“Brainwave: Inspiring young Minds” – A Report

A Lecture Workshop series was launched for Northern India under the aegis of the three Science Academies’ Education Programme on 17-18 March 2011 at Sri Guru Tegh Bahadur Khalsa College, University of Delhi, Delhi. The programme was christened “Brainwave: Inspiring young Minds” and a special logo was designed. About 700 students and faculty from 9 neighbouring colleges from the north campus of University of Delhi participated in the two-day programme. Posters about the lecture series were designed and widely distributed to all the participating colleges. A soft copy of the poster is being sent.

The inaugural session was graced by Dr Krishan Lal, President, INSA, as the chief guest. Dr Jaswinder Singh, Principal, SGTB Khalsa College welcomed the participants. Dr J Nagaraju, Scientist-G, Centre for DNA Fingerprinting and Diagnostics, Hyderabad, spoke on the role and relevance of such lecture workshops to students and teachers. Dr S Natesh, Scientist-H, Department of Biotechnology, Government of India, spoke about the organization and expected outcome from the two-day workshop. In his address, Dr Krishan Lal informed the audience on the role of Science Academies in education, and emphasized on the need to bring more and more such programmes to colleges across the country. He also assured the whole hearted support of the Academies for other workshops in the series. The Inaugural session ended with a vote of thanks to the chair by Dr Komal Kamra of SGTB Khalsa College.

Eleven distinguished scientists gave their captivating and inspiring presentations to an enthralled audience. The speakers and topics were as given below:

1) Prof Akhilesh Tyagi (NIPGR, N Delhi) – “Plant genomics moves ahead”
2) Prof Anil Aggrawal (MAMC, N Delhi) – “Current Perspectives in Forensic Biotechnology”
3) Prof OP Jasuja (Panjab University, Patiala) – “Biometrics”
4) Prof Balram Bhargava (AIIMS, N Delhi) – “Health Care Innovation in India”
5) Dr S Natesh (DBT, N Delhi) – “Biotechnology in India: The Changing Scenario”
6) Prof H. Y. Mohan Ram (INSA Hon. Scientist, N Delhi) – “Plants in Indian Tradition”
7) Prof Ram Ramaswamy (JNU, N Delhi) – “A Few Things that Physics can Learn from Biology (and vice versa)”
8) Prof KN Ganeshaiah (Univ of Ag Sc, Bangalore) – “Mining the Past for Shaping the Future”
9) Dr J Nagaraju (CDFD, Hyderabad) – “Silk - Key to Evolutionary Success of Silkmoths and Spiders”
10) Dr Navin Khanna (ICGEB, N Delhi) – “Dengue Vaccine: Mirage or a Reality?”
11) Dr SD Biju (Univ of Delhi, Delhi) – “LIFE: Understanding with Uncertain Knowledge - Halting Human Induced Amphibian Extinction”

A copy of the book containing the programme, the CVs of speakers and the abstracts of the lectures (wherever received) is enclosed as a soft copy.

At the end of each lecture, the students were given priority to ask questions. Interactions often continued during the tea and lunch breaks. The resource persons were very open to receiving queries by mail.

Following this, 13 teams each comprising of three student members, took part in a quiz wherein questions based on the workshop were asked in three elimination rounds. This generated a lot of enthusiasm among the participants. Three winning teams were given cash awards. In between the rounds, while the checking went on, some significant facts about the making of the LW and the expected outcome were shared with the participants by the coordinators – Dr S Natesh and Dr Komal Kamra.

The general response to the LW was good and many faculty from other colleges showed keen interest to take the baton forwards.

KOMAL KAMRA
Associate Professor
Department of Zoology
Sri Guru Tegh Bahadur Khalsa College
University of Delhi
Delhi-110007
“Brainwave: Inspiring Young Minds”
17-18 March, 2011
SGTB Khalsa College (University of Delhi)

Lessons learnt from the presentations

- Learning transcends all man-made barriers in the field of education, within science and between science and other disciplines.
- There is no age bar to learning; students and faculty sat together and learnt.
- Science, and importantly biology, holds a prime place of interest today. Understanding any phenomenon, however, would require a holistic, inter-disciplinary approach.
- A common platform is a must for a larger world view which is the need of the hour.
- Any type of science is interesting, if pursued with passion. There is nothing that is unfashionable or drab.
- Innovative thinking combined with scientific processes bears fruit.
- Question constantly, answers will follow.
- Substance is important, packaging is equally important.
- Often, we sit in our little compartments, going deeper and deeper into our own so called specializations, and somewhere lose contact with the whole. Let us team up; some wonderful surprises may spring up.

Lessons learnt in the making of the LW

The making of the LW was a lovely experience and I personally thank the academies for having a vision for young minds, the undergraduates, an excellent target group for disseminating a message which shall get propagated. These students and their teachers will now go back to their classrooms and, hopefully, learn and teach with a different way of thinking.

The CVs and abstracts should be made available to the participants before the LW; this is a good practice because they come to the LW knowing whom they are listening to and what they are listening about. They come with a lot of questions, and they go back with many more. In our case, we could not achieve it 100% because some speakers did not get time to send in their abstracts.

We also personally visited the principals of participating colleges along with a couple of like minded faculty from the respective colleges. We could get them to understand the value of such a seminal activity, and this message was propagated to the faculty and there onwards to the students. Through emails we could then keep in touch about the progress of the making of the LW. In some way they became partners of the process itself. However, there is much room for improvement here and one can perhaps experiment with this for the forthcoming workshops.

There are some secretarial/contingent expenses which might sound so banal but essential to the organization of the LW. I wish some amount may be kept for such purposes.

Keeping registration free is a good idea.

The number of lectures per day should not be more than four as suggested. We went beyond that number and often had to curtail a lecture, more dangerously the question answer time. That should be a lesson learnt for further exercises of this kind.

We should have an open session with experts if possible where students can raise issues freely.

Coordinators: Dr S Natesh & Dr Komal Kamra

KOMAL KAMRA
Associate Professor
Department of Zoology
Sr. Guru Tegh Bahadur Khalsa College
University of Delhi
Delhi-110007
## BRAIN WAVE
### Inspiring Young Minds

17-18 March 2011

### Titles of Presentations

<table>
<thead>
<tr>
<th>Session</th>
<th>Presenter</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inaugural Session</td>
<td>Dr Jaswinder Singh, Principal, SGTB Khalsa College</td>
<td>Welcome Address</td>
</tr>
<tr>
<td></td>
<td>Dr J Nagaraju, CDFD, Hyderabad</td>
<td>Role and Relevance of Lecture Workshops to Students and Teachers</td>
</tr>
<tr>
<td></td>
<td>Dr S Natesh, DBT, N Delhi</td>
<td>About this Workshop</td>
</tr>
<tr>
<td></td>
<td>Dr Krishan Lal, President, INSA, N Delhi</td>
<td>Role of Science Academies in Education</td>
</tr>
<tr>
<td></td>
<td>Dr Komal Kamra, Associate Professor, SGTB Khalsa College</td>
<td>Vote of Thanks</td>
</tr>
</tbody>
</table>

### Day 1

<table>
<thead>
<tr>
<th>Day 1</th>
<th>Presenter</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Prof Akhilesh Tyagi, NIPGR, N Delhi</td>
<td>Plant Genomics Moves Ahead</td>
</tr>
<tr>
<td></td>
<td>Prof Anil Aggrawal, MAMC, Delhi</td>
<td>Current Perspectives in Forensic Biotechnology</td>
</tr>
<tr>
<td></td>
<td>Prof O P Jasuja, Punjabi University, Patiala</td>
<td>Biometrics</td>
</tr>
<tr>
<td></td>
<td>Prof Balram Bhargava, AIIMS, N Delhi</td>
<td>Health Care Innovation in India</td>
</tr>
<tr>
<td></td>
<td>Dr S Natesh, DBT, N Delhi</td>
<td>Biotechnology in India: The Changing Scenario</td>
</tr>
<tr>
<td></td>
<td>Prof H Y Mohan Ram, INSA Hon Scientist</td>
<td>Plants in Indian Tradition</td>
</tr>
</tbody>
</table>

### Day 2

<table>
<thead>
<tr>
<th>Day 2</th>
<th>Presenter</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Prof Ram Ramaswamy, JNU, N Delhi</td>
<td>A Few Things that Physics can Learn from Biology (and vice versa)</td>
</tr>
<tr>
<td></td>
<td>Prof K N Ganeshaiah, University of Agricultural Sciences, Bangalore</td>
<td>Mining the Past for Shaping the Future</td>
</tr>
<tr>
<td></td>
<td>Dr J Nagaraju, CDFD, Hyderabad</td>
<td>Silk - Key to Evolutionary Success of Silkmoths and Spiders</td>
</tr>
<tr>
<td></td>
<td>Dr Navin Khanna, ICGEB, N Delhi</td>
<td>Dengue Vaccine: Mirage or a Reality?</td>
</tr>
<tr>
<td></td>
<td>Dr S D Biju, University of Delhi</td>
<td>LIFE: Understanding with Uncertain Knowledge - Halting Human Induced Amphibian Extinction</td>
</tr>
</tbody>
</table>

**QUIZ**