनकी दूरदर्शिता और दृढ़ विश्वास को दर्शाता है कि शिक्षा ही परिवारकी स्थिति को बदल सकती है।]

He was later elected as प्रधान मंत्री of Khandelwal Mahasabha in Nov 1963 for 3 years. But he changed his designation as “प्रधान सेवक” saying that I am here to serve all. He was involved in numerous other activities of Khandelwal Mahasabha. He was deadly against the dowry. He raised a voice against certain traditions involving giving of gifts (as mandatory) on various festive, religious and social occasions – a small step towards social reform, with hopes.

अजमेर खंडेलवाल अधिवेशन (1978) में उन्होंने एक पुस्तिका महिला उत्थान और समाज की कुरीतियाँ पर प्रिंट करवा कर

distribute करवाई थी जो उस समय समाज के लिए अप्रत्याशित थी। उन्होंने विधवा सहायता, विधवा पुनर्विवाह, पर्दा प्रथा, महिला शिक्षा को लेकर मुहिम शुरू की थी।

He always believed in freedom of girls. He was a regular contributor to the magazine published by this body - propagating his ideas on education, पर्दा प्रथा, विधवा विवाह, Child Marriage etc. all throughout his association with this body for long time.

He persuaded the Mahasabha officials and became instrumental to start the financial help scheme for widowed ladies of the community. This scheme is helping many widowed ladies of the community for last few decades. He also pioneered scheme like group marriages of those, belonging to poor families by providing institutional financial support through Khandelwal Mahasabha.

He was a very social person. He used to meet all his close & distant relatives, friends and old colleagues wherever he went.

Er. (Dr.) Narendra Khandelwal
(Son of Dr D P Khandelwal's sister)
MBM Engineering College, Jodhpur (Retired)

Reflecting on the life of my Kakaji (uncle) Dr D P Khandelwal

The purpose of my writing this is to reflect on the life of my Kakaji (uncle) Dr. Daya Prasad Khandelwal, my father's younger brother. In a way it is a biographical sketch as well as a memoir, the way I saw him through my eyes during my close contacts as a child and as an adult. When I think of him, a few things about him jump out – an activist (in a positive way), an educator, a social worker, and a very social person, who would not waste even a single minute of his time, always doing something.

An activist:

During British Raj, when he lived in Dungarpur, Rajasthan, he participated in the 'Angrejo Bharat Chhodo Andolan', i.e., Quit India Movement, and wrote slogans to that effect on the walls of his school/college. To avoid repercussions of participating in the movement, he had to hide his identity by changing his last name from Rawat to

Khandelwal (Rawat is a 'gotra' of Khandelwals, a business community with roots in Rajasthan).

In 1965, when he was a Professor at Agra College, Agra, while pacifying students, he got hit by a 'lathi' on his forehead during the 'lathi charge' by police to disperse the protesting procession of students; the forehead bled. At that time, I was a student at BITS, Pilani, doing masters in electrical engineering; upon hearing the news on All India Radio, I visited him. It was inspiring to note how much he was revered by his well-wishers who visited him at his home in Agra after the incidence.

An educator and a social worker:

From my parents I heard stories of how in his early days he did his bachelor's and master's education, his teaching at schools in Karachi (during pre-independence days)

and in Pilani, and doing Ph.D. in Physics in Nainital under Dr. Pant's supervision, etc. His teaching career involved doing bigger and better things in Agra, Jaipur, and Kanpur, at various Universities and Colleges.

Until 1972, he was the only PhD in our entire Rawat family including our extended families. As a child in 1950's, I was exposed to the meaning of PhD degree through him; and perhaps the environment in our Rawat family, with him as one of the role models, laid the foundation for me and others in the family to aspire for the highest level of education and achievements in STEM (Science, Technology, Engineering and Mathematics); STEM has turned out to be the 'mantra' for every country to develop and prosper in modern times. He being a physicist, in early years of my life he inspired me to be a scientist, which over the time evolved into engineering, with foundations of STEM. As an aside, the next generation, and the generation after that in the Rawat family has had numerous scientists (including Physicists), engineers and doctors with Bachelor's, Master's, and PhD degrees, who at least indirectly, if not directly, have been influenced by the exposure to the value of education by him among others in the family.

As an educator, leaving aside a leading role in the establishment of and activities of IAPT in pursuit of excellence in teaching Physics, he always sought for excellence in teaching. In early nineties, during his visit to Ottawa, Canada where I worked and lived with my family, I had numerous conversations about improving teaching techniques. His favorite topic was use of latest audio-visual technologies with emphasis on hands on practical aspects; for example, at my home I had some electronic kits to teach electronics to my children in a playful manner, which he took great interest in and thought of using such tools to teach at early stage in schools and universities in India. I gave him those kits to take back to India to explore possibilities – high cost of such tools was one of the barriers in India. He took every opportunity to engage youngsters in educational conversations – I recall during one of his visits to spend some time with my father and family, when I was in grade 9, he asked me, “what will happen to magnetic waves if a linear magnet with two poles was covered with a metallic pot”.

He was promoter of Hindi. Back in fifties he wrote a Physics book called “Bhautiki” in Hindi – we had a copy of that in our home. As a school going child, I found it very interesting -- some of the principles of Physics in the book

were way beyond my comprehension at my age.

Around 1960, he joined Khandelwal Mahasabha. Khandelwal Mahasabha is a Khandelwal community organization – Khandelwal's are a business community mostly living in Rajasthan. He laid the foundation of making the community understand the value of education and with his efforts a program of scholarships was established for education with financial assistance to needy child in the community – the program has flourished over the years and is continuing with donations.

He was involved in numerous other activities of Khandelwal Mahasabha, such as, instrumental in establishing a program of financial assistance to needy widows in the community, a voice against certain traditions involving giving of gifts (as mandatory) on various festive, religious, and social occasions – a small step towards social reform, with hopes.

A very social person:

Everywhere he visited, he somehow found time to meet with all family members, and friends and acquaintances from the past, living in the town. He always had something to share with them or simply be a good listener. One key observation I made was that they all had great respect for him. During his visit with us in Ottawa, Canada, we took him for site-seeing in Ontario, Canada and New York State, USA, by automobile/car. He expressed the desire to meet with one of his ex-students who lived in a town in central part of New York State, who happened to be ill at that time. During our site-seeing tour, we drove in our car four hundred miles each way to meet with his student.

On numerous occasions, during our families' get together at our respective homes, I got to spend some time with him. I never saw him wasting a single minute of his time – always doing something or the other, either teaching related, or social activities, or meeting someone. Frequently he played rummy with my father to spend time with him.

In closing, I learnt life is about what we make of it, what we do with it for ourselves, our family, our friends, and people around us in every walk of life, with a sense of making a positive impact.

Dr. Surendra Rawat
Ph.D., P.Eng.
Washington, DC, USA

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(Jan. 2022 – Dec. 2024)

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Proposed Members for IAPT (RC-03)
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C N Kumar

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(Jan. 2022 – Dec. 2024)

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Vijay Kumar
Secretary
Professor and HOD Physics
Graphic Era Hill University Dehradun

ANNOUNCEMENT

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13	Outgoing President	Prof. RK Khanna	L1180	rkkhanna.iitm@gmail.com
14	Outgoing Secretary	Mr. Manoranjan Singh	L5482	mksphysics@gmail.com

Ashish Arora
Secretary

ANNOUNCEMENT

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(January, 2022 to December, 2024)

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4.	Treasurer	Dr. Punit Suthar	L7055	Department of Physics, C U Shah Science College, Ahmedabad-380014 < punitsuthar@gmail.com >
1	Member	Prof. P. N. Gajjar	L5142	Head, Department of Physics, School of Sciences, Gujarat University, Ahmedabad-380009 < pngajjar@rediffmail.com >
2	Member	Prof. N. K. Bhatt	L5083	Department of Physics, MKBU, Bhavnagar-364001 < nkb@mkbhavuni.edu.in >
3	Member	Dr.Darsan Vyas	L4356	Department of Physics, HNGU, Patan-384265 < vyasdg@yahoo.com >
4	Member	Dr. Anil Gor	L8356	Shri R RLalan College, Bhuj, Kutch-370001 < anilgor@ymail.com >
5	Member	Dr.Ghanshyambhai.R Patel	L6316	Government Science College, Gandhinagar-382006 < grpalp94@gmail.com >

Rajshree B. Jotania
Secretary

Kiritsingh B. Zankat
Returning officer

ANNOUNCEMENT

Proposed Members for the IAPT(RC– 08)

Sr. No.	Post	Recommended name and other details of office Bearers
1	President	Dr. R. M. Shewale Mob. 9423916066 drmshevale@gmail.com
2	Vice President	Mr. A. M. Shaker Mob. 9869612993 amshaker@somaiya.edu
3	Secretary	Dr. Lata Jadhav Mob. 9890694409 ldjadhav.phy@gmail.com
4	Treasurer	Mr. S. J. Patil Mob. 9850785615 shantinathj.patil@gmail.com

Nitin Shinde
Secretary RC-08

Proposed Members for the IAPT(RC– 08B)
(Jan2022 to Dec 2024)

1.	President	Dr. Atul K Mody L 3132 Formerly, VES College, Mumbai atulmody@gmail.com
2.	Secretary	Dr. K. G. Bhole L 2503 Vaze College, Mumbai kgbhole@gmail.com
3.	Treasurer	Dr. Shyamala Bodhane L 3528 St. Xavier's College Mumbai Shyamal.bodhane@xaviers.edu
4.	Member	Dr. P K Joshi L 6370 HBCSE, Mumbai pkkjoshi@gmail.com
5.	Member	Mrs. Hemalatha Deshpande L 5703 VES College, Mumbai Hemlatha.deshpande@ves.ac.in
6.	Member	Dr. Kiran Kolwankar L 8556 R J College, Mumbai Kiran.kolwankar@gmail.com
7.	Member	Mr. Amit More L 7144 K J Somaiya College, Mumbai Amit.more@somaiya.edu
8.	Member	Mrs. Sushmita Meta L 5840 Patuck Jr. College, Mumbai Sushmitameta8@patuck.edu

Proposed Members for the IAPT(RC– 09)
(Jan2022 to Dec 2024)

In General Body Meeting held online in the presence of Professor S.B. Welankar, Returning officer, the following names were proposed for the period 01 Jan 2022 to 31 Dec 2024.

- PRESIDENT:** Dr. B.D. Shrivastava, Department of Physics, Government PG College Dhar. (L3119)
- SECRETARY:** Dr. Uttam Sharma, Head Department of Physics, Shri Vaishnav Institute of Science, Shri Vaishnav Vidhyapeeth Vishwavidyalaya, Indore. (L7523)
- VICE PRESIDENT:** Dr. N.K. Dabkara, Department of Physics, Government PG Girls College Neemuch. (L7205)
- JOINT SECRETARY:** Dr. Kamal Kushwah, Physics Department, Government Engineering College Jabalpur. (L4407)
- TREASURER:** Dr. Usha Singh, Department of Physics, IPS ACADEMY Rau, Indore. (L5076)
- MEMBERS:**
1. Dr. V.K. Gupta, Department of Physics, Government Girls College, Ujjain (L1514)

2. Dr. R.C. Dixit, Head, Physics Department, Holkar Sc College Indore. (L4613)
3. Dr. A. Bhardwaj, Head of Physics, Government PG College BIORA (Rajgarh). (L7522)
4. Dr. J.T. Andrews, Head, Department of Physics, SGSITS Indore. (L6652)
5. Dr. O.P. Khandelwal, 4/2 MG Road Barwni. (L0859)

Dr. Uttam Sharma
Secretary IAPT-RC-09

ANNOUNCEMENT

Proposed Members for the IAPT(RC– 10)
(Jan2022 to Dec 2024)

President: Dr. A.K. Shrivastava, Dean, Faculty of Sciences, Dr.C.V.Raman University, Kota, Bilaspur, Chhattisgarh

Vice President: Dr. Ashutosh Pandey, Assistant Professor, Dr.C.V.Raman University, Kota, Bilaspur, Chhattisgarh

Secretary: Prof. Sharad Kumar Kaushik, Professor of Physics, Chauksey Engineering College, Bilaspur

Treasurer: Mr. Nitesh Kumar Department of Physics, Dr.C.V.Raman University, Kota, Bilaspur, Chhattisgarh

Executive Members:

1. Dr. A.K. Panigrahi
2. Dr. S.K. Shrivastava
3. Dr. H.S. Tewari
4. Dr. Lakhapati Patel
5. Dr. P.B. Taunk

A.K. Shrivastava
Secretary

ANNOUNCEMENT

Proposed Members for the IAPT(RC– 12)
(Jan2022 to Dec 2024)

1. President- Dr. L. A. Udachan, HOD Physics, CB PG College, Bhalki, L0606. Mob 9449291594
2. Secretary, - Dr S M Khened, Raichur, L 1804. Mob9448571503
3. Vice President- Prof Dr B R Kerur, Gulbarga University, Kalaburagi, L1224. Mob9448213160
4. Member: Prof. S Y Amargolakar. Karnataka University Dharwad, L2450.
5. Member: : Prof .V T Deshpande, LVD College Raichur (Rtd), Raichur, L1808.
6. Member; Dr M Prabugouda, VN College, Hospet, L3140.
7. Member: Dr Shantala D Patil, Govt. College, Aland, L3311.
8. Member: Prof. Veerappa Dalavai, Belagavi, L 3981.
9. Member: Dr. Mohan T Hosmani, Hubali, LM No. 4060.

Dr Aravind H. Dyama
Returning Officer
Govt. College Farhatabad Kalaburagi L3310

Proposed Members for the IAPT(RC– 15)
(Jan2022 to Dec 2024)

Sl No	Position	Name	L M No.	Affiliation
1.	PRESIDENT	Prof Samit Kumar Ray samit@bose.res.in	L 8591	Department of Physics, IITKharagpur, WB
2.	VICE-PRESIDENT	Dr. Achintya Pal babulan@gmail.com	L 6950	Retd Deputy general manager and Computer analyst, ONGC
3.	SECRETARY	Dr Pradipto Panchadhyayee ppcontai@gmail.com	L3457	Dept of Physics, Prabhat Kumar College (Autonomous), Contai
4.	TREASURER	Dr LipikaSantra lipika_santra@rediffmail.com	L 7101	Dept of Physics, Bangabasi College. Kolkata
5.	MEMBER	Prof Manimala Das manimala.das@gmail.com	L3452	Former VC, Netaji Subhas Open University
6.	MEMBER	Sri Sanjoy Pal sanjoypal@gmail.com	L 5937	Assistant Teacher, Anandapur High School,H.S., Paschim Medinipur, WB
7.	MEMBER	Dr. JonakiChowdhuri jchowdhury50@gmail.com	L2926	Formerly of Department of Physics, Lady Brabourne College
8.	MEMBER	Dr. Shinjinee Dasgupta shinjinee14@gmail.com	L7540	Department of Physics, Victoria Institution, Kolkata
9.	MEMBER	Dr. Sukla Chakrabarti	L2579	Department of Physics, Ananda Mohan College, Kolkata

Achintya Pal
Secretary

ANNOUNCEMENT

**Proposed Members for the IAPT(RC– 18)
(Jan2022 to Dec 2024)**

S.N No.	Post	Name	Contact	Address
1.	President	Dr Avula Ranganath..	M: 9436454030. Email:rnsrster@gmail.com	Registrar, ICFAI University,Kamalghat, West Tripura.
2.	Vice President	Parimal Majumdar	M: 9436454135. Email:majumdar2p@gmail.com,	College Tilla,West adjacent to Gandhi School,PO:Agartala College,Pin -799004.
3.	Secretary	Swapam Majumdar	Mobile : 9436120589, Email : spnmajum@gmail.com	Akash Ganga , Near Vivekananda Maret , Santoipara , Agartala , Pin– 799001, Tripura (W).
4.	Treasurer	Debdas Bhattacharjee	M; 9436541845 Email:devdasbhattacharjee2009@gmail.com	29/B Old Kali Bari Lane Road, Krishnanagar, agarthala
5.	Member	Prof. Aparajit Kumar Bandyopadhyay.	M: 8257698096.	T.G.Road,Ker Chowmuhani, PO: Ramnagar, Pin:799002.
6.	Member	Dr Pramode Ranjan Bhattacharjee	Mobile : 9862664832	5, Mantri Bari Road, PO : Agartala , West Tripura, Pin : 799001.
7.	Member	Amal Kumar Nath	M: 9366674097	Henry Derozio School , Kunjaban , Agartala.
8.	Member	Ujjwal Kanti Bhattacharya..	M: 9856241730 Email:iaptrc18@gmail.com	A.D. Nagar-1, Agartala, West Tripura,
9.	Member	Subhas Gan Chaudhuri	M: 9436487395	Ramnagar Road no -3, PO : Ramnagar.West Tripura.,Pin .799002

Parimal Majumdar
Secretary

Proposed Members for the IAPT (RC– 19)
(Jan2022 to Dec 2024)

1. **President:** Dr. Amarendra Narayan, Associate Prof. Dept. Of Physics, Patna University, Patna
Mob.- 9204761406, L 1028. Email- amarendra.nrn@gmail.com
2. **Secretary:** Dr. Pramendra Ranjan Singh, Principal, Narayan College, J P University Chapra
Mob.- 9431045759 L4391. Email- drpramendra_jc@rediffmail.com
3. **Treasurer-** Dr. Santosh Kumar, Associate Prof, College of Arts, Science & Commerce,
Patliputra University, Kankarbagh, Patna-800020,
Email- santoshkumar.coc@gmail.com Mob.- +919470032269 .- L4393
4. Dr. Himanshu Kumar Hande Principal, DAV Public School, Obra Email- himanshukrpandey@gmail.com
Mob- 9308005056, L 4869
5. Dr. K. N. Rai Retd. Dept. Of Physics, Munger, Bihar email- knraimgr@gmail.com
Mob.+919835411719 L-4961
6. Dr. Manoranjan Kar Associate Prof. Dept. Of Physics, IIT Patna Mob- 9470836606 - L7803
Email- mano@iitp.ac.in,
7. Dr. B. C. Rai Head. Dept. Of Physics, College of Commerce, Science & Arts, Patliputra University,
Patna. Mob- +919304005275 - L 4270 Email-bcraiphy@gmail.com,
8. Dr. Neeraj Shukla Dept. Of Physics, NIT Patna. Email-neerajs.iitk@gmail.com

Rakesh Kumar Singh

Returning Officer

Email- rakeshsinghpu@gmail.com

Mob.-+919304197595

Proposed Members for the IAPT (RC– 20)
(Jan2022 to Dec 2024)

- 1) **President:** Dr. Satish Chandra Gupta, Retired Professor of Physics, Ranchi University, Ranchi, (L.M. number: L-1792), Mobile No: 9431178538; 7903224597; Email id: satishgupta52@gmail.com .
- 2) **Vice President:** Sri R K Bharati, Associate Professor, Physics Dpt., Marwari College, Ranchi, (L.M. No: L-0977), Mobile no: 9430377868; Email id: rajkishore.bharati@gmail.com .
- 3) **Secretary:** Dr. Manoj Kumar, Associate Professor of Physics and presently Principal, RLSY College, Ranchi; (L.M. No: L-6871), Mobile No: 9431520073; 7667786050, E mail id: profmanoj@rediffmail.com .
- 4) **Treasurer:** Sri Mitesh Chakraborty, Asst. Prof., Physics Dpt., St. Xavier's College, Ranchi, (L.M. No: L-6302), mobile No: 720939873; 9934046340, E mail id: mitesh.chakraborty@rediffmail.com ; miteshsxc@gmail.com
- 5) **Member:** Dr. Dharmendra Singh, Asst. Prof., Centre for Applied Physics, Central University of Jharkhand, Ranchi, (L.M. No: L-6467), Mobile: 8809323825, Email id: dsinghcuaj@gmail.com ; dsinghiuac@gmail.com.

6) **Member:** Dr. Sayantan Sil, Asst. Prof., Physics Dpt., PKRM College, B.B.M.K. university, Dhanbad, (L.M. number: L-8046); Mobile: 9835947775, E mail id: sayan12350@gmail.com .

7) **Member:** Prof. Jata Dhar Dubey, (L.M. No: L-1078), Retired Prof., University Dpt. of Physics., VBU, Hazaribagh, Mobile No : 9431141100, Email id: jd_dube2004@yahoo.co.in

8) **Co-opted Member:** Dr. Shrawan Kumar, Associate Prof. & HOD Physics, Nilamber-Pitamber University,

S N Tiwary
Returning Officer,

ANNOUNCEMENT

Proposed Amended Constitution (Proposed 2020-2021)

To the Life Members
Indian Association of Physics Teachers

September 25 2021

Dear Colleagues:

Please read the note below and consult our website, indapt.org/introduction

The process of amending the constitution was an arduous one and has taken two long years. The document underwent a number of revisions and was looked at by the Executive Council twice, once in June 2020 and then again in Feb 2021. It was helped by Prof. J P Gadre. The document is called

Proposed Amended Constitution (Proposed 2020-2021)

Now, with the approval in the General Body of IAPT, this is expected to come into force from January 01, 2022. This document is accompanied by a Table where the changes are noted and the rationale for the changes is given. The Table is called

Table as Guide for Proposed Amended Constitution

We believe that the document is sound and preserves the spirit of the founding members of IAPT. For **comparison** we have, on the website, the current constitution called Amended IAPT Constitution

Please take a look and if you have queries please write only on this email id below by November 5 2021.
<constitution.comments@gmail.com>

Thank you.

Vijay A. Singh
President, IAPT

K N. Joshipura
General Secretary, IAPT

Constitution Amendments

Sr No	Refer to Para No	Original	Read as	Reason for Change
1	4 (A) (c) of Costitution	Sustaining Member (annual)	Dropped, that is, there will not be such a category of membership henceforth.	For several years there is no Sustaining member neither a demand for this category of membership.
2	7 (a) (i) 4 of Costitution	Members 22 (Region wise)	Members 22 (one from each Region)	For better clarity.
3	7 (a)(ii) of Costitution	(by elected members)	(to be co-opted by elected members)	To stress the process of cooption.
4	7 (iii) 6 of Costitution	Resident Secretary (Central Office)- 1	This post is dropped, so that there will be no Central Office neither Secretary for it.	The concept of Central Office itself is dropped which existed in addition to the Registered Office.
5	7 (d) (ii) of Costitution	A member of the EC	An elected member of the EC....	To emphasize the case of an elected member which does not apply to other members.
6	8 (a) of Costitution	He / She...	President	This mentions the post irrespective of gender.
7	8 (d) of Costitution	He / She...	Treasurer	This mentions the post irrespective of gender.
8	Newly inserted clause after 8 (d)		(e) Secretary (Registered Office)- The Secretary will be incharge of the Registered Office where all the records of IAPT are maintained and will be assisted by suitable support staff.	There was no mention about the working expected of the Secretary (Registered Office).
9	9 (c)(i) of Costitution	Co-opted members (Optional)-2	Co-opted members - upto 3	In some RCs because of the geographical vastness the number of coopted members required may be more. To accommodate them an upper limit is desirable.

10	9 (c)(ii) of Costitution	The term may not be co-terminus with that of the EC.	... and must be co-terminous with that of the EC.	The term of a RC must end with that of the EC. This gives an advantage for the EC to coordinate easily with the RC.
11	12 of Costitution	All legal proceedings by or against IAPT in connection with IAPT work will be conducted by or against the General Secretary by designation and not by or against the General Secretary by name.	All legal proceedings by/ against IAPT in connection with IAPT work will be conducted by or against the General Secretary by designation and not by or against the General Secretary by name. The District Court at Kanpur alone shall have jurisdiction to settle and decide on all matters and disputes related to IAPT (except those connected with Examinations) as the Registered Office of IAPT is in Kanpur. The jurisdiction for legal matters connected with the Examinations will, however, be with the district court (or its equivalent) of the place where the office of the Chief Coordinator of Examinations is Located.	Specific mention regarding the jurisdiction is necessary. Examination related legal matters need to be dealt with by a separate office of the Chief Coordinator of Examinations.
12	A (2) of the Bye-Laws	through a band draft	through cheque / bank draft / electronic transfer	To accommodate the cheque (as it is now payable at par) and modern mode of electronic transfer
13	A (4) of the Bye-Laws	The Treasurer will communicate, at the end of each month, through the Bulletin, a list of members enrolled within that month, so that the member receives a copy of the Bulletin as early as possible from the commencement of the membership.	The Treasurer will communicate annually through the Bulletin, a list of newly registered members in a particular year.	The number of members registered in a month is usually small and hence it is more practical to announce the list annually. However the member starts receiving the Bulletin immediately after the membership is confirmed, no need to mention it separately.

14	A (5) of the Bye-Laws	a copy of the Bulletin of IAPT	a copy of the Bulletin of IAPT (or its e-version)	Now the e-version of the Bulletin is available and many members prefer it.
15	B (15) of the Bye-Laws	Newly inserted statement.	The Returning Officer should not be a member of EC.	To make sure that the Returning Officer is not an EC member.
16	E 58(c) of the Bye-Laws	A new incumbent ...	The new office bearer ...	An 'incumbent', by definition, is a current holder of an office, so that 'new incumbent' is a wrong word and hence a change.
17	F 65 (iii) of the Bye-Laws	The registration fees for NSEP,....	The registration fees for National Standard Examinations (NSEs)...	Earlier IAPT was conducting examination only in Physics (NSEP). Now, however, it has the responsibility of conducting examinations in other subjects also, such as Chemistry, Biology etc. These are called National Standard Examinations or NSEs in general and hence a change is required.
18	G 72 (i) of the Bye-Laws	The registered office will give a one time seed money of Rs. 3000/- to each regional council.	The Registered Office will give a one-time seed money of Rs. 10,000/- to each newly formed Regional Council which may be reviewed / revised by EC from time to time.	The seed money amount needs to be revised upward. Periodic review of the situation is obviously necessary by EC.
19	G 74 (iv) of the Bye-Laws	The regional president, secretary and the treasurer will jointly submit within one month at the end of every year, a statement of income and expenditure to the GS with a copy to the regd. office. The vouchers need not be sent with, if the statement is accompanied by a certificate from a chartered accountant. In case of unaudited statement, all the original vouchers (each of them is attested by the secretary and verified by the treasurer) must be sent along with the statement. The regd. office will undertake the audit in such a case.	The President, the Secretary and the Treasurer of an RC will jointly submit within one month after the end of the financial year, an audited statement of income and expenditure, accompanied by a certificate from a chartered accountant, to the GS with a copy to the Registered Office.	Submission of an unaudited statement of accounts is an unnecessary burden on the Registered Office and hence it has been dropped.

ELECTION NOTIFICATION
INDIAN ASSOCIATION OF PHYSICS TEACHERS
EXECUTIVE COUNCIL
(Jan2022-Dec2024)

(A) List of nominations received and found to be valid:

Sr No	Name of the Post	Name of the Candidate (Lifemembership No)
1.	President	Prof. P.K. Ahluwalia, Shimla L 0326 G. Venkatesh, Bangalore L 3995
2.	General Secretary	Rekha Ghorpade, Thane L 0283
3.	Vice President – North	Ravi S. Bhattacharjee, Delhi L 3291
4.	Vice President – East	Dr. Ranjita Deka, Guwahati L 4345
5.	Vice President – Central	Ashok Kumar Jain, Roorkee L 6190
6.	Vice President – West	Arun V Kulkarni, Goa L 4513
7.	Vice President – West	Sivanand Appanna, Masti Hasarchampu L3681
8.	Vice President – South	P. Nagaraju, Bangalore L 2694
9.	Vice President – General	Prof. H.C. Verma, Kanpur L0081
10.	EC Member RC 02	Meenakshi Sayal, Jalandhar L 3915
11.	EC Member RC 03	Pawan Kumar, Shimla L 6218
12.	EC Member RC 04	Dr. Sunder Singh, Baralie L 5287
13.	EC Member RC 05	L. P. Purohit, Haridwar L4471
14.	EC Member RC 07	Chetan G Limbachiya, Vadodara L 4069
15.	EC Member RC 08	S B Mane, Islampur L 4075

16.	EC Member RC 9	Pradip Kumar Deubey, Indore L 5073
17.	EC Member RC 12	Dr. M S Jogad, Kalburgi L 1581
18.	EC Member RC 13	Prof. Anandvadivel, Sriperumpudar L1812
19.	EC Member RC 15	Makhanlal Nanda Goswami, Midnapur L 2510
20.	EC Member RC 18	Kalipada Adhikari, Agartala L 5203
21.	EC Member RC 20	Shyam Ranjan Kumar, Ranchi L 7222
22.	EC Member RC 22	DR. V Rajeshwar Rao, Karimnagar L 3871

● **Note that**

LAST DATE of withdrawal of nominations ---**October 22, 2021** by email/ post. **The email must be followed by Hard Copy through POST.**

Prof.P.D. Lele
 Returning Officer
 IAPT EC Elections 2021
 Bldg. – A4 Flat No. 6, Dudhsagar Chs,
 Arrey Check Naka Goregoan (EAST), , Mumbai 400 065
 Contact No.: 09409288348. Email ID: pdlele@hotmail.com

To our readers

For change of address and non-receipt of the Bulletin, please write (only) to:
 our New Address :

The Managing Editor
 Flat No. 206, Adarsh Complex,
 Awas Vikas-1 Keshavpuram,
 Kalyanpur, Kanpur-208017
 Email : iaptknp@rediffmail.com
 Mob. : 09935432990



XXXV Annual IAPT Convention 2020-21

&

National Seminar

On

INNOVATIONS IN PHYSICS TEACHING & RESEARCH

(IPTR-2020-21)



Nov 28-30, 2021

Organized By
Shri Vaishnav Vidyapeeth Vishwavidyalaya,
Indore
&
Indian Association of Physics Teachers
(RC-09)



IMPORTANT CONTACT DETAILS

National EC Member	Dr. P K Dubey (94250 59796)
Convener	Dr Uttam Sharma (98262 12353)
Co-Ordinator	Dr Amit Saxena (98370 12535)
Technical Support	Dr Jigyasu Dubey (95222 37611) & Mr. Shrikant Telang (70493 95396)
Travel & Accommodation	Dr S. Thakur (99260 28213) & Mr. Premansh Sharma (99810 14786)

-: VENUE :-

SVVV campus, Indore-Ujjain Road, Indore (M.P.), INDIA

Ph.: 0731-2729071-76, <http://www.svvv.edu.in/>

Email: iapt.nov2021@gmail.com; Website: www.iapt2020-21.svvv.edu.in

CHIEF PATRONS

Prof. Upinder Dhar
Vice Chancellor, SVVV, Indore

Shri Purushottamdas Pasari
Chancellor, SVVV, Indore

PATRONS

Prof. K N Joshipura
General Secretary, IAPT

Prof. Vijay A Singh
President, IAPT

Chairperson	Prof. Ashutosh Mishra, DAVV, Indore
Co-Chair	Prof B D Shrivastava, President, IAPT-RC09
General Chair	Dr. P K Dubey, National EC Member
Treasurer	Dr. U. Singh, IPS Academy, Indore, IAPT -RC-09

Coordinator
Dr Amit Saxena

Convener
Dr. Uttam Sharma

ABOUT IAPT AND THE CONVENTION: The Indian Association of Physics Teachers (IAPT) was established in the year 1984 by the great visionary, (Late) Dr. D. P. Khandelwal, with active support from some Physics teachers, to upgrade the level of teaching and teachers of physics and related areas at all levels to pool and mobilize the talents and resources of teachers in the national perspective. It has now grown into a major organization with more than 8500 life members, spread over about 1500 organizations throughout the country which including about 100 members from abroad. The members of IAPT belong to a wide variety of education levels like school, college, university teachers, research workers, science administrators and science savvy enthusiasts. For the grass root working of IAPT, the country is divided into 22 regions, each with a regional council. The apex executive council, co-ordinates and directs the whole organization at the national level. Along with various activities run throughout the year, IAPT organizes a 3-day National Convention every year, since 1984, with some specific theme in association with educational organizations. This grand event has a series of programmes including research paper presentation by members, lectures by experts and eminent scientist working in the relevant fields. Further, presentation of innovations in teaching methods, demonstrations and lab experiments is also a key feature in all conventions.

ABOUT SHRI VAISHNAV TRUST: The foundation stone for Shri Vaishnav Group of Institutions was laid in year 1884 by compassionate Cloth Merchants of Vaishnav cult of Indore, which was later reconstituted as Shri Vaishnav SahayakKapada Market Committee in the year 1934. Shri Vaishnav Vid yapeeth Trust believes in taking the Nation forward by improving the quality of life of its citizens by continuously working in the sphere of education, health and environment. It has been established to promote education and research in various disciplines through academic Institutions for the benefit of all sections of the society, but not with the motive of profit. Under the guidance of Shri Vaishnav SahayakKapada Market Committee, Shri Vaishnav Shaikshanik Evam ParmarthikNyas was established in the year 1981. Since then, Nyas has been working relentlessly for the upliftment of the society and country as a whole by providing better technical and professional education, health facilities, schools and other social services.

SHRI VAISHNAV VIDYAPEETH VISHWA VIDYALAYA, INDORE: Shri Vaishnav Vidyapeeth Vishwavidyalaya (SVVV), a private university in the state of Madhya Pradesh, INDIA, was established in 2015. Although a young university, it belongs to a group of other colleges, schools and educational institutes managed under the benign leadership of the 136-year old Shri Vaishnav SahayakKapada Market Committee. It has over 7,000 students in graduate, post-graduate, vocational and doctoral programs in architecture, engineering, management, social science, science and technology in five campuses and 15 institutional disciplines in Indore, INDIA. In

engineering, its active research areas include polymer chemistry, green chemistry, photobiology, forensic serology and biology, modern mathematics, plasma research, drug design, magneto-biology and e-waste management. In the management and humanities, its current research covers branding, workplace, happiness, learned optimism, managerial effectiveness English literature, psychology, journalism, and mass communication. Electronic devices for braille reading, smart dustbins, and magneto-priming of seed will be some of its forthcoming innovations. In engineering, it is exploring new technologies in mechatronics, automobiles and railways.

The University is offering Undergraduate, Postgraduate, Dual Degree and Doctoral programs in various disciplines through the following constituent Institutions:

<ul style="list-style-type: none"> • Shri Vaishnav Institute of Technology and Science • Shri Vaishnav Institute of Information Technology • Shri Vaishnav Institute of Textile Technology • Shri Vaishnav Institute of Forensic Science • Shri Vaishnav Institute of Architecture • Shri Vaishnav School of Management • Shri Vaishnav Institute of Journalism and Mass Communication • Shri Vaishnav Institute of Science • Shri Vaishnav Institute of Computer Applications • Shri Vaishnav Institute of Social Sciences, Humanities and Arts • Shri Vaishnav Institute of Fine Arts 	<ul style="list-style-type: none"> • Shri Vaishnav Institute of Commerce • Shri Vaishnav Institute of Agriculture • Shri Vaishnav Institute of Home Science • Shri Vaishnav Institute of Professional Studies • Shri Vaishnav School of Law • Faculty of Doctoral Studies & Research <p><i>Besides these Institutions, the University has established following Centers:</i></p> <ul style="list-style-type: none"> • Centre of Excellence in Plasma Research • Centre of Excellence in Happiness Studies • Centre of Vocational Studies • Centre of Excellence in Sustainable Development • Centre of Excellence in Simulation & Gaming
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CENTRE OF EXCELLENCE IN PLASMA RESEARCH: “Centre of Excellence in Plasma Research” was inaugurated by Padma Vibhushan Dr. Anil Kakodkar, an Eminent Nuclear Scientist, Former Chairman of the Atomic Energy Commission of India at Shri Vaishnav Vidyapeeth Vishwavidyalaya, (SVVV), Indore, on 10th Aug 2016. Plasma Centre has completed several research projects with research grants at the tune of Rs. 1.20 Crore from BRNS, BRFST, Department of Atomic Energy. The Centre is actively involved in Basic Plasma Physics, Coating Technology, Nuclear Fusion Research, Plasma Application (Agriculture, Textile, Nitriding, Plasma – Biomedical and Health, Coal), Design and Development of Plasma Sources, Electrode based DC plasma systems, Filament produced plasma systems, RF produced plasma systems, Development of Plasma Diagnostics, Plasma Spectroscopy, Probe diagnostics, Laser-Plasma interaction. Dr. Uttam Sharma is the coordinator of Centre of Excellence in Plasma Research.

About Indore:

Indore is an important commercial centre of Madhya Pradesh. It boasts of well-developed industrial areas like Dewas and Pithampur where major industrial houses have production facilities. Indore is the only city in India to house both Indian Institute of Technology and Indian Institute of Management. Major IT giants such as TCS and Infosys have setup their new ventures at Super Corridor, which is new industrial area, developed by M.P. Government as IT and Medical Hub. Indore has been recognized as the cleanest city of India four times in a row and is also in the first 20 cities being developed as smart cities. Indore is well-connected by road, rail and air routes.

Indore is located in the geographical heart of the country, and is easily reached. It is well-connected by road, rail and air to all the metropolitan and other cities of INDIA. The month of November in Indore experiences essentially constant cloud cover, with the percentage of time that the sky is overcast or mostly cloudy remaining about 19% throughout the month. The temperature would be close to 10^oC, so it is advisable to carry the necessary cloths while traveling.

THEME & Sub-Theme:

Theme: Innovation in Physics Teaching and Research

Sub-Theme: Use of Artificial Intelligence and Information Technology in physics teaching, Online physics teaching and learning, Physics teaching through simulation, Research for UG and PG students, Designing laboratory experiments for different levels, Teaching physics through assignments, Blended mode of learning and flip classroom, an Evaluation method for school and college level, innovative methods for teaching physics, history of physics integrated into classroom teaching, inclusivity in physics teaching (gender, underprivileged, differently-abled, etc.), Innovative physics research, Plasma physics, Materials science. Laser,

REGISTRATION: Registration will be done online: For registration please click here "<https://forms.gle/Q3hjmbZFssxSD2dd9>" and complete the google form.

The Registration Fee for delegates will be **Rs.1000/-**(covering local hospitality and Conference kit **excluding accommodation**). For accompanying person registration fee is **Rs 2500/-** which includes accommodation and food.

ACCOMMODATION: Subsidized shared accommodation is limited and will only be provided on first come & first serve basis. Registration with accommodation charges is **Rs 3700/- (This includes Registration fee, Conference kit, Accommodation, and food)** for complete program.

ABSTRACT/ PAPER SUBMISSION:

An abstract of 250 words (Times New Roman, Font 12) of the research papers to be presented in the conference has to be sent along with the registration fees. A soft copy of the **abstract must be uploaded on** <https://forms.gle/rfvHePs2sfLrhnUv8>.

Acceptance of the abstract as oral/poster presentation will be conveyed after screening. Selected full length research papers will be published in a book (with ISBN number). **Last date for submission of the abstract is 10 Nov, 2021** and for submission of full-length paper (8 to 10 pages, A-4) is 10 Dec2021. The paper would only be considered if it addresses the central and suggested sub-themes of the seminar.

PAYMENT DETAILS:

Registration and accommodation fee can be transferred/deposited online to the account as per the following details-

Account Name: Shri Vaishnav Vidyapeeth Vishwavidyalaya
Bank Name: HDFC BANK Ltd.
Branch Name: CLOTH MARKET, Indore (M.P.)
Account no.: 50100282903557
CMS Code: SH97VSHVVD
IFSC: HDFC0000281
Account Type: Saving
Email ID: cfo@svvv.edu.in

IMPORTANT DATES

Registration & Online Manuscript Submission Open	01 Oct 2021
Online Manuscript Submission Closes	10 Nov 2021
Acceptance of Manuscript	18 Nov 2021
Registration Deadline	25 Nov 2021

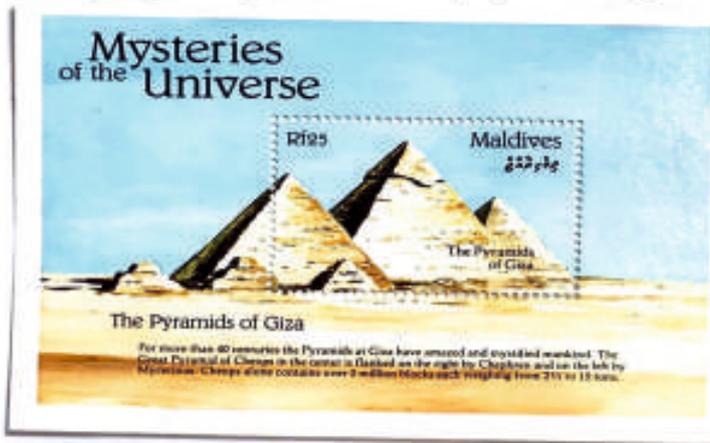
THE ANCIENT ASTRONOMY

EGYPTION AND BABYLONIAN (3000BC-30BC)

The ancient Egyptians also built their monuments oriented in such a way that they face in the direction of some astronomical observation



The temple of Ramsey II at Abu Simbel; align with rising Sun at winter solstice. Vignette shows the Sun God "Ra"

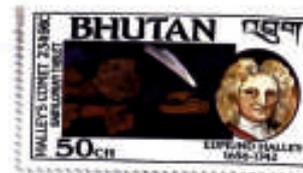


Pyramids of Giza are perfectly aligned with the cardinal points

The Babylonian Astronomy refers to the theories and methods developed in Mesopotamia by Priest and Rituals followed by them



Ruins of Babylonia



Babylonian tablet with inscription of appearance of comet

BULLETIN OF INDIAN ASSOCIATION OF PHYSICS TEACHERS

FOUNDED BY (LATE) DR. D.P. KHANDELWAL

VOLUME 13**NUMBER 10****OCTOBER 2021****IN THIS ISSUE****PHYSICS NEWS**

Pankaj Bhardwaj 352

IAPT AFFAIR

- An Appeal to IAPT Members KN Joshipura 351
- Proposed Amended Constitution Vijay A. Singh, K.N. Joshipura 377
- Election Notification for IAPT Executive Council P.D. Lele 381

MORE ON DR. KHANDELWAL

- Exploring The Roots Abha Khandelwal 357*
- Babuji – Dr. D.P. Khandelwal Anita Khandelwal 358
- Dr D P Khandelwal – A Tribute S. P. Tripathi 361
- Dr D P Khandelwal: A True Mahesh Lal Shah, Human Being 362
- Prof. D. P. Khandelwal – My Physics Dronacharya S. D. Saxena 362
- Dr D. P. Khandelwal - A Quintessential Teacher and a Humanist Anil K Khandelwal 363
- Social Reformer : Dr. Daya Narendra Khandelwal, Prasad Khandelwal 364
- Reflecting on the life of my Kakaji (uncle) Dr D P Khandelwal Surendra Rawat 365

ANNOUNCEMENT

- General Body Meeting K.N. Joshipura 351
- National Graduate Physics Examination – 2021 Part C Anil Kumar Singh 356
- IAPT DSM UG teacher Award – 2021 B.P. Tyagi
- Proposed Members for IAPT (RC-02) K.N. Joshipura 356
- Proposed Members for IAPT (RC-03) Deepak Chopra 367
- Proposed Members for IAPT (RC-04) C.N. Kumar 368
- Proposed Members for the IAPT(RC-05) Sundar Singh 369
- Proposed Members for the IAPT (RC-06) Vijay Kumar 369
- Proposed Members for the IAPT(RC-07) Ashish Arora
- Proposed Members for the IAPT(RC-08) Rajshree B. Jotania, Kiritsingh B. Zankat 371
- Proposed Members for the IAPT(RC-08B) 371
- Proposed Members for the IAPT(RC-09) Uttam Sharma 372
- Proposed Members for the IAPT(RC-10) A.K. Shrivastava 373
- Proposed Members for the IAPT(RC-12) Aravind H. Dyama 373
- Proposed Members for the IAPT(RC-15) Achintya Pal 374
- Proposed Members for the IAPT(RC-18) Parimal Majumdar 375
- Proposed Members for the IAPT(RC-19) Rakesh Kumar Singh 376
- Proposed Members for the IAPT(RC-20) S.N. Tiwary 376
- Annual IAPT National Convention and Seminar 383

REPORT

- Inauguration of an Office and Laboratory for the IAPT APHO Cell at GEHU, Dehadun Ravi S. Bhattacharjee 353
- National E – Workshop Vijay Kumar
- National Level Online FDP in Science Pedagogy Ravi Sharma 354
- The Story of the Cosmology through Post Stamp 04-05 C. Vijayan 355
- Yogesh Bhatnagar 350-387

*If underdelivered please return to :***Dr. Sanjay Kr. Sharma****Managing Editor**

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