Message from the Chair

We are almost through the year and a lot has been achieved to date. We have had two casual teacher forums, a few online events, and membership has been growing at a nice steady pace. In a very rare event, two of our NSW members were shortlisted for the Education Societies Board of Governors. If you have not voted yet, please do so.

We hope that you take the opportunity to participate in our events and more importantly promote events of interest to your colleges.

If you have any suggestions to help enhance the chapter, please feel free to contact me.

Sasha Nikolic

Upcoming Event

Online Alumni Fair — 6th of October 2015

Our major Australian accreditation programs (such as in engineering) have helped ensure that our students are exposed to industry practice. Such opportunities help students become job ready, preparing them for life after graduation. If we could help remove the burden of distance and safety more work integrated learning opportunities may arise. The question is, how can we use technology to provide more opportunities?

On the 6th of October at 7pm, the University of Wollongong is holding an Alumni Fair for their first year students. The purpose of the event is to help first year engineering students gain an understanding of where their degree can take them, the learning path to get there, as well as to introduce them to networking. Software called iSee, a video augmented virtual world, is used to allow for natural social interaction.

All NSW Education Society members are invited to participate in the event.

To find out more and to register: http://eis.uow.edu.au/beam-me-up/index.html
Education Society Election

The election to decide the next representative for the Board of Governors closes on the 8th of October. Ensure your vote counts!

Sasha Nikolic and Jun Shen have both been shortlisted in the ballot to serve a three year term as a Board of Governors member.

All Education Society members would have received multiple emails requesting you to vote in the current election. Please help support your local members not only by voting for them, but helping spread the word to members in different IEEE sections. With your help a local member can be elected.

The elections close on the 8th of October so you must act soon if you have not had the chance to vote yet. Just remember every vote counts.

Sasha Nikolic is the current chair of the NSW chapter, and Jun Shen is the current Past Chair.

TALE 2015

Tale is your local education conference

2015 IEEE International Conference on Teaching, Assessment and Learning for Engineering (TALE) is the annual Premier conference held in the Asian Pacific Region (IEEE Region 10) by the IEEE Education Society. The TALE 2015 Conference Organizing Committee is pleased to announce that the paper submission deadline is extended to 9 October 2015.

Accepted and presented papers will appear in the proceedings if they have been uploaded before the deadlines. The conference proceedings will be submitted to IEEE Xplore, which ensures a wide dissemination of your valuable work. Once accepted and published, other indexing services evaluate conferences and independently determine what they will index.

Important Dates

* Paper submission deadline: 9 Oct 2015 (New)
* Announcement of review results: 19 Oct 2015
* Final paper due and registration deadlines: 31 Oct 2015

NSW Chapter Meeting

In September members were invited to a general meeting via an online platform called iSee to discuss upcoming events.

Our first chapter iSee meeting was attended by S. Nikolic, C. Ritz, P. Vial, J. Shen and A. Safari. In the meeting we agreed to support the AAEE Winter School Program again in 2016, using the same funding agreement.

A suggestion was made to hold a chapter BBQ in one of the national parks in mid-November. This will occur if at least 10 people show interest. See article below for more information.

The idea of a chapter award to recognize excellence in engineering education was raised. This will be looked at into the future.

There was support to try and organize a guest lecturer. A number of logistical problems were discussed due to the small member base. However, it was decided to try and organize a virtual presentation in 2016.

Do you have ideas for activities? If so please contact the chapter chair, or attend our next online meeting. Being online, distance is no barrier.

Committee Nominations Now Open

Are you interested in joining the committee?

Now is the time to nominate for positions to be a member of the committee in 2016. Positions include Chair, Vice-Chair, Secretary, Women in Engineering Education or general member. Please be aware that I will be seeking one final term as chapter chair for 2016. If more than one person nominates for each position an election will be held. Nominations close on Saturday the 31st of October. I would love to get nominations from a large range of education institutions. Please nominate your interest for a position to Jun Shen via solo.shen@gmail.com

Interested in a Chapter Family BBQ

If you would be interested in attending a education chapter family bbq at a National Park in Sydney then please register your interest.

If we can get at least 10 chapter members to participate with their family then the bbq will go ahead.

Register at: https://www.surveymonkey.com/r/K75TJ7V
Supporting Our Sessional Teachers

Two sessional teacher forums were held in June-July 2015. The first at Macquarie University and the second at the University of Wollongong.

Casual tutors play a pivotal role in the Undergraduate Science, Engineering & Info Tech programs. They are the first point of contact with students. The casual tutors bridge the gap between the student cohort and the lecturers. The number of women in engineering society is increasing every year and with casual tutoring, this is no exception.

The first IEEE NSW casual tutor forum was held to take a step forward in the domain of casual tutoring and to be able to help support the students better. Several speakers shared their views and programs that have been adopted for the benefit of the students.

Members of WiEE are committed to serve the Engineering community at large. Hence, we participated in this forum to gather more information on recent research on learning and teaching.

The main concept that was reflected in this forum was to connect, motivate and engage the student cohort more by the use of different teaching styles. If this could be successfully achieved, then the students will be more interested, they would be better prepared and this would or should improve their performance.

Topics that were covered across the two forums included:
- Moving goalposts: the roles of an engineering tutor in an ever changing learning ecosystem
- A new perspective and approach to an old discipline.
- Emotion control and teaching quality
- Managing the class and supporting learning
- Teaching systems and control theory with Matlab/ Simulink

The chapter will look at more ways of supporting session teaching staff in 2016.

Literature on supporting sessional staff can be found at http://ieeexplore.ieee.org/xpl/articleDetails.jsp?arnumber=6862929

Sudipta Chakraborty is Secretary of the WiEE committee. She is pursuing her PhD in Electronics Engineering at Macquarie University as a recipient of International Postgraduate Research Scholarship (IPRS). She had completed her Masters in VLSI Design at Indian Institute of Engineering Science and Technology (IIEST), Shibpur, India (which was previously known as Bengal Engineering and Science University (BESU)). She was awarded the University medal for being ranked first in the VLSI Design discipline of her batch at M.Tech. She is also entrusted with the responsibility of Vice-Chair of IEEE Student Branch of Macquarie University in 2015. She was a participant of the first IEEE NSW casual tutor forum at Macquarie University.
Progress on Achieving Our Goals

The Chapter is well on track to achieving its 2015 goals. To get their we need your help, to participate and promote our activities.

Members:
At the end of September membership stood at thirty-six, an increase of four in the quarter. This means we have reached our growth target.

LinkedIn:
With forty-five members, the chapters LinkedIn group has already exceeded this years target. We encourage all members to post and promote using this medium.

Activities:

Chapter Goals

2014 Goals
Increase chapter members by 30%
01 Jan - 20 members  31 Dec - 28 members  40% increase

- Develop resources for chapter members
  - Chapter website **developed and deployed**
  - Chapter LinkedIn group **established**

Create alliance with AAEE
  - Alliance **established** for the promotion of AAEE Winter School

2015 Goals
Increase chapter members by 30%
- Reach 36 members by Dec 2015
- Grow group membership to LinkedIn group
  - Reach 30 members by Dec 2015

Encourage member contributions
  - Afternoon get together in the city
  - At least two technical meetings
  - Promotion of member publications

Encourage IEEE participation at AAEE Winter School
  - Fund a rebate program for chapter members
Member Research— Recent Member Publications

**MLaaS: A Cloud System for Mobile Micro Learning in MOOC**


Mobile learning in massive open online course (MOOC) differs evidently from its traditional ways as it relies more on collaboration and becomes fragmented. We introduce a cloud-based system which can organize learners into a better teamwork context and customize micro learning resources in order to meet personal demands in real time. Particularly, a smart micro learning environment can be built by a newly designed SaaS, in which educational data mining techniques are mainly employed to understand learners’ behaviors and recognize learning resource features.

**Decoding Student Satisfaction: How to Manage and Improve the Laboratory Experience**


The laboratory plays an important role in teaching engineering skills. An Electrical Engineering department at an Australian University implemented a reform to monitor and improve student satisfaction with the teaching laboratories. A Laboratory Manager was employed to oversee the quality of 27 courses containing instructional laboratories. Student satisfaction surveys were carried out on all relevant laboratories every year, and the data were used for continuous improvement. This paper will investigate the reforms that were implemented and outline a number of the improvements made. It also examines the program’s overall impact on: (1) overall satisfaction; (2) laboratory notes; (3) learning experiences; (4) computer facilities; (5) engineering equipment; and (6) condition of the laboratory. Student satisfaction with the laboratories increased by 32% between 2007 and 2013. The results show that the laboratory notes (activity and clarity) and the quality of the equipment used are among the most influential factors on student satisfaction. In particular, it is important to have notes or resources that explain in some detail how to use and troubleshoot equipment and software used in the laboratory. [Link](#)
This paper presents a network security laboratory project for teaching network traffic anomaly detection methods to electrical engineering students. The project design follows a research-oriented teaching principle, enabling students to make their own discoveries in real network traffic, using data captured from a large IP darkspace monitor operated at the University of California, San Diego (UCSD). Although darkspace traffic does not include bidirectional conversations (only attempts to initiate them), it contains traffic related to or actually perpetrating a variety of network attacks originating from millions of Internet addresses around the world. This breadth of coverage makes this darkspace data an excellent choice for a hands-on study of Internet attack detection techniques. In addition, darkspace data is less privacy-critical than other network traces, because it contains only unwanted network traffic and no legitimate communication. In the lab exercises presented, students learn about network security challenges, search for suspicious anomalies in network traffic, and gain experience in presenting and interpreting their own findings. They acquire not only security-specific technical skills but also general knowledge in statistical data analysis and data mining techniques. They are also encouraged to discover new phenomena in the data, which helps to ignite their general interest in science and engineering research. The Vienna University of Technology, Austria, first implemented this laboratory during the summer semester 2014, with a class of 41 students. With the help of the Center for Applied Internet Data Analysis (CAIDA) at UCSD, all exercises and IP darkspace data are publicly available. Link

More Resources

To get access to more resources in regards to engineering education, and educational research please visit the chapters website.