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Asia Core Student Meeting

We organized an international student meeting “Asia Core Student Meeting” in September 2015. The purpose of this meeting was to understand researches with each other, and to make strong student networks through the meeting. We invited around 30 students who were working in optics in several countries; China, Taiwan, Morocco, and of course Japan. Each of us introduced and discussed each research actively with each other through the day. Research fields of the attendees are various; Optical imaging, Plasmonics, Optical fabrication, and so on. Therefore, the attendees were able to obtain knowledges whose fields were different from their research fields. Since the meeting had only around 30 attendees and was not so large scale, all the attendees were able to join the discussions and know each other well. We hope the networks built in this meeting will be beneficial for our future.

This event was hosted by our student chapter and Osaka University Photonics Center, and sponsored by Japan Society for the Promotion of Science.
Asia Student Photonics Conference 2014, Kolkata

“Asia Student Photonics Conference (ASPC) 2014” was held during 18-21th July at Kolkata, India. SPIE student chapter IISER Kolkata hosted the conference with financial supporting by IISER Kolkata, Your Merchandise, The Optical Society of India, SPIE, SPIE Digital Library, AtoS and GE. Yoshiro Ohashi, Ryosuke Oketani and Natsuo Taguchi from our chapter attended and had great experiences with other chapter members from India, Malaysia, China, Pakistan, Singapore and Thailand. Throughout the four-days conference, that was aimed to build networks among Asian students and young researchers in fields of optics and photonics and to learn various topics of optical science from eminent invited speakers. We joined a variety of activities, oral and poster presentation by students and invited lecture sessions by 15 speakers.

The speakers covered a large field of optics and photonics: fiber optics, photo mechanics, quantum optics, solid-state spectroscopy, bio- and medical photonics, ultrafast photonics, optical manipulation, single molecule spectroscopy. That state-of-the-art knowledge stimulated us for scientific discussions with enthusiasm and to be full-fledged researchers. We also talked on our scientific topics of plasmoins, nonlinear microscopy and nonlinear optical nanofabrication in both of poster and oral presentations. And we could obtain a lot of new ideas after discussions with students and teachers who have different backgrounds. In addition, we made strong connections with other chapter members though cultural events and excursions. We believe that these new relationships will pave the way for future research collaborations.

Since the first ASPC which we organized in Japan in 2012, this conference has inspired some of the student attendees to organize the next student conference as well as student chapters in India. A student chapter in Taiwan indeed considers hosting the ASPC 2015. Following this trend we created, our network will become further wider and stronger.
The conference website:
http://www.aspc.iiserkol.ac.in/

More photos are available on Facebook:
https://www.facebook.com/media/set/?set=a.585914488184459.1073741837.169177619858150&type=3
5th Super Hikarijuku; Science School for Kids

We held our annual outreach event “Super Hikarijuku; Science School for Kids” in November 2014. We prepared 5 classes containing fantastic experiments which were made with something very familiar in our lives. More than 300 kids applied for the 50 seats to join this event and enjoyed "light". Here we briefly introduce 5 classes which we prepared.

1. Pinhole camera made of milk carton

   Light travels in straight line. To feel this, Kids made a handmade pinhole camera from milk carton. Through the pinhole camera, they answered some quizzes (like “Which direction does the arrow point ? ”) and understand the nature of light.

2. Plastic bottle illusion

   Plastic bottle can vanish any drawings. Kids achieved this with total internal reflection of light. Kids draw something which they want to vanish on a plastic cap. The cap was sunk into water and overlaid a plastic bottle on it whose bottom was cut out. By the total internal reflection between the cup and the bottle, the drawing was vanished.

3. Colorful shadows

   What color does shadow have? Almost all the people will answer “black” to this question. In this class we tried changing the color of shadow. And we taught what is “color”. At the beginning, kids tried to change the color of shadow of small objects by using 3-color LEDs. Then we made large space where kid’s shadows become colorful.

4. Enlarger ray gun with glass ball

   A projector was assembled to enlarge images or movies. Simply the projector is composed of a light source and a lens. Kids used LED light and glass ball as the light source and the lens respectively, and constructed a handmade projector. Drawings, which the kids drew on plastic boards, were enlarged and projected all over the wall.
5. Hikari-land; the amusement park of light

There are 5 toys which are worked by using nature of light. Playing with the toys, kids studied where we used light in our daily lives. Then Kids tried a games to understand the nature of light by using all 5 toys.

This event was hosted by our student chapter, photonics advanced research center and faculty of engineering, Osaka university. Also this event is supported by Project for Developing Innovation Systems, MEXT, Japan.

5th Super Hikarijuku website (Japanese):
https://sites.google.com/site/superlightjuku/

Another article regarding 5th Super Hikarijuku (English & Japanese):
http://www.parcjp.org/message-archive/wuti-4/
**Suita Eigo Kids**

We had an outreach event “Suita Eigo Kids” on July 28th and 29th. “Eigo” means English in Japanese, and “Suita” is the name of city where Osaka University is located. In Japan, there are many demands from parents that they want their children to learn English as well as Science, since the society is becoming international day by day. Therefore, this event was done under the collaboration with Suita-city education board with an aim to expose kids to English and Science.

We got totally around 120 elementary school kids and had fun with them with attractive optical experiments in English. We demonstrated difference between color of light and color of paints, and made twinkling plates together, which were based on optical birefringence and polarization control. The children didn’t seem to understand our English perfectly, but it was very nice to see that they were trying hard to even feel what we were saying and somehow they understood. We are very sure that we could enjoy Science in English, and recognized that science could be a good tool to teach English. It was also a great experience for us to teach Science in English.
Delivering Science for Elementary School Students

Oct. 26th 2014 @ an apartment in Ibaraki Osaka

We held a science class for elementary school students in this year. More than 30 students joined the class and had fun with getting scientific knowledge. For the students, we prepared three experiments and visited their apartment with interesting tools for their education. We were happy to see the students enjoying the experiments, and are sure that this event lifted their interest in science.

1. Polarization stained glass

We taught the basics of polarization through a simple experiment and the students learned about polarization through their experiences by making stained glass from polarization plates and scotch tape. The students were surprised when they saw the polarization stained glass glittering under the fluorescent light.

2. Colorful spinning tops

The students learned about the afterimage through making the colorful spinning tops and spinning them. The students enjoyed guessing the color of the tops during spin.
3. Cartesian diver

We demonstrated “Cartesian diver”. We prepared plastic bottle filled with water and “diver” (a small, rigid tube, open at one end, very similar to an eyedropper, in a larger container with some flexible component) and made the “diver” rise and fall by pushing and releasing the bottle by hand. The students were surprised at the demonstration and enjoyed making the “diver” rise and fall by themselves.