Harbin Institute of Technology SPIE student Chapter

Annual Report January 2014

2013 Chapter Officers
President: Ran Wei hitweiran@sina.com
Vice President: Qing Yan Wang
Secretary: Nan Su
Treasurer: Yu Hang Zhang
Advisor: Ye Zhang

List of Members in 2013
Fengjiao Gao
Dongquan Ju
Haicheng Qu
Lin Sang
Alissou Simplice
Nan Su
Chen Wang
Qingyan Wang
Ran Wei
Yiming Yan
Yuhang Zhang
Hong Wang
Jiabin Wang
Lei Wang
Yun Wang
Yuting Wang
Beifen Wu
Di Wu
Di Wu
Longwen Wu
Teng Yidan
Guilu Zhang
Jia Zhang
Meng Zhang
Xing Zhao
He Zheng
Shengwei Zhong
Xin Zhong
Activities outline since foundation of Chapter (2013)

This is the second year of our chapter. In this year, we enlarged our membership, and enjoyed some benefits from the chapter. We also advertised SPIE and our chapter to other students/graduate students in our department.

Here, we give a sketch about what we have done in the recent year (2013):

1. Visiting Lecture by Dr. Bormin Huang and José Fco. López,
2. Many academic discussions and experiments organized by SPIE
3. Enlarged our membership and public SPIE.
Details of Activities

1. Visiting Lecture by Dr. Bormin Huang and José Fco. López,
As an important benefits from SPIE student chapter, visiting lecture can provide us an opportunity to contact world famous scholar without much cost. In this year, two professors were invited, Bormin Huang, and José Fco. López, from University of Wisconsin-Madison and University of Las Palmas de Gran Canaria (ULPGC), respectively. (only Bormin Huang was sponsored by SPIE). On December 23, 2013, they visited the student chapter and presented lectures. Prof. Huang’s presentation title was "High-Performance Computing in Geoscience and Remote Sensing", Jose’s title was "Hyperspectral image processing and compression at IUMA". Both the two topics generated great interest to students.

A face to face discussion following the presentations. The topic were not limited to high-performance computing, other technique on remote sensing, including big data, remote sensing image compression, quantity retrieve, target detection and something else were also discussed. The new idea they gave us deepen the comprehension of typical conception in our major and also broaden student’s scope on academic research. What’s more their visiting is also benefit to public SPIE and our chapter. Many students have expressed their wishes to join us.

Fig. 1 Group photo of teachers and students attending lectures. The 3rd and 4th from right-side of first row, is José Fco. López and Bormin Huang. Note that the posters on the wall were printed by us and not all students in this picture are membership of our chapter.
2. Many academic discussion and experiments organized by SPIE.

One of the major responsibilities of our club is to assist students in lower grade to understand theory of optics via experiments. Therefore, we held several experiments in this year. In the following, we just describe one example.

In July, 2013, we organized a data collection experiment in our university. The major purpose of the experiment was to demonstrate theory about multi-angle imaging, and how to calculate 3-D information from two 2-D images. People who joined the experiments were undergraduates (juniors and seniors who have been acquire qualification to study for a bachelor degree), postgraduates, Ph.D. students. Not all of us were membership of our chapter.

The instruments used in this experiments include several building models, a holder that can move back and forward on a track, a digital camera (DC-300), and some measuring appliances. During the demonstration, we showed students the assembling process of experiment instruments and then asked them to operate in person. Firstly, we placed the building models on the ground. We would collect image of those models from different height and angle in order to simulate actual remote sensing imaging process. The platform of holder can be moved horizontally on a track. Such configuration is designed to simulate sensor’s movement on the orbit. An elevator mechanism is installed on the platform to accomplish simulation of different height of
sensor. In order to simulate imaging of various angle, we placed a circle on a cantilever setup on the platform. The camera on the circle can be moved from 0 to 180 degree. After all modules were correctly mounted, we began collecting image information at various angle. We collected image of models at every 10 degree from 0 to 180 degree, and at every 10cm from 50 cm to 150 cm. Exploiting the data photoed, some reproduction and innovation researches could be conducted.

Fig. 3 Building models used in the experiment.

Fig. 4 Instruments were installing.
3. **Enlarged our membership and public SPIE.**

In addition to some academic activities, we also did something to advertise SPIE and our chapter. We printed some posters to decorate a classroom, where our visiting lectures did their presentation. We also built up a public homepage on RenRen.com, a Chinese social website like Facebook.

In the middle of 2013, we built our official website on renren.com. Here is the address: [http://page.renren.com/601852032?id=601852032](http://page.renren.com/601852032?id=601852032). Welcome to explore and join us!

Before the visiting of Bormin Huang and José Fco. López, we decorated the meeting room where they would do presentation. We printed several posters downloaded from SPIE.org. In order to propagandize SPIE, we also designed resume posters for two visiting lectures.
Fig. 6. Screen shot of our website on RenRen.com

Fig. 7. Meeting room of our school. (School of Electronics and Information Engineering). The two posters on the both sides are propaganda materials provided freely by SPIE.org.
Fig. 8. SPIE posters on the meeting room of our school

Fig. 9. SPIE posters on the meeting room of our school
The most regret of our club in this year is that we missed the opportunity to travel to U.S.A for conference of SPIE. That’s not SPIE’s faulty. We have some problems for application of VISA. I hope we can get a good result in 2014!
Plans in 2014

1. Further enlarge members of our Club.
   The great success of our club in 2013 motivated us to extend our group further. We planned to admit at least 15 members in 2014.
2. Visiting lecture of famous professor or scholar;
   Students of department have obtained benefits from visiting lecture. So we will continue to organize such activates in 2014.
3. Brief academic introduction for lower grade students
   In 2014, we will continue holding some open courses or experiments so as to teach students in lower grade. That’s our duty.
4. Propagandize SPIE
   Posters of SPIE have been obtained welcome by teachers, students in our school. Motivated by the great success, so we planned to make some T-shirts with SPIE logo for membership of chapter in this year.

Financial information

1. Beginning Balance:
   1350 USD. (Grant of 2013 minus membership fees)
2. Spend on allowance of visiting lecturers.
   Transportation fee:
   - Extra payment for airplane tickets: 500USD
   - Intra city fee 50USD
   - Taxi fares between airport and urban area: 100 USD
   Supplies:
   - Accommodation fare: 50 USD
   - Printing of promotional materials.150USD
   - Rent of audio equipment.100USD
   Food
   - Fruit: 50 USD
   - Drinkers: 50 USD
3. Propaganda materials
   - Posters: 100USD
   - Website: 50 USD
4. Expenditure of open demonstration/course
   - Printing expense of teaching material: 70 USD
   - Transportation: 70 USD
   - Water, food: 70 USD

Total Cost: 1410 USD
Balance: -70 USD