INTRODUCTION

It is yet another successful year for the SPIE Student Chapter, University of Calcutta, with a number of colorful events in its store that speaks volume of its success. Apart from the type of activities in the past, this time an extra emphasis was placed on “Outreach Activities” in the high schools. The sincere effort, discipline and resoluteness of the chapter members went in the making of creative models that unveiled the wonders of optics before the young minds in schools. It is worthwhile to mention in this context that the resources procured from SPIE and OSA viz. the “Hands-On-Optics” and “Optics Suitcase” kits, helped us with easier and interesting ways to demonstrate the science of optics among the curious school children. Bearing up to the overwhelming response from the children and a very positive feedback from their teachers, the chapter plans to carry out such activities in greater numbers in the ensuing year. Also, plans to reach out to undergraduate college students with demonstrations relevant to their standards are on the cards. This report of the chapter is coverage of all its activities delivered by its members, under the prudent guidance of its Faculty Advisor.
MEMBERSHIP

Since its formation in July 2006, the member strength of the chapter is on the rise. The member strength during this time, last year, was higher than the number with which the chapter was formed. This year the number has still gone up, with newer young members. The membership of some 8 to 10 students, mostly from the first semester, is in the pipeline, which may not be reflected in this report. At present the strength of the chapter, is 22 which will soon go up to around 30.

RESOURCES GATHERED

During this period, the chapter procured some invaluable tutorial course materials from SPIE in the form of CDs, as well as printed documents. The tutorial classes that are delivered by the pioneers in the respective fields are now easily accessible to all the chapter members. In addition to this, keeping up to needs for outreach activities, the chapter also procured some educational kits in teaching optics at the schools viz. Hands-On-Optics kit from SPIE & Optics Suitcase kit from OSA.

- Tutorial CDs from SPIE
- Hands-On-Optics kit from SPIE
- “Light Action” book by Vicki Cobb & Josh Cobb for school students
- Optics Suitcase kit from OSA
Activities

1. Colloquium on “Nanostructures”, 14th September, 2007
   Speakers:

   P.K. Bandyopadhyay, IRDE (DRDO), Dehradun
   A.K. Datta, Dept. of Applied Optics & Photonics
   Ajay Ghosh, Dept. of Applied Optics & Photonics

The colloquium was jointly organized by the SPIE Student Chapter, University of Calcutta, in association with TEQIP (Technical Education Quality Improvement Program). The colloquium was well turned up by research scholars from different departments, teachers and students.

Lecture Session by Dr. P.K. Bandyopadhyay

Lecture Session by Prof. Ajay Ghosh
OUTREACH ACTIVITIES AT SCHOOLS

Participants with the Speakers

Poster for the Outreach Activities at Schools
2. Outreach at the “Loreto Day School”, 9th August, 2007

This is the first outreach activity by the chapter, held at Loreto Day School. The program was conducted by four chapter members and the faculty advisor of the chapter Dr. K. Bhattacharya. The entire program was divided in two different sessions, one for the underprivileged students known to be “Rainbow School Children” and the other one for the students from classes IX and X. The students in both the sessions were occupied with intense interests, in the study materials and models taken there to demonstrate various optics phenomena. The program was highly appreciated by the concerned teachers and the principal of the school, who expressed their interests in more programs of such kind in future.
Letter of Compliment from the principal of Loreto Day School, on the outreach activity

The SPIE Student Chapter
University of Calcutta

Dear Kallol,

I write to thank you very much for coming on the 9th as arranged and giving the Optometric talks to the Rainbow children and the regular children. The children have been very thrilled with the whole programme and the teachers also felt that it was very good for the children.

If any more such possibilities arise from your side, we will be very happy to welcome you and your students.

With warmest regards and prayers,

Yours in JC,

S M Cyril
Principal

Total Number of Students who attended the sessions

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<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Rainbow School Children</td>
<td>80</td>
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<tr>
<td>Students from Class IX &amp; X</td>
<td>60</td>
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<tr>
<td>Total Attendants</td>
<td>140</td>
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3. Outreach at the “Our Lady Queen of the Missions School”, 9th October, 2007

A large group of our chapter members went out with different sets of demonstrations to meet the students in this school. The response from their side was phenomenal, with students from classes VII to IX turning up in large numbers. It was a long and hectic schedule out there, interacting with so many curious minds. But being able to clarify their queries with simplicity was just right to pacify our exhaustion.
Letter of Compliment from the principal of Our Lady Queen of the Missions School, on the outreach activity

<table>
<thead>
<tr>
<th>Total Number of Students who attended the session</th>
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<tbody>
<tr>
<td>Students from Class VII - IX</td>
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<tr>
<td>Total Attendants</td>
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4. **Outreach at the “Svarna School”, 6th December, 2007**

This time some of the younger chapter members were inducted into the team, to illustrate and interact with the school children over the models. The school students interacted with us with profuse interest and wonder, while their teachers expressed deep appreciation for the event as well. In precise, it has been another eventful outreach and an opportunity for the new chapter members to tune up to the zest of young school children.

*Chapter members’ workout with the “Svarna School” students*
Letter of Compliment from the principal of Svarna School, on the outreach activity

Total Number of Students who attended the session

<table>
<thead>
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<th>Students from Class IX &amp; X</th>
<th>50</th>
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<tr>
<td>Total Attendants</td>
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5. **SPIE Tutorial Course demonstration on “Optical Design”, to the new batch of first semester B.Tech students, 5th December, 2007**

A one hour video demonstration of the lectures on “Optical Design”, by R. E. Fisher is put up for the students of first semester, keen to know about SPIE and its member benefits. A tailored demonstration of one hour duration of the full six hour length course, highlighting some key aspects of practical optical design considerations is shown.

6. **Visiting Lecturer Program, by Prof. Virendra N. Mahajan, 11th and 12th December, 2007**

**Lecture Topics**

- Aberrated Imaging and Zernike Polynomials.
- Beam Focusing and Depth of Focus.
- Gaussian Pupil Apodization.
- Imaging through atmospheric turbulence.

This time we are privileged to have Prof. V. N. Mahajan from Aerospace Corporation, California, as the visiting lecturer, who spared his expensive time for us to share his perceptions on various aspects of optical design considerations. The lectures are delivered in four different sessions in two working days, on the topics outlined above. All sections of students from the department, viz. the new ones from first semester to the research students turned up during the sessions.

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*Participants with Prof. V. N. Mahajan*
CONCLUSION

One of the remarkable aspects about the formation of our SPIE Student Chapter is that it has opened the gateway to have easy access to some invaluable resources for its members. It has provided a cause, an interest for the members across different standards to come together, interact and deliver as best as they can. The tutorial courses delivered by the stalwarts, provide great opportunity to the members to groom themselves in their respective areas of interest. With its current member strength of 22, the chapter strives to excel with diversified activities, delivered by the sincere and committed effort of its members. The success in the outreach activity program substantiated with a very positive response from the schools, encourage us to advance further in that direction. But this requires inclusion of greater funds under this head and the indulgence of our members who are the strength of the chapter. The long stretch of time that kept the students absorbed in the quest of various optical phenomena, demonstrated by the models offered to them, is a testimony of the hard work and commitment of our chapter members. All these have evolved out in a time span of about nineteen odd months. Thanks to SPIE for all the support extended to us in every possible way.
# FINANCIAL STATEMENT

SPIE Student Chapter, University of Calcutta

Chapter Bank Account details:
Savings Account
A/C No: 11152798582
State Bank of India
Manicktala Branch, Kolkata – 700009
India

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<th>Description</th>
<th>Amount</th>
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<td>Available Balance as on 1st June 2007</td>
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<td><strong>Expenditure Incurred</strong></td>
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<td>Expenditure in Seminars &amp; meetings (from June 07 – Dec 07)</td>
<td>17,675.00 INR</td>
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<td>Expenses incurred in making models for outreach activities</td>
<td>8,230.00 INR</td>
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<td>Expenses incurred in outreach activities (from June 07 – Dec 07)</td>
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<td><strong>Balance Amount as on 31.12.2007</strong></td>
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