A Curtain Raiser Programme

To mark the beginning of the yearlong commemoration of the Birth centenary of Prof D P Khandelwal

Last year (2019) the Executive Council of IAPT took a decision to observe the birth centenary of its founder Prof D.P. Khandelwal in 2020-2021 in a befitting manner and plans started pouring in. We at RC 15 were no exception and we planned to have a programme at Midnapore college, where the IAPT-Midnapore College Centre for Scientific Culture was established in 1993 with the initiative of Prof Khandelwal and the very encouraging role of the Midnapore College in hosting and providing support for the centre.

Prof Khandelwal was born on October 01, 1921 and his centenary year began on October 01, 2020. Unfortunately, due to the prevailing pandemic situation that all of us are passing through; all plans of holding face-to-face programmes have come to a scratching halt. However, the encouragement provided by the IAPT fraternity kept our spirits alive and gave us the impetus to make a beginning.

For most of us in IAPT Prof Khandelwal was the founder President of IAPT that came into being in 1984. But it is possibly the tip of the iceberg so far his wider activities and dedication for physics and physics education in the country and his vision as an educationist are concerned. With some of his close colleagues and dedicated physics teachers, Prof Khandelwal nurtured IAPT till 1996 when he passed away. For the members of the organisation that he established, his centenary year brings in an opportunity to look back to this great teacher and follow his thoughts and vision in letter and spirit. With this backdrop in mind the RC-15, Midnapore College (Autonomous), West Bengal and the IAPT-Midnapore College Centre for Scientific Culture (CSC) jointly organised one web based programme to pay tribute to the memory of Prof Khandelwal on October 01, 2020 where senior IAPT members, who have closely interacted with Prof Khandelwal, would reminisce about him from different parts of India.

Dr PradiptaPanchadhyayee of P.K.College, Kanthi, was the administrator of the meeting and ran the entire programme with aplomb by providing the necessary technical support .The programme was anchored by Dr Bhupati Chakrabarti, Former General Secretary of IAPT. Prof G.P.Das, Faculty IIT Kharagpur and the President of IAPT RC 15 presided over the function.

After a few introductory comments by Dr Chakrabarti, the shared screen showed the garlanded photo of Prof Khandelwal. The welcome address was delivered by Prof G C Bera, the Principal of Midnapore College (Autonomous). Prof Bera a

member of IAPT is actively involved in the activities of CSC since its inception. He talked about the role of the College in hosting and supporting the Centre that is conducting various types of Workshops for teachers and students particularly highlighting the role of the experiments in physics for better learning of the subject. He praisedDr Samanta who not only shouldered the responsibility for providing shape to the Centre,encouraged and inspired the students into getting passionately involved in experimental physics. Prof G P Das in his presidential remarks spoke briefly about Prof Khandelwal's vision and how IAPT is thriving to follow his footsteps. He felt that the thoughts of Prof Khandelwal are still relevant though we possibly have to go a long way to achieve them so far as the teaching- learning of physics in the country is concerned.

IAPT President Prof Vijay Singh was the first speaker to follow. Since he was occupied at the time of the programme he sent us an audio message that was played. Prof Singh as a very young faculty in IIT Kanpur in 1984 actually attended the first meeting convened by Prof Khandelwal in Kanpur to formally launch the IAPTand he fondly narrated his experience. Next speaker was Prof SLokanathan, a retired faculty from Rajasthan University and a former faculty of IIT Delhi. Prof Lokanathan being a very senior professor had the opportunity of meeting Prof Khandelwal before the IAPT was formed and knew Prof Khandelwal as a very sincere teacher who liked to do experiments in the laboratory by himself like a student to get the real feel of it. The third speaker of the evening was Prof P N Ghosh, Professor at the Department of Physics in Calcutta University and former VC of Jadavpur University. Prof Ghosh talked about his association with IAPT from its beginning when Prof Khandelwal not only took him into the fold but put on some academic responsibilities for the organisation. He was actually among the first set of members of IAPT from West Bengal along with Late Prof Chanchal Kumar Majumdar.

Prof H.C.Pradhan, Former President of IAPT and the former Centre Director, HBCSE spoke from Mumbai. He specially underlined the thoughts of Prof Khandelwal not only on physics education but science education in general and identified him as a 'karmayogi'. He pointed out that one would find the relevance of the vision of Prof Khandelwal even today if one takes a closer look at the New Education Policy 2020. The next two speakers Prof R MDharkar and Prof M L Ogalapurkarspoke from Pune. Prof Dharkar was given the charge of Chief Coordinator of IAPT Exams by Prof Khandelwal in early 1990s and he was looking after both the NSEP and NGPE at that time. He told the audience how Prof Khandelwal used to instil confidence in the persons once he or she has been given an important responsibility. Prof Dharkar in his reminiscence brought out the hallmark of an experimental physicist in Prof Khandelwal by mentioning how he used to differentiate an active lab from a passive one when he visited Wilson College, Mumbai where Prof Dharkar was the HOD Physics. Prof M.L. Ogalapurkar who was also the Chief Coordinator of IAPT Exams at a later stage, talked about his personal experience of interacting with Prof Khandelwal as he was staying in Pune for about one year or so before his demise in 1996. Since Prof Ogalapurkar organised the IAPT Convention in his college in Pune in 1995 he had the opportunity of meeting Prof Khandelwal and taking his valuable advice.

The recollections of these eminent speakers, was the narration of a unique experience which perhaps turned out to be the biggest tribute to Prof Khandelwal. The background was that this year the conduction of NGPE Part C (Practical) proved to be quite challenging due to the pandemic scenario. Although the theory exam was over and top 27 students were identified it was difficult to conduct the exam in any college or university department by bringing in all the eligible students from different parts of India. Under the leadership of Prof Samanta and with the support from IAPT-Midnapore College CSC quite a few IAPT members from this region took up the challenge of developing suitable experiments for the conduction of the practical exam in distance mode. Prof B.P.Tyagi, Chief Coordinator of IAPT Examinations encouraged this approach and accordingly made arrangements for its delivery with the help of Dr PradiptaPanchadhyayee and a few more from different parts of the country. Dr Panchadhadhyayee shared the screen to tell the audience about this experience of developing the experiments and conducting the examination by sending designated kits to the students' home by courier. No doubt this approach is a special tribute to Prof Khandelwal who had a very strong inclination for experiments and the way the entire work was planned and executed is an experiment by itself.

Dr Samanta the real anchor person for the CSC from its inception talked about Prof Khandlewal and his vision about experimental physics. He also shared some of his experiences with the present scenario related to practical classes in schools and stressed the need for the improvement.

The General Secretary, Prof K N Joshipura sent an audio message as he was not available at the time of the function. He talked about his experience of meeting Prof Khandelwal and

his interest in experiments.

After the speeches by all the speakers the RC 15 President took over to sum up the discussions. He presented the salient features of the observations made by all speakers. The deliberations were unanimous about the fact that there is no way of learning good physics by neglecting the laboratory. Very unfortunately now the lab work has taken a backseat not only in the schools but this is gradually spreading at other levels as well. IAPT as an organisation should take a more proactive role to change this scenario by following the thoughts of Prof D.P.Khandelwal. Dr Achintya Pal, Secretary, RC-15 proposed the vote of thanks. He appreciated all the speakers for the interesting and encouraging memoirs and extended gratitude to all IAPT members and everyone in the audience.

Video of the recorded programme is available in the following link

https://drive.google.com/file/d/1Ikc8bP_ITrklk38jLIZJPm0JumRp4ddn/view?usp=sharing

The full text of speeches of Prof Lokanathan and Prof Pradhsn are given in appendix.

Prepared by Bhupati Chakrabarti, with inputs from Pradipta Panchadhyayee & C.K. Ghosh

Appendix

1 Speech by Prof S. Lokanathan on October 1, 2020 in the web based curtain raiser programme to mark the birth centenary of Prof D. P. Khandelwal

Principal, Prof. Bera, Prof. Das, Prof. Ghosh, Prof. Dharkar, Prof. Joshipura, Prof. Samantha, Prof. Ogalapurkar, Prof. Panchadhyayee.

We celebrate today the centenary birth anniversary of Prof. D.P. Khandelwal, doyen of the teaching profession and the founder of IAPT. Many of us have aspirations, dreams of serving causes dear to us but few have the sustained strength and ability to achieve their goals. Prof. Khandelwal was that rare breed who could create an institution. The IAPT has caught the spirit and imagination of teachers throughout the country.

I first met Prof. Khandelwal in 1965 when he and Prof. Babulal Saraf visited I.I.T, Delhi where I was teaching. He immediately struck me as a person with a purpose. He wanted information about some laboratory equipment he needed and came straight to the point. Later, in 1969, when I had joined Rajasthan University, Jaipur, he was a frequent visitor. My senior colleague and friend, Babulal Saraf had decided views on the diminution of teaching standards and the decline of the Laboratory in Physics. Prof. Khandelwal invited us to a workshop he was organising at Agra College where he was Professor and Head of the department of Physics. Such was his organised life that he would participate in every session even if he was not the speaker, find time to give instructions about the mundane but necessary arrangements for putting up the participants. Later in the evening he would even participate for an hour of playing Bridge but would still find time for preparing for the next day's proceedings before retiring for the night.

It was during one of his visits to Jaipur that he mooted his idea of a National Institution of Physics Teachers. He was advising us on the University Leadership program (ULP) under the direction of Babulal Saraf. Not for Prof. Khandelwal, just his advice during discussions! He would find time to sit in the laboratory and perform an experiment or two, like a student, to get a feel for the impact on its education. His vision for a wider awakening among teachers around the country was now gathering a focus and it was unflagging work that led to birth and flourishing of the IAPT. As I see now the enthusiasm and vigour of teachers around the country participating in the various activities of IAPT, I feel a tinge of sadness that he is not with us to savour the fruits of his creation.

In honouring him, you are honouring the entire teaching profession. It us most appropriate that the Midnapore College Centre for Scientific Culture is hosting this program.

My best wishes for a very successful Webinar.

S. Lokanathan

2. **Speech by Prof H. C. Pradhan: A Tribute to Professor D.P. Khandelwal – Founder of IAPT**

Indian Association of Physics was established in 1984 by Prof. Khandelwal and his colleagues. He nurtured it for almost 12 years and then departed from the scene rather too early in the life of IAPT. The organization is now 36 years old; not only has

it survived all these years but grown. This indeed is a testimony to the strength of the foundation of the organization that Prof. Khandelwal laid in the initial years, the team of selfless volunteers that he built, and the tradition and culture of the organization that he created.

Although I became a member of IAPT in the late eighties, I was not a very active member until late nineties. I had met Prof. Khandelwal, but did not know him closely. What I have known about him is from my colleagues and friends in IAPT and from his writings. The picture of him that has emerged in my mind is of an excellent teacher who cared his utmost for students and colleagues, a passionate scientist who loved science and in particular physics, a visionary who always thought of the country's future and a Karma yogi who constantly strove for the vision to come true through the organization that he founded and nurtured.

Thanks to the literature made kindly available to me by Prof. Subhas Samanta, I happened to read one of Prof. Khandelwal's articles which was published in the IAPT Bulletin, sometime in 1993-94. It was about Physics Education in India. What struck me is the relevance of his views even today. He would have been in tune with the vision of higher education expounded in National Education Policy 2020. For him the purpose of higher education in science went well beyond making students merely job-worthy; it is to make them true scientists in spirit and pursuit of their profession. He also gave examples of how teachers can make physics classroom lively and exciting. He advocated, again by giving appropriate examples, effective use of history of science to deepen students' understanding of science. He always stressed on the importance of experiments in science as they are an integral part of science. Three of his favourite ideas were science stage shows, model school and undergraduate college laboratories, and of course centres of science culture (CSC). For him a CSC was not a museum, a passive collection of exhibits and demonstrations, but an active place conducted by science teachers as a living-pulsating model of the teaching-learning process and of teacher development. He expected a CSC to be engaged in a continuous process of design and development of new demonstrations and experiments, curricula and supporting materials, in-house as well as through collaborations. He actively pursued the project of setting up CSCs and obtained aid from the Central Government for it. Unfortunately only one of the several CSCs planned actually took good shape; it is the Midnapore Centre so dedicatedly nurtured by Prof. Samanta. The Midnapore CSC is a living memorial to Prof. Khandelwal.

In fact, not only the Midnapore CSC, but the entire IAPT organizational ethos is a memorial to Prof. Khandelwal. He was the creator of this ethos; he lived by it; and colleagues imbibed it as they saw him as a role model. IAPT in its formative years grew on this ethos in his presence, and it remained there even when he had gone. That is the kind of legacy a great leader leaves.

I humbly extend my sincerest homage to the memory of Prof. D.P. Khandelwal.

H. C. Pradhan
Former President, IAPT