

IEEE New Zealand Central Section

Chairman's Annual Report

27 November 2008

We have now completed the first year in the life of the IEEE New Zealand Central Section. The year has passed very quickly. Both IEEE globally and locally has been very busy with activities for members. I hope that all members in the New Zealand Central region have managed to take advantage of at least some of the events and activities on offer, both in New Zealand and overseas. We all get the most out of an organization like the IEEE, when we get involved, whether it be by participating in events, or organizing them for others.

I want to take this opportunity to thank all those members in the Central Section that have volunteered their time and effort to achieve the best possible outcomes for fellow members of the institution during 2008, in whatever capacity. I especially want to thank my committee members who have worked tirelessly during 2008 to provide services for their fellow members and the institution as a whole.

Before we look back at what we have achieved in 2008, it is vital that we look forward to 2009. In 2009, IEEE celebrates its 125th anniversary of serving members across the world. This is a big milestone and will be celebrated widely in different ways around the world. There are 8 formal events being run by the institution spread across 8 venues around the world, 2 of which are located in Region 10. I hope that some members from the Central Section can participate in these events. We also aim to hold some special events here in New Zealand Central during 2009 and the 2008 committee has commenced work in this regard. The incoming 2009 committee will carry through this work to completion.

Now looking back at the year in review, I think we have achieved a lot as a new section. The highlights of the year for me have been:

- Our participation in the Region 10 meeting in India,
- Our participation in the Sections Congress in Canada,
- The formation of a Student Branch, and
- The initiation of our first Technical Chapter.

These are important milestones in our growth as a section and need to be fostered and expanded in future years.

The Region 10 meeting is held annually in late February. I was unable to attend this meeting due to other commitments, so Subhas Mukhopadhyay, our secretary volunteered to take my place. The meeting was held in Cambay Spa and Resort, Gandhinagar, Gujarat, India over the period 2 and 3 February 2008. This meeting provides the opportunity for the sections scattered throughout Region 10, which covers most of Asia and Oceania, to get together and discuss issues of common interest and concern. Some of the highlights of the meeting included:

- The IEEE President's launch of the "New Initiative Seed Fund".
- Presentation on some rules for conducting a successful meeting by Akinori Nishihara, who is R10 Bylaws and Operations Manual Coordinator
- Presentation on the 2007 financial report and proposed 2008 budget for Region 10 by the R10 Treasurer, Takatoshi Minami
- Presentation on Regional Conferences by coordinator Lawrence Wong.
- Presentation on 'Ethics in Society' by Daniel Yeung, who is the IEEE SMC President and also Ethics and Member Conduct Committee Chair.
- An interactive discussion on how to improve R10 activities among the delegates and Excomm members.
- Confirmation of the 2008 programs by the Secretary and confirmation of the 2008 R10 budget by Treasurer
- A leadership training workshop entitled "How to make your Section an Award Winning One?" organized by Lance Fung and Y.W. Liu.
- "Training on IEEE Resources" training workshop delivered by Marianne Schmidt and Fanny Su.

The IEEE Sections Congress is an event which is only held every three years and has participation from all sections throughout the world. It provides the opportunity for section leaders to put forward their views on how the IEEE can be improved in terms of the services that it provides to its members and the support that it provides to its global volunteers. The congress was held in Quebec City from 19 September through to 22 September and over 1500 delegates participated in the 4 days of activities. One of the key outcomes of the congress is a list of 10 top priorities which the section leaders recommend for action by the IEEE Board during the next 3 years. In return, the IEEE executive provides their thinking on how the IEEE needs to evolve and improve its performance in the provision of service for members. This year there has been a significant organization change to provide

more direct focus on membership by the Board, with the appointment of Vice President Joe Lilly to lead the Member and Geographic Activities Board (MGAB) with a new mission to enhance member retention and growth.

Another key activity at the congress is the participation of delegates in Core Training Breakout sessions. There were about 15 sessions run on different topics in parallel streams. Each delegate was able to participate in about 6 of these sessions. Each session provided an interactive discussion on a particular topic, including Membership Development through to Engaging Members in Humanitarian Efforts. These sessions provided an excellent opportunity to get to know the IEEE organization and support structures much better. Hopefully I can bring some of these learning's back to the members in Central Section. In addition to all of the above, other activities included:

- The exhibiting of all IEEE department capabilities, through stalls available to members throughout the congress.
- A past Presidents Form, where 7 past Presidents of IEEE provided their experience of IEEE membership, and
- An Awards Ceremony recognizing the efforts of special people in our industry, including Vincent Poor, Timothy Berner's Lee and Gordon Moore.

The formation of the student branch was undertaken in conjunction with our annual post-graduate student project presentation event. The foundation chairman for this branch is Matthew Gray from Massey Palmerston North campus. About half a dozen other students have put their hands to be involved in the inaugural committee. The Student Branch is now starting to build momentum, through a program of activities. We hope that the student chapter will be involved in the organization of next year's Postgraduate project presentation event and we look forward to them holding other events especially focused on the needs of students during the coming year. In support of this activity, the Section applied for some special funds from Region 10 and we were delighted to be successful. We will be putting this money to good use to help our students undertake a good program of activities, focused on their specific needs. It is also expected that this branch will coordinate closely with the student activities being undertaken with the IET across the same three campuses.

During the year, proposals have been put forward by members to establish two Technology Chapters in association with the Central Section. The Section is very supportive of such moves and actively encourages this type of initiative. However, we do also want such initiatives to be sustainable over the long term, so we do insist on the achievement of a couple of pre-requisites before the formation of these groups. This typically involves the need for solid support by about 20

members, some of whom are willing to take on leadership roles. We also coordinate the formation of such groups with our colleagues in North and South Sections. Given these minimal requirements can be achieved, we will strongly support the formation of specialist technical chapters. The first chapter to be formed is an IEEE Joint Chapter of Communication, Signal Processing and Information Theory, and we expect others to follow in the near future.

Looking back at the wider program of events for 2008, the first event for the year was the Space Communications workshop, co-organized with Massey University. This was held at Massey University, Wellington campus on 19 February 2008. There were three presentations at the workshop. Dr Peter de Maagt from the Netherlands presented the "Terahertz Technology for Space and Earth Applications". Mr. Graham Shirville from the UK presented "International Satellite Technology Education Programs: SSETI and GENSO". Drs Xiang Gui and Frans Weehuizen (from Massey) presented the "Massey University SSETI ESEO Ground Station". Over 40 people attended the workshop including many IEEE members from NZ Central Section, staff and PhD students from both Massey University and Victoria University of Wellington. Massey University is to be congratulated on organizing such an excellent event.

This was followed by a joint seminar with the Wellington Network of IET on 14 March, where Roger De Salis presented a talk entitled "Voice and Data Provision: A New Alternative". FX Networks is an ISP and intercity network data provider, which is a one stop shop for bandwidth, fibre, DNS, Mail, Web, Voice national, VOIP exchange, and other services. It owns and operates a fibre optic backbone network throughout the North Island, with points of presence at major cities in the South Island (via partners). The fibre network connects Wellington (Citylink and Vector), Palmerston North (Inspire) Hamilton (LiteUp) and Auckland (Citylink and Vector). Initial network capacity is 20 Gbps, and is expected to grow to 100-300 Gbps within two years. Roger provided some fascinating detail on the challenges of undertaking such an initiative and getting the associated business up and running.

The next meeting was held on the Massey Campus in Palmerston North on the evening of 14 April 2008. Professor Stephan Hassmann from the University of Applied Sciences Westkuste (FHW) in Germany, delivered a seminar on the "Concepts and Application of 3D-TOF cameras". In manufacturing with automated quality control, identification, navigation and danger space monitoring, the fast and contactless 3D-shape measurement process is a key function. The Time-of-Flight (TOF) range measurement method was described. The influence of single noise sources on the SNR and the range resolution was discussed, as was the method for calculating the optical power of the desired illumination source. Examples of industrial applications for this technology were described. This seminar was

delivered at the Marsden lecture theatre on Massey Campus at Palmerston North. The seminar was very informative with about 14 members present and a useful discussion pursued after the formal presentation.

The next event, held in Wellington on 2 July 2008 was the Combined Institutions annual breakfast meeting at the James Cook Hotel. This meeting was combined with the Wellington Network of IET and the Wellington Branch of IPENZ. The guest speaker at this event was the National Party spokesman on Information and Communication Technology who spoke on the National Party policy with respect to broadband technology. His talk was entitled "Fibre Optics: The Final Frontier", which left plenty of scope for a very interesting and entertaining address. He outlined the National Party plans to spend some \$1.5B over the next 6 years, in partnership with industry, to deploy fibre to the home to 75% of New Zealand households. It was great to hear a little more detail concerning these plans and policy initiatives. A good cross-section of members from the three institutions attended this meeting, and greatly enjoyed the presentation and associated extended question time.

Then in August we held the annual post-graduate student project presentations. This event was held on 28 August on Victoria University Law Campus in downtown Wellington. There were about 24 presentations from postgraduate students from across the three campuses located within the central region – Massey Palmerston North, Massey Wellington and Victoria Wellington. The students' put a lot of effort into their presentations and it was very hard to decide the winners. All students who participated in the event received a certificate and were offered a reduction in their IEEE membership fees. We had three successful winners and they were nicely spread across the three campuses. Winners received certificates and book prizes of \$150 each are being arranged through local bookstores. Networking took place at the breaks and there was a great deal of animated discussion about projects, methodologies and general life of a PhD/Masters student! Everyone enjoyed the nibbles, drinks and pizza also provided during the breaks.

The final event for 2008 is usually the AGM, which is being held on 28 November in the InternetNZ conference facilities in Wellington. This event will include the presentation of annual reports and the election of officers for the 2009 year. In addition, we are very fortunate to have a presentation by Mr Geoff Hunt, CEO of Kordia. He will provide a perspective on both the current state of the telecommunications and broadcasting industries in New Zealand. This presentation should provide some most interesting insights for all members.

As it turns out though, the AGM will not be the final event for the 2008 calendar year. As a committee, we have always encouraged participation in presentations

and seminars by visiting engineers from overseas, even if this means organizing events at short notice. Early in December we have another eminent visitor to Massey University and so we are taking this opportunity to join with Massey University in hosting a seminar at lunchtime on Monday 1 December. The seminar is entitled "Neurodynamic Optimization: New Models and Selected Applications" and will be presented by visiting Professor Jun Wang from the Department of Mechanical & Automation Engineering at the Chinese University of Hong Kong, Shatin, New Territories, Hong Kong. This should be another notable event in our calendar and round out the year in good style.

Local events are not the only reason for being a member of IEEE. The IEEE holds a wide range of international events during the year, in which a number of members from the region take the opportunity to participate. Personally, I participated in the IEEE International Conference on Communications in Beijing, China in May this year. This is one of many excellent IEEE events for personal development and networking with colleagues around the globe and I took full advantage of this opportunity. Two members from the Central Section were present: Mansoor Shafi and myself. I hope that all of you are taking these excellent IEEE sponsored opportunities in your fields of interest to keep abreast of the latest developments in technology, as they impact on our profession as engineers in a modern and rapidly changing environment.

I hope the above provides you all with a brief summary of the activities of the IEEE Central Section during the year of 2008. From my perspective, it has been a good year for the Central Section, which will provide a solid base upon which to build the Section over the coming years. Again, I wish to thank all those members who have provided support to me during the year. Like all voluntary activities, it is the team effort that makes the organization a success and I have certainly enjoyed strong support from a very capable and dedicated team. I wish all members a very happy festive season and a joyful and prosperous New Year.

Kindest regards

Murray Milner

Chair, IEEE New Zealand Central Section