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Shock waves are narrow regions of air where pressure, temperature and density characteristics are drastically different than surrounding areas. In this image, shockwave structures are visible behind a T-38 jet passing in front of the Sun, which gets its purple colour from a calcium-K optical filter. Shock waves appear darker because changes in the air density affect how much light is refracted. The bright and dark splotches on the Sun's surface are sunspots.
(http://earthobservatory.nasa.gov/IOTD/view.php?id=86742)

Guru Nirman - Patna Chapter: A joint program of Gurugram Society and IAPT_APhO Cell.

Recognizing, nurturing and honoring talent is an important aspect of building excellence. A necessary step towards this goal is the empowerment of teachers enabling them to meaningfully engage students making them into autonomous learners. It is important that classrooms become participatory laboratories continuously evolving strategies to enable students develop various skills associated with the teaching learning process.

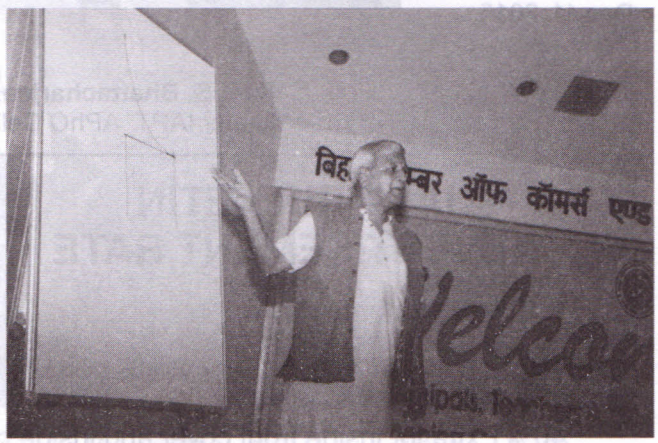
One of the objectives of the Gurugram Society (www.gurugram.org) is the Guru Nirman program. As the objectives of the IAPT in general and IAPT_APhO Cell in particular is to develop a positive milieu for meaningful Science Education, the IAPT_APhO Cell readily agreed to offer Academic inputs and expertise to the Gurugram Society so that a joint venture and a prototype may be evolved to engage, empower and train teachers to bring about a change in pedagogy. It is proposed that training teachers would lead to multiplier effect so that trained local teachers can reach to the grass roots in small towns and villages.

An introductory programme was the inauguration of the Patna Chapter on Nov.23, 2015 at the Bihar Chamber of Commerce Hall in Patna. About 150 high school teachers, principals and directors from in and around Patna attended. The Secretary Gurugram Society, Mr. Uday Pratap Singh welcomed the guests and emphasized the need for a platform where teachers could network, sharing experiences, methodologies etc. enriching the entire community.

Prof. Vijay Singh (ex National Coordinator Science Olympiads) was the main speaker. He introduced the teachers to Concept Inventories and emphasized the importance of learning through the identification, analysis and correction of conceptual errors. He

emphasized that the class room, through such methodologies becomes a participatory laboratory enabling Teachers to research in their own environment instead of hunting for a research problem beyond their teaching hours.

Dr. Ravi S. Bhattacharjee, Co-ordinator IAPT_APhO Cell, spoke on the necessity of experimental work. With



an example from the APhO, he introduced the audience to a complex problem and demonstrated that an experimental problem could be as challenging as a theory problem and even more as experimental problems are real time and one does not have the luxury of idealization. Through a participatory example, he emphasized the need for a pedagogy such that students develop specific skills such as practice in using disciplinary vocabulary and concepts, reinforcing and building on materials presented through lecture, discussion, and independent study, data accumulation with its inherent uncertainty, analysis and critical thinking and developing procedural skills (such as the proper use of instruments and tools).

Dr. Pramendra Singh (Leader of various Indian Teams at International Physics Olympiads) enthused the teachers. He emphasised the need for dissemination of Science in local languages using local resources. Such

an exercise would require preparing texts and study material in vernacular. This is a voluminous task and requires the active participation of the teacher at the grass roots level. In the light of such work he re-emphasised the need for building a network.

The function ended with **Mr. Uday Pratap Singh** proposing a vote of thanks. A follow-up workshop on building concept inventories was announced. The tentative date is Dec.11, 2015.

Ravi S. Bhattacharjee,
Co-ordinator IAPT_APhO Cell

ERRATA

REPORT OF THE 30th IAPT ANNUAL CONVENTION, HYDERABAD

(Page: 303-305, December 2015 Issue of the Bulletin)

In the published report some lines in the last paragraph were left out inadvertently. The same paragraph is reproduced below in full.

"Prof H C Pradhan, President IAPT then summarized the proceedings of the Convention and spoke very appreciatively of the effort put in by RC11 in making the Convention a grand success on all fronts. He was particularly appreciative of the academic focus achieved by the Convention. Dr Sr Nirmala, Principal of the College and Organizing Secretary of the Convention, in her concluding remarks, once again thanked IAPT and RC11 for conducting the Convention in the College and expressed the hope that this would give a fillip to experiments-based Physics teaching. Dr Rajeshwar Rao, President RC11 and Convenor of the Convention, summed-up the outcomes of the experience of organizing the Convention and hoped that this would lead to increased IAPT activity in the Region. Dr Chakrabarti concluded by expressing his whole-