

# New Zealand Central Section

## PART A - SECTION SUMMARY

### A.1 Executive Summary

- Section Executive Committee Member List (2016)  
 Donald Bailey (chair, student branch counsellor)  
 Fernando Castellanos (vice-chair)  
 Xiang Gui (secretary)  
 Ramesh Rayudu (treasurer)  
 Aaron Reid (membership development)  
 Bing Xue (Women in Engineering)  
 Sudhir Singh (Young Professionals)  
 Duncan Hall (Awards coordinator)  
 Murray Milner (Industry coordinator)  
 Harsh Tataria (Victoria Student Branch chair)  
 Shan Jaffry (Massey Student Branch chair)  
 Mengjie Zhang (student branch counsellor, CI society)  
 Akbar Ghobakhlou (I&M society)  
 Yusuke Hioka (SP/IT society)  
 Gourab Sen Gupta  
 Yi Mei
- Section Highlights  
 Joint Institutions Breakfast  
 Wellington Engineering and Science Festival 2016 Lecture Series
- Major Events (International, National)  
 Image and Vision Computing New Zealand Conference (21-22 November)
- Major Chapter Activities  
 A number of distinguished lecturers and other international visitors as outlined below
- Major Student and Affinity Group Activities  
 Postgraduate presentation day

### A.2 Financial Report – (Please follow the format given below)

- Summary:
 

Opening balance (1 Jan, 2016)	NZ\$ 15,050.84
Receipts	NZ\$ 5,753.87
Payments	NZ\$ 7,457.26
Closing balance (31 Dec, 2016)	NZ\$ 13,347.45

## PART B - ORGANIZATIONAL ACTIVITIES

### B.1 Membership Development Activities

- Total number of active members in the past 3 years.  
 2014: 285  
 2015: 287  
 2016: 285
- Summary and evidence of work done to improve the value of membership, which leads to retention and growth of members
  - We have had an active programme of section activities, particularly focused on Chapter activities to encourage more participation by members with specialist interests.
  - We have had a strong programme within the two universities associated with the section, particularly with postgraduate students. This is reflected in the strong participation with the joint Postgraduate Presentation Day. However, for undergraduate students, the local

university engineering societies are more visible, and we need to better coordinate with them.

- We have good representation from industry on the committee, and have initiated two industry focused events within 2016.
- Within 2016, the Committee held a special ½ day brain-storming meeting to discuss ways of improving the visibility of the Section among members, and encouraging more active participation. A couple of the key action points from this are:
  - A personal letter from the Chair welcoming new members and letting them know the range of activities and chapters within the Section.
  - Build mentoring relationships between YP and student members.
  - Tune the timing of some of our events to improve participation
  - Encourage more industry workshops within chapters.
  - Make use of opportunity for display booths at sponsored conferences.

## B.2 Chapter Activities

- Total number of Chapters in the Section
  - Chapter of the Instrumentation and Measurement Society (joint with NZ North and NZ South)
  - Chapter of the Communications Society (joint with NZ North and NZ South)
  - Joint Chapter of the Signal Processing and Information Technology Societies (joint with NZ North and NZ South)
  - Chapter of the Power and Energy Society
  - Chapter of the Computational Intelligence Society
- Number of Chapters formed in the current year  
None
- Summary of Chapter activities (Chapter wise with attachment table/information)
  - Computational Intelligence Society
    - A/Prof Xiaodong Li – 6 May 2016 “Recent Advances in Multimodal Optimization using Niching Methods”
    - Dr Muhammad Iqbal – 27 May, 2016 “Transfer Learning in Genetic Programming for Image Classification”
    - Prof Hisao Ishibuchi – 17 June 2016 “Evolutionary Many-Objective Optimization: Difficulties and Future Directions”
    - Dr Grant Dick – 8 July 2016 “Error Decomposition and Performance Baselines for Evolutionary Computation Research”
    - Dr Su Nguyen – 2 September 2016 “Genetic Programming for Shop Scheduling”
    - Dr Yi Mei and A/Prof Ivy Liu – 23 September “Statistical Significance Tests”
    - Dr Bing Xu – 14 October “Evolutionary Multi-objective Optimisation”
    - Prof Jun Wang – 23 November 2016 “The start of the art of neurodynamic optimization: past, present and prospects”
    - Prof Gary G Yen – 12 December “Many-Objective Evolutionary Algorithms-Visualization and Decision-Making”
  - Power and Energy Society
    - Dr Prabha S. Kundur – 12 February 2016 “Sustainable electric power systems in the 21st century: requirements, challenges and the role of smart grid technologies”
    - Jonathan Sykes – 23 June 2016 “Comprehensive asset strategies”
    - Raghavender Goud Deshagoni – 28 August 2016 “Lightning protection and analysis of wind turbine generators”
  - Signal Processing and Information Theory Chapter
    - Dr Kenta Niwa – 22 August 2016 “Microphone array signal processing and its interactive applications”
    - Prof Shrikanth Narayanan – 5 December 2016 “Behavioral Signal Processing: Deriving human behavioral informatics”
  - Communications Society
    - Prof Jalel Ben-Othman – 8 June 2016 “DoS in VANETs an issue or a fatality”

### **B.3 Professional and Continuing Education Activities**

Summary of continuing Educational activities including conferences, technical activities, training courses, and distinguished lecture programs with attachment table / information

- The section provided technical co-sponsorship of 1 conference during 2016. This was chaired by members within the section:
  - 21-22 November, 2016: International Conference on Image and Vision Computing New Zealand, Palmerston North
- Chapters also organized technical workshops:
  - 2 September 2016: IEEE NZ Wireless Workshop, Hutt Valley – Communications Society Chapter and Young Professionals group
  - 18 April 2016: One-Day Workshop on Smart Sensors, Measurements and Instrumentation for: Agricultural and Environmental Monitoring, Lincoln University – I&M Society Chapter

### **B.4 Students Activities**

- Total number of Student Branches in the Section
  - 2 (Massey University, and Victoria University of Wellington)
- Number of Student Branches formed in the current year
  - None
- Summary of Student Branch activities (Student Branch wise with attachment table/information)
  - 1 April, 2016: Joint Student and YP Social Networking Event (Victoria University)
  - 30 Aug, 2016: Postgraduate Presentation Event (Victoria and Massey University)

### **B.5 Affinity Group Activities**

- Young Professional (YP)
  - 1 April, 2016: Joint Student and YP Social Networking Event
  - YP Chair attended the YP Congress in 2016

### **B.6 Awards & Recognition Activities**

- Please list all Awards and Recognitions received by the Section, and members in the Section, from R 10 and IEEE HQ
  - Outstanding Volunteer Award (from 2015) for Dr Murray Milner was presented to him at the Joint Institutions Breakfast on 27 September.

### **B.7 Communication Activities (Newsletter, Home Page, E-mail etc.)**

- Home Page of the Section (give the URL and how often it is updated)
  - The Section website is updated regularly with activity information, both as announcements of upcoming events, and reports on the events as they happen. The URL is <http://www.ewh.ieee.org/r10/nzc/>
- Other means of contacts with Section members including social media
  - Members are notified of upcoming events through e-notices.

### **B.8 Industry Relations**

- Activities for/with industrial members
  - 19 April 2016: Wellington Engineering and Science Festival, David MacLennan “Where to next? Human spaceflight at the crossroads”
  - 27 September 2016: Joint Institutions Industry Breakfast, Scott Houston “From ORCs to AZURE”

### **B.9 Humanitarian Technology Activities**

- We established a working group to look at Humanitarian Technology Activities

## **PART C - OTHERS**

### **C.1 Special Events**

- Please briefly describe the importance of special events and the outcomes achieved
  - In 2015, we participated in the Wellington Engineering Festival, both through financial support, and in organizing one of the lunchtime talks.
  - The event was a joint activity with our sister organisations (IET and IPENZ)
  - It provided an event in support of industry members.
- Funding secured from the IEEE and external sources including sponsorships
  - YP Organised the IEEE NZ Wireless Workshop for Communications Society. They received NZ\$479.60 from the R10 YP Support Fund for gifts for presenters.

### **C.2 Relationship with National and International Societies and Non-Government Organizations (NGO)**

- Nature of relationship and details of any formal agreement signed
  - We have a good coordination with the local IET Wellington Network, and IPENZ Wellington Branch.
- Details of joint activities:
  - 19 April 2016: Wellington Engineering and Science Festival, David MacLennan “Where to next? Human spaceflight at the crossroads” – jointly hosted by IEEE, IET, IPENZ, Royal Society of NZ, and Wellington Astronomical Society
  - 27 September 2016: Joint Institutions Industry Breakfast, Scott Houston “From ORCs to AZURE” – jointly hosted by IEEE, IET and IPENZ
- Benefit to IEEE members (for example discounts, access to technical information etc.)
  - These activities give support for members of all the organisations, as well as providing an excellent opportunity for networking.
  - Joint sponsorship enabled costs to be shared, enabling a wider reach and more public events than if we had organized the events on our own.
- Benefit to Section (for example help in membership development, venue facilities, cost saving etc.)
  - Participation in these activities increases the visibility of IEEE.
  - Working together enables us to broaden the number of people that we are able to reach, and enable us to hold larger events with wider appeal. The sharing of the costs among the participating organisations mean that we can all benefit from the event, without significant costs to any one institution.

### **C3. Collaboration with other IEEE Sections**

- Support extended to neighboring Sections
  - Three of the Chapters are joint with neighbouring NZ North and NZ South sections.
    - Chapter of the Instrumentation and Measurement Society
    - Chapter of the Communications Society
    - Joint Chapter of the Signal Processing and Information Technology Societies
  - These enable the chapters to coordinate technical talks within the respective sections when visiting speakers visit (New Zealand is a long way from anywhere, so this maximizes the benefits gained from speakers who have travelled far to get to NZ).
- Joint activities with any other Section
  - We supported a successful bid to host the I2MTC 2019 conference in New Zealand.

### **C.4 Support extended to Sub-sections & Society Chapters within the Section**

- Support extended for organising technical, educational and professional activities
  - We provide financial support for chapters towards the cost of hosting distinguished lecturers.

### **C.5 Best Practices of your Section (which you would like to share with other Sections for the benefits of members)**

### **C.6 Problems anticipated and suggestions for solutions, if any**

- One ongoing challenge we have had is broadening the pool of volunteers who are active in organizing activities and providing support. It is usually the same handful of people who are always involved. We have had an influx of new members on the Committee in 2017, and we plan to make use of training opportunities offered by Sections Congress in Sydney.
- Maintaining dynamism within the student branches, especially with a high turnover (students are only with us for a short time). We need to focus on the attraction and retention of members within our two student branches.
- Seeking active members for the YP and WIE Affinity groups organization / committee as it is being left to only one or two volunteers.

## **PART D - GOALS AND PLANS**

### **D.1 Continuation of project/activity in progress and their implementation plans**

- Ongoing plans for 2017
  - Continue to organize our very successful joint institutions breakfast meeting for industry.
  - Continue with the successful postgraduate presentation event

### **D.2 Goals and Future Plans**

- Keep other plans for 2017
  - IEEE New Zealand day to celebrate the 50th jubilee of R10 with a series of events providing a 1 day review of IEEE within New Zealand.
  - Continue support and co-sponsorship of the activities organized by our technical chapters.
  - Send a number of the key leaders (and aspiring leaders) to Sections Congress in Sydney