Annual Report

University of Alberta Student Chapter
2015-2016
SPIE University of Alberta Student Chapter

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2015 - 2016 Chapter Executives

Brad Moon, President
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Michelle Mabuyo, Vice President
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Alaa Elbanna, Treasurer
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Tian Wang, Secretary
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Dr. Abdulhakem Elezzabi, Faculty Advisor
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2016 - 2017 Chapter Executives

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Carson Dick, Vice President
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Chris Pham, Treasurer
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Temitope Ojo, Secretary
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Member Roster
(26 Members as of May 2016)

David Asgar-Deen
Quinn Barber
Yi-Reuy Chen
Min Choi
Kristen Cote
Dhyey Dandnayak
Dominique Dubbeldam
Alaa Elbanna
Austin Fernandez
Curtis Firby
Peter Friedrich
Shawn Greig
Vedran Jelic
Nir Katchinskiy
Ben Kendall
Michelle Mabuyo
Seyed Milad Mahpeykar
Krizelle Mendoza
Sean Molesky
Brad Moon
Ward Newman
Temitope Ojo
Chris Pham
Matthew Taylor Robertson
Katherine Smith
Cheng Yi Zhao
2015-16 Activities

Promotional Events

University of Alberta Clubs Fair
Thanks to the hard work of the executives of 2014-15, we were officially a U of A student group this year. This allowed us to be able to partake in the U of A Clubs Fair during the first week of September. This was a great opportunity to provide students across different faculties of the university with more information on what we do, along with the benefits of paid membership. Our mailing list grew significantly during this event, which proved to improve our reach throughout the university campus. The interest that was garnered by this event allowed us to hold a very successful Annual General Meeting. Many great ideas for projects and promotional events were suggested by the attendees. The Chapter’s Activity Grant was used to print out promotional materials such as informational cards and a large informational poster. These materials were also used for most of the activities outlined below.

University of Alberta Engineering Carnival
This event was hosted by the Engineering Students’ Society during the second week of September and was focused on introducing engineering students to engineering disciplines and project groups. It allowed us to demo our laser harp project to the students. Since this was an engineering event, the students showed lots of interest in the laser harp and how it worked. It was apparent that because of this, students were interested in joining our Chapter. As we did in the Clubs Fair, we increased our mailing list size significantly. The event was a huge success.

Laser Tag
Laser tag was a great opportunity to draw more attention to the Chapter. It was suggested that we would use this event for promotional purposes rather than fundraising purposes. We gave participants an incentive in which participation would be free if they signed up to become SPIE student members under the University of Alberta chapter, and $20 otherwise. This proved to work very effectively, as our number of active members increased. After this event, more people were engaged in our meetings and event volunteering. This event happened in February in Laser City. We used Activity Grant funds for this event’s expenses.
Laser Tag event participants.

**University of Alberta Science FUNdamentals Science FUNDay**

This event was a science fair in March hosted by the UAlberta student group Science FUNdamentals. It was a great way for our group to demonstrate the laser harp to young kids and their families in an easy-to-understand way. We also had kids play a modified version of our Laser Game by letting them move the pieces and mirrors around to direct and reflect the laser onto an opponent’s piece. This event was made possible by our group’s members and volunteers that volunteered their time to take shifts throughout the day. This event was a great outreach opportunity for the Chapter to a larger public audience.

**NASA Rosetta Guest Speaker Event**

Using the Visiting Lecturer Grant provided to us by SPIE was a priority of our Chapter for this year. Thanks to a suggestion by our faculty advisor (Dr. Elezzabi) we decided to invite Mr. Artur B. Chmielewski from NASA’s Jet Propulsion Laboratory. Mr Chmielewski has spoken at other SPIE events and we believed that his talk would make the students the most excited about being active in the Chapter. This event was held at the end of March and was hosted by our Chapter as well as IEEE and the Electrical and Computer Engineering Department. Advertising was largely done through posters and engineering mailing lists. Mr Chmielewski’s talk was a huge success, with over 300 people in the Solarium and more watching the livestream we had on our Facebook page. This event had a much bigger impact than initially expected; many students were very interested in
joining the club after. Mr Chmielewski also enjoyed his stay and was very impressed by our facilities at the University.

After the lecture was complete, we provided Mr. Chmielewski and some students a tour of our NanoFab facility and Dr. Elezabbi’s laser laboratory.

**Projects**

This year, we introduced the SPIE Club Projects Approval Guidelines (PAG) which outlined how SPIE Club projects work, including project proposals, approvals and support. Essentially, projects needed a timeline and milestones and should aim to be finished, or ready to be demonstrated, by the end of the school year for our Showcase.
Groups also needed two SPIE General Members in order for a project to be approved for SPIE Club funding, with one of the members acting as Lead Coordinator, the direct contact of the project group to SPIE Club. These guidelines were made to ensure that groups would be held accountable for their own projects and that projects would have a concrete plan and time for completion.

**Laser Harp**

The Laser Harp was a continued project from the previous year. This year we focused on refining its design and operation. Last year, the laser harp only had three strings and they were spaced very close together. We were able to fix this problem and allow for 5 strings. We put the laser harp into a box with a cut out on the front to allow us to keep the laser strings in the dark and make them easier to see. We added a fog machine to the box which provided further illumination of the strings. We ordered a 7 inch screen to display menus and notes. This will allow the user to select various notes and background tracks to play with. This feature was not fully implemented since we were having technical difficulties with the screen itself.

**LED Chess Table**

The LED Chess Table was another continued project from last year. This year we were able to get the LED arrays and array sensors working with the microcontroller. The module is able to detect chess board pieces and light up the corresponding block. As of now one row, 8 modules, is fully built, this means the remaining 7 rows should be constructed. Since this is just a matter of duplicating the 1 row built it should be a quick and easy process. Once the entire 8x8 array of modules is built the electronics will be put underneath a glass top and into a case, thus completing the project.

**LED Water Pong Table**

This project was introduced this year and is still currently in the planning stages.

**Looking Forward**

This year showed a lot of promise for the future growth of our Chapter. By taking advantage of cool project ideas from students and the grants provided by SPIE, we were able to garner plenty of interest in our Chapter throughout the student body. Events and volunteer opportunities were advertised through our growing mailing list and we effectively monitored and managed our mailing list using MailChimp. Looking forward, we want to build more on the foundation we’ve started. It is our hope that the
number of active members in our group will surpass any other engineering student group at the University of Alberta in the upcoming years. Next year we hope to emphasize more of a structure when approving potential projects and creating a concrete schedule for them. This will ensure that we continuously deliver new projects that we can showcase every year. We also hope to do more fundraising to hold more events and utilize the conference trip grants provided by SPIE.

Financials

The sources of funds for the Chapter this year were the SPIE Activity Grant, the club room food sales and the laser tag event. This year we had a larger amount provided to us by the Activity Grant (900 USD from 750 USD the previous year). This helped us place more emphasis on promotional events to garner more student membership. The food sales decreased significantly this year (5 CAD from 73 CAD the year before) as other groups were selling more appealing items. The laser tag event also brought in some revenue (80 CAD) but it did not total the expenses of the event, as we had decided to make it a recruitment event. This year, our expenses totalled 761.98 CAD and our Chapter ended the year with a total capital of 5753.39 CAD.
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Promotional Material:
- Food for Event
- Charity Box
- Promotional Materials
- Equipment

Current Client:
- Event Planning
- Catering
- Venue Booking

Annual Revenue:
- $50,000
- $40,000
- $30,000

Future Revenue:
- Event Planning
- Catering
- Venue Booking

Total Annual Revenue:
- $150,000

Total Revenue:
- $10,000
- $5,000
- $3,000

Total Costs:
- $10,000
- $5,000
- $3,000

Net Income:
- $0