

February 28, 2014

## Short Progress Report of SPSTI

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With a view to promoting science and technology amongst masses, 37 scientists, academicians and administrators formed a not-for-profit society by the name of Society for Promotion of Science & Technology in India (SPSTI). The Society was registered, vide No 80 dated 14.10.2009, with the District Registrar of Firms & Societies, Panchkula, under the Societies Registration Act, 1860.

Since its inception, 42 new members have been added. Now there are 78 members (excluding one member who expired) - 39 Life Members, 37 Ordinary Members (with voting rights) and 2 Associate Members (without voting rights).

Promotion and popularization of science and technology amongst masses is the main objective of the SPSTI. Accordingly all its activities are planned to fulfill this objective. The SPSTI is a purely charitable organization. It is a unique society of its type technology in this part of India, which is dedicated to the promotion of science.

In a span of three years, the SPSTI has undertaken several activities and plans to take up many more new initiatives in the near future. A brief report is as under:-

### 1. Some of the Upcoming Events up to June 2014 (Note: Events from July 2014 to March 2014 would be announced during April)

- **Monthly Lecture Series** – dates and topics for the lectures in the months of March to June to be announced soon.
- **Seminar on "Emerging Areas in Sciences" and Celebration of Science Day at Sirsa** - In March, 2014
- **Celebration of Earth Day** - April 22, 2014 at Bhiwani
- **International Biodiversity Day** - May 22, 2014 at Chandigarh and Hisar
- **Summer School in Science & Mathematics for Girl Students at Kurukshetra** (May 31 to June 28, 2014)
- **Lectures in Schools and Colleges of Chandigarh on the Nobel Prizes 2013 in Physics, Chemistry and Medicine**

### 2. Projects to be implemented during 2014-15

- **Museum of Music Systems** - A few members have very old music systems such as radio, transistor, record players and records. They have donated them to the Society for the museum up for the benefit of the public. In addition, the Society has collected several such items from various places Keeping in view this, the Society has decided to set up a museum of music systems. A school in Chandigarh has also decided to give some space for this purpose. It is intended to make it functional during the year 2013-14.
- **Mobile Laboratory** – It has been decided to set up a mobile laboratory known as 'Circus of Science'. The details are being worked out. A committee has been set up under the chairmanship of Prof. I. B.



#### Patrons

Prof. T. V. Ramakrishnan, FRS  
Hindustan Lever Research  
Professor & Emeritus Professor  
BHU, Varanasi

Prof. Mriganka Sur, FRS  
MIT, Cambridge, USA

Prof. Ashok Jhunjhunwala  
IIT, Madras

#### Governing Council

**President**  
Dharam Vir, IAS (Retd.)  
Ex-Chief Secretary, Haryana

#### Vice President

Prof. Suman Beri  
Deptt. of Physics  
Panjab University, Chandigarh

#### Advisor

Prof. N. Satyamurthy  
Director, IISER, Mohali

#### General Secretary

Prof. Keya Dharamvir  
Deptt. of Physics  
Panjab University, Chandigarh

#### Treasurer

Dr. Sumant Aggarwal  
Govt. of Haryana

#### Members

Prof. Ashok Sahni  
Professor Emeritus  
Panjab University, Chandigarh

Prof. H. S. Mani  
Professor Emeritus  
IISER, Mohali

Prof. I.B.S. Passi  
Professor Emeritus  
IISER, Mohali

Prof. Sagar Jain  
Professor Emeritus  
University of North Carolina

Sameer Pal Srow, IAS

Ajit Balaji Joshi, IAS

M. S. Brar, IAS

D. S. Bedi  
Director-Principal  
Shivalik Public School  
Chandigarh

S. Passi, Emeritus Professor, Panjab University & IISER, Mohali, to work out the details. The laboratory would be functional within six months.

- **Electronic News Paper on Science & Technology** – Process to set up an Editorial Board is underway.
- **Science Week** – The SPSTI is exploring the possibility of hosting five days' long science week in the Tri-city & Adjoining Towns (Chandigarh, Panchkula, Mohali, satellite towns -Baddi, Parwanoo, Kalka, Pinjore, Barwala, Dera Bassi & Kharar. There would be at least one programme in each of the three cities and seven satellite towns. In all, there would be inter-school debate, panel discussion, inter-school science quiz, ten popular lectures on emerging areas of sciences and career .

### YEAR 2013-14

3. **Seminar on India in 21st Century-Role of Higher Education, February 19, 2014 (FN), Tagore Theatre, Chandigarh:** Speakers - Prof. Dinesh Singh, VC, Delhi University, Delhi; Prof. Arun K. Grover, VC, Panjab University, Chandigarh; and Prof. N. Sathyamurthy, Director, IISER Mohali.



4. **Lecture on From Indus Valley to Srinivasa Ramahujan- A History of Indian Mathematics, February 19, 2014 (AN), Auditorium, SSD UICET, Panjab University, Chandigarh:** Speaker - Prof. Dinesh Singh, VC, Delhi University, Delhi





5. **Workshop for Science Teachers of Panchkula Schools, February 15, 2014, Doon Public School, Panchkula**

6. **Bio-science Quiz for the students of schools of UT Chandigarh, January 28, 2014, Mount Carmel School, Sector-47, Chandigarh** – The Quiz was organized in association with Science & Technology Department, Chandigarh Administration, Chandigarh for the students of schools of UT Chandigarh. In addition, there was a Lecture on Nobel Prize in Medicine/Physiology by Dr. Mahak Sharma, IISER, Mohali



7. **National Conference on Space, April 4 & 5, 2013, Tagore Theatre, Chandigarh** – The Conference was organized in association with International Space Society, Chandigarh and Science & Technology Department, UT Chandigarh. Dr. Jayanti Narlikar (Padma Vibhushan) delivered two lectures on April 4, 2013. There are more lectures by prominent speakers i.e. Prof. H. P. Singh, Delhi University, Prof. Sandeep Sahijpal, PU, Chandigarh, Prof. Ranjan Gupta, IUCAA, Pune and Prof. J. S. Bagla, IISER, Mohali. A Quiz on Astronomy was also held on April 5, 2013.





8. **Popular Lectures on Noble Prizes 2013 / Emerging Areas in Physics, Chemistry & Medicine / Physiology in schools and colleges of Haryana**
9. **September 11, 2013 at the Government Gollge for Girls, Sector-11, Chandigarh - Lectures on Higgs Boson Particle-God Particle & Creation of Universe – Speakers: Prof. Suman Beri, PU, Chandigarh**
10. **Mathematics Quiz for the students of schools of UT Chandigarh held on August 24, 2013 at Bhawan Vidyalaya, Sector-27, Chandigarh – A Mathematics Quiz was organized in association with Science & Technology Department, Chandigarh Administration, Chandigarh for the students of schools of UT Chandigarh on August 24, 2013 at Bhawan Vidyalaya, Sector-27, Chandigarh. A lecture was also delivered by an eminent mathematician Prof. I B S Passi, Professor of Mathematics, IISER & Professor Emeritus, PU, Chandigarh.**





11. **Monthly Lecture Series** – With effect from April, 2012, the Society has started organizing a lecture on first Saturday of every month on a topic of importance and public concern involving science and technology at Panchkula. The programme was launched on April 7, first Saturday of April. The Monthly lecture was organized every first Saturday of the month at Panchkula and Chandigarh.

**May 4, 2013 – How to feed the world in coming decades** – Speaker Dr. Ram Kishore Yadav, a young enthusiastic bioscientist from IISER Mohali.



**July 20, 2013 – Significance of Carbon Footprints to India** - Speaker - Prof. S. K. Sharma, Professor Emeritus and former Dean of University Instructions, Panjab University, Chandigarh



**August 3, 2013 – Universe – Design or Chance** - Speaker - Prof. S. P. Puri, former UGC Emeritus Fellow and Professor and Chairman, Department of Physics, Panjab University, Chandigarh



**October 5, 2013 – Decontamination of Drinking Water Utilizing Antimicrobial Potential of Copper** - Speaker – Dr. Sanjay Chhibber, Professor of Microbiology, Panjab University, Chandigarh

**December 21, 2013 – Indian Participation in the Discovery of “Higgs Boson” at LHC Experiment** - Speaker - Prof. Suman Beri, Department of Physics, Panjab University, Chandigarh

**January 11, 2014** - Introduction to Cloud Computing - Speakers - Pawan Behl and Chandra Shekhar of Dell, at the Seminar Room, Physics Department, Panjab University, Chandigarh

**February 8, 2014** - Human Experimentation in Nazi Era: Speaker - Prof. S. K. Jindal, Professor and Head, Department of Pulmonary Medicine, PGIMER, Chandigarh at the Department of Biotechnology, PU, Chandigarh



12. **Summer Schools in Science & Mathematics for Girl Students Prerana - 2013 (June 2-June 30, 2013)** – The Summer on the pattern of the two held in 2011 and 2012 was successfully organized from June 2 to June 30 at Kurukshetra. 50 meritorious girls belonging economically weaker sections attended the School. The emphasis was on learning of Physics, Chemistry, Biology & mathematics and health.





**YEAR 2012-13**

13. **Popular Lectures by two eminent scientists Prof. M. R. Raghunathan, FRS and Prof. Ashoke Sen, FRS in association with the Panjab University on March 11, 2013 at the Panjab University, Chandigarh – titles (i) Mathematics-Art that would Rather be science? (ii) Towards a Unified Theory.**

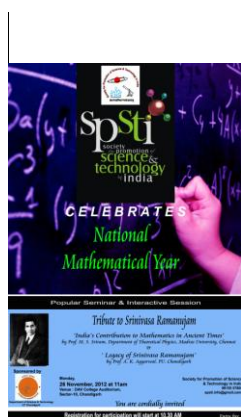




14. **Workshop for Selected Science & Mathematics Teachers of Haryana Schools, supported by Intel** – Organized on February 18, 2013 at the SCERT, Gurgaon.
15. **Workshop on ‘Public Health and Heavy Metal Toxicity in North Western Region of India-A Holistic Approach’** – Organized on Feb 12, 2013 at the Panjab University, Chandigarh



16. **Popular Lectures on Noble Prizes 2012 / Emerging Areas in Physics, Chemistry & Medicine / Physiology in schools and colleges of Haryana** – Popular lectures on emerging areas of sciences and Noble Prizes 2012 in Chemistry & Medicine / Physiology for the teachers of Kuruskhetra schools on February 6, 2013, students of Bhiwani Public School & TIT Senior Secondary School, Bhiwani on January 27, 2013 and DAV College for Girls, Yamunanagar on February 22, 2013.
17. **Celebration of Year of Mathematics -Popular Lectures**
  - **Nov. 26, DAV College, Sector-10, Chandigarh** – Contribution of India to Mathematics in Ancient Times – Speaker: Prof. M. S. Sriram, formerly Professor of Physics, Madras University, Chennai & (ii) Legacy of Srinivasa Ramanujam – Speaker: Prof. A. K. Aggarwal, Professor, Panjab University, Chandigarh



#### **National mathematical year celebrated at PU, DAV-10**

**CHANDIGARH:** Society for Promotion of Science and Technology in India celebrated the National Mathematical Year on Monday. A seminar was organised to pay a tribute to Srinivasa Ramanujan, the great Indian mathematician at DAV College, Sector 10, and the department of physics, Panjab University (PU) where lectures were delivered to highlight the contributions made by India in the field of mathematics. Prof IBS Passi, an eminent mathematician of PU, presided over the seminar at the DAV College, while Prof Arun Grover, vice-chancellor of PU attended the event at the physics department. Prof MS Sriram from the University of Madras said, "Indians, during 300-400 BC gave the concept of decimal place value system and zero which later spread to the other parts of the world." Prof AK Aggarwal of PU highlighted the contributions of Ramanujan, who was an original thinker.



- **Nov. 26, 2012, Department of Physics, Panjab University, Chandigarh** – Contribution of India to Mathematics - Speaker: Prof. M. S. Sriram, formerly Professor of Physics, Madras University, Chennai
- 18. **August 27, 2012 at the DAV College, Sector 10, Chandigarh - Lectures on Higgs Boson Particle-God Particle & Creation of Universe** – Speakers: Prof. J.S. Bagla, IISER, Mohali and Prof. Suman Beri, PU, Chandigarh
- 19. **August 28, 2012 at the MCM DAV College for Girls, Sector 36, Chandigarh** - Lecture on Higgs Boson Particle-God Particle by Prof. Suman Beri, PU, Chandigarh



- 20. **Monthly Lecture Series** – With effect from April, 2012, the Society has started organizing a lecture on first Saturday of every month on a topic of importance and public concern involving science and technology at Panchkula. The programme was launched on April 7, first Saturday of April. So far eight lectures have been organized. This is a standing activity of the Society.

**First Lecture: April 7, 2012** - Genetically Modified Crops-Boon or Bane; Tuberculosis-How real is the threat? Speakers – Profs. I S Dua and Daisy Batis of PU, Chandigarh.

**Second Lecture: May 5, 2012** - Tuberculosis - How real is the threat?. Speaker - Prof. S. K. Jindal of PGIMER, Chandigarh

**Third Lecture: June 2, 2012** - How to save the self from self inflicted pollution?’ Speaker - Prof. R. K. Kohli, Dean (Research), PU, Chandigarh.



  
**Society for Promotion of Science & Technology in India**

**Monthly Lecture series**  
**Debate on**  
**Genetically Modified Crops**  
**Boon or Bane**  
**Speakers**  
**Prof. I. S. Dua**  
**Prof. Dalzy R. Batish**



**Society for Promotion of Science & Technology in India**

**Monthly Lecture series  
Tuberculosis-How real is the threat?**

**Speaker**  
**Prof. S. K. Jindal**  
**PGIMER, Chandigarh**

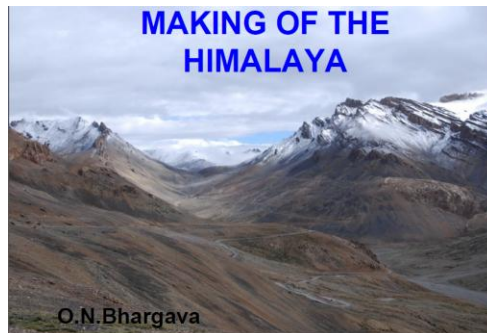


**Society for Promotion of Science & Technology in India**

**Monthly Lecture Series  
How to save the self from self  
inflicted pollution?**

**Speaker**  
**Prof. R. K. Kohli**  
**Panjab University, Chandigarh**

**Fourth Lecture: July 7,2012 - Making of the Himalaya- Speaker Dr. O. N. Bhargava, Director (Retd.), Geological Survey of India**



**Fifth Lecture: August 3, 2012 - Particle Physics & Cosmology - Speaker Prof. Jasjeet Singh Bagla, IISER, Mohali**



Galaxy Cluster Abell 2218  
NASA, A. Fruchter and the ERO Team (STScI) • STScI/PRC00-08 HST • WFPC2

**Sixth Lecture: September 7, 2012 – National Power Grid & Its Management** – Speakers Shri R.K. Arora, Director (Technical), Shri J. K. Juneja, CE/Planning & Shri S B Moudgil, CE System Operation & Commercial, Haryana Power Transmission Corporation



**Seventh Lecture: November 2, 2012 – Uranium in Ground Water of Malwa Region of Punjab** - Speaker - Prof. Naresh Kochhar, Professor, UGC Emeritus Fellow, Centre of Advanced Study in Geology Panjab University, Chandigarh



**Eighth Lecture: December 2, 2012 - Role of Water in Chemical & Biological Systems** – Speaker Prof. D. V. S. Jain, Emeritus Professor, Department of Chemistry, Panjab University, Chandigarh.



**Ninth Lecture: Monthly Lecture Series – January 5, 2013 – Science Behind Indian Festivals, Speaker** – Prof. Rajesh Kochhar, Indian Institute of Science Education & Research, Mohali, Punjab.

21. **Science Quiz for Senior Secondary Students of Medical and Non-Medical Streams, Dyal Singh Public School, Karnal on Nov. 26, 2012** - Eight Teams comprising of four students each participated in the quiz. The main objective of the Quiz was to arouse curiosity and enthusiasm towards basic scientific concepts, which was successfully met with. The Quiz was conducted in three rounds. The first round was a questionnaire round and had three sub-rounds. After the first round top four teams were selected to compete for the next two rounds. Second round was an activity round in which the questions were related to some scientific activity demonstrated in

front of the students and the third round was a visual round in which the questions were based on some visual shown in front of the students.



22. **Summer Schools in Science & Mathematics for Girl Students Prerana - 2012 (May 27-June 24, 2012)** – The Summer on the pattern of the one held in 2011 was successfully organized from May 27 to June 24 at Kurukshetra. 34 meritorious girls belonging economically weaker sections attended the School. The emphasis was on learning of Physics, Chemistry, Biology & mathematics and health.



23. **Celebration of Earth Day, 2012**
- **April 21, 2012** - The Day was celebrated on April 21 as April 22 was Sunday. The venue was at the Vidya Jindal Girls School, Hisar. Two

eminent earth scientists – Prof. Devesh Sinha, Professor of Oceanography and Marine Geology, University of Delhi and Prof. Arundeeep Ahluwalia, PU, Chandigarh, delivered lectures. Earlier, there was a quiz competition on environment.



- The event was supported by the Ministry of Earth Sciences, Govt. of India.

24. **International Day for Biological Bio Diversity – May 22, 2012** - The Day was celebrated at Shivalik Public School, Sector-41, Chandigarh. There was a quiz competition and lectures by two eminent biologist – Prof. I. S. Dua and Prof. R. K. Kohli, of PU, Chandigarh. The Society received grants from the Department of Science & Technology, UT Chandigarh for this programme.
25. **IRIS Workshops for Science Teachers of Haryana – September 29 at Ambala, Oct. 6 at Rohtak, Oct. 27 at Hisar & Nov. 24, 2012 at Gurgaon**– 539 science and mathematics teachers and District Education Officers of 15 districts attended the workshops. IRIS (Initiative for Research & Innovation) is a joint project of DST, Govt of India, CII and Intel. The SPSTI has received funding from the Intel to organize four workshops for science & mathematics teachers of Haryana to sensitize them to motivate and guide enthusiastic students to make investigation based projects for INSPIRE & IRIS competitions.



### **YEAR 2011-12**

1. **Popular Lectures** – Two popular lectures by distinguished scientists were organized during the year 2011-12.

**The first lecture on ‘Brains, Computers and Intelligent Machines’ by a internationally known scientists, Prof. Mriganka Sur, FRS, MIT,**

**Cambridge, USA, took place on August 24, 2011 at the Tagore Theatre, Chandigarh.** The lectures received an overwhelming response from the students and the teachers of the schools and colleges of Chandigarh, Panchkula and Mohali. More than 1,200 students and teachers attended the lecture.



**The second lecture on ‘Innovations in Bio-science & Technology’ by Prof. D. Balasubramanian, a noted scientist and former Director of CCMB, Hyderabad, took place in association with the Physics Colloquium on November 4, 2011 at the Physics Department Auditorium, Panjab University, Chandigarh.** The lecture had also evoked a lot of enthusiasm from the students and teachers of the PU, colleges and schools of Chandigarh.



It is proposed to organize such lectures every year.

2. **Lectures on Nobel Prizes-2011** – Eleven lectures on the Nobel Prizes-2011 in Chemistry, Physics and Physiology or Medicine were organized in six schools, one college and one women university of Haryana.



3. **Summer Schools in Science & Mathematics for Girl Students Prerana - 2011-** The SPSTI in association with another NGO had identified more than 50 girl students of Class XI and XII, belonging to economically weaker sections. Several of them are keen to pursue careers in sciences. The SPSTI has been guiding them since November 2010 and organized a residential summer school of four weeks' duration (May 30 to June 26, 2011) for 50 girl students, who have moved into Class XII. The objective of the Summer School was to improve the conceptual framework of the students in sciences so that they can do better in Board level examinations and get admission in good colleges. The School was free for the students. The SPSTI mobilized resources from taking grant from the Governor of Haryana, the socially conscious organizations and the district administration.



The programme was successful as the participants learnt not only science subjects, but also soft skills. They also underwent detailed health check and were suitable treatment wherever required. Encouraged by the response from the students, we have decided to work with students throughout the year by holding monthly sessions of 2-3 days so that we can help them to solve their difficulties and guide them for further education. We have also started identifying 40 students of class XI for similar programme.

4. **Weekend Classes** – The SPSTI had identified 40 science students in Panchkula district, who have obtained 65+% in class X and taken science subjects in class XI and whose family income is not more than Rs. 1 lac per year. The objective of this project is to help them in their studies and guide them in making choice for careers. This programme would be similar to that of Kurukshetra. This was already been started but had to be discontinued due to inappropriate arrangements. It is proposed to be activated this year.



5. **Open House Discussion (Oct 20, 2011)** – A unique meeting of a senior scientist Dr. Rakesh Mullick of GE Research Center, Bangalore with the UG engineering and science students was organized on medical

technologies on Oct. 30, 2011. The meeting was extremely successful as it gave an opportunity to the students to have one to one interaction with the expert about industrial research, including career options in industrial labs. Encouraged by the feedback, the society has decided to have more such sessions in future.



6. **Awareness Programme on Emerging Areas of Science & Technology and Careers Options** - Most of the students of Class XI and XII, even UG and PG, are not aware of the emerging / exciting opportunities in science and technology. In order to expose them to such opportunities and generate interest among Class XI and XII and UG students to consider research in science and technology as a serious career option, the Society had invited nationally and internationally known scientists to deliver lectures on selected topics. We have so far organized the following awareness sessions:-

**Apr 21, 2011** - Debate 'Human Cloning' followed by a lecture on 'Appreciating Life Through Science' by Prof. I. S. Dua, a recipient of Kalinga Prize, at the Bhavan Vidyalaya, Panchkula. It also got huge response from the schools of the Tri-city.

**Dec. 4, 2011** – Lectures on 'Appreciating Life Through Science' by Prof. I. S. Dua in two higher secondary schools (about 800 students attended the lectures).

**Feb. 27, 2012** – Lecture on 'Application of Technology in Life Sciences' by Prof. D. Balasubbramanian at the Echelon Institute of Technology, Faridabad (400+ students attended the lecture).

**Feb. 27, 2012** – 'Current Trends in Science & Technology – Popular Lectures' at the YMCA University of Science & Technology, Faridabad for students and teachers.



**Feb. 28 & 29, 2012** – 'Emerging Areas in Science & Technology' & Science Day at the Govt. PG College, Karnal – six lectures were organized. Prof. N. Sathyamurthy, Director, IISER, Mohali inaugurated the Seminar.





7. April 22, 2011 - The SPSTI celebrated the Earth Day on 22nd April, 2011 at the Vidya Jindal Girls School, Hisar - Two eminent earth scientists – Prof. Devesh Sinha, Professor of Oceanography and Marine Geology, University of Delhi and Prof. V. Rajamani, Jawaharlal Nehru University, New Delhi, addressed the students of several schools of Hisar.

### Year 2010-11

1. Lecture on 'From Knowledge to Entrepreneurship' for the UG science students of Panchkula. The speaker was Prof. D. Sahdev, IIT, Kanpur on Feb 9, 2011, Givt. College, Sec-14, Panchkula – This was appreciated by the students and teachers. They wanted us to organize more such programmes.



2. **Awareness Lectures on ‘Emerging Areas in Science’ of 3+ hours duration for the science students of classes XI & XII of Panchkula district was organized. The speakers were Prof. N. Sathyamurthy, Director, IISER, Mohali on Chemistry; Prof. Keya Dharamvir, PU on ‘Nanotechnology’; Prof. Suman Beri, PU on ‘Large Hadron Collider Experiment’ and Prof. I. S. Dua, PU on ‘Bio-technology’ on Feb 16, 2011 - More than 400 students and teachers of government and private schools attended the lectures.**

### **Year 2009-10**

1. **Seminar on Important Topics - Realizing the growing concern about deterioration and depletion of natural resources and environment, the Society has decided to launch awareness campaign amongst school children on Water Conservation & Management, Genetically Modified Seeds, Pollution of Natural Resources and Climate & Global Warming. A few members of the Society are noted earth scientists, who have shown keen interest to prepare easy to read and understand literature for school children. The Society had organized a seminar titled ‘Climate, Carbon & Copenhagen’ on February 13, 2010, at the Panjab University, Chandigarh. In addition, it holds awareness lectures on environment related themes from time to time.**



NOTE – Please visit SPSTI at its websites [www.spsti.org](http://www.spsti.org) and [www.Facebook.com/SPSTI](https://www.facebook.com/SPSTI) for a glimpse of its activities.