

New Zealand Central Section

PART A - SECTION SUMMARY

A.1 Executive Summary

- Section Executive Committee Member List (2017)
 Donald Bailey (chair, student branch counsellor)
 Fernando Castellanos (vice-chair)
 Xiang Gui (secretary)
 Ramesh Rayudu (treasurer, Power and Energy society)
 Kanwal Zaidi (membership development, Women in Engineering)
 Bing Xue (Women in Engineering)
 Sudhir Singh (Young Professionals)
 Richard Harris (Web coordinator & Notice coordinator)
 Faraz Hasan (Awards coordinator)
 Murray Milner (Industry coordinator)
 Harsh Tataria / Arif Ahmed (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)
 Nurul Sarkar (Communications society)
 Gourab Sen Gupta
 Yi Mei
 Ken Mercer
- Section Highlights
 During the year, we prepared a detailed history of the Section to date.
 We had a number of delegates at Sections Congress – an opportunity to train new volunteers.
- Major Events (International, National)
 For IEEE Day, we had a combined IEEE NZ Day with NZ North and NZ South, with speakers from all 3 sections (video conferenced), providing reflection on IEEE's contribution to NZ over the last 50 years.
- 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\$ 13,347.45
Receipts	NZ\$ 7,981.83
Payments	NZ\$ 8,977.22
Closing balance (31 Dec, 2016)	NZ\$ 12,352.06

PART B - ORGANIZATIONAL ACTIVITIES

B.1 Membership Development Activities

- Total number of active members in the past 3 years.
 - 2015: 287
 - 2016: 285
 - 2017: 304
- 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.
 - The chair has been sending a personal letter to new members, welcoming them and letting them know the range of activities and chapters within the Section.

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
- Summary of Chapter activities
 - Computational Intelligence Society
 - Prof Emma Hart 20 January, 2017 “Ensemble Based Optimisation Methods for Combinatorial Optimisation”
 - Prof Carlos Coello Coello - 15 August 2017 “Evolutionary Multi-Objective Optimization using Hybrid Approaches”
 - Dr Yifan Chen – 3 November 2017 “From Biologically Inspired ICT to ICT Inspired Biomedicine”
 - Mario Koeppen – 8 December 2017 “Generalized Optimization in Social Computing”
 - Dr Andy Song – 8 December 2017 “The World AI: Current State, Strategies, and Industry Needs”
 - Power and Energy Society
 - Michael Emmanuel – 14 March 2017 “Power Distribution System Planning in Smart Grids with Photovoltaics”
 - Dr Kalyan Sen – 7 December 2017 “Practical Power Flow Controller Brings Benefits Of Power Electronics To The Grid”
 - Signal Processing and Information Theory Chapter
 - Dr Yusuke Hioka – 10 April 2017 “Estimating power spectral density for acoustic signal enhancement - an effective approach for practical applications”
 - Josiane Zerubia – 20 December 2017 “Hierarchical joint classification models for multi-resolution, multi-temporal and multisensory remote sensing images”
 - Communications Society
 - Prof Song Guo – 27 July 2017 “Device-to-Device Communication in Cellular Networks”
 - Instrumentation and Measurement
 - Prof James E. Morris – 8 March 2017 “Nanopackaging: Nanotechnologies for Microelectronics Packaging”
 - Prof Gerald Gerlach – 4 April 2017 “Hydrogel-based Chemical and Biochemical MEMS-Sensors”
 - I. Anderson – 3 May 2017 “A continuum sensory experience and autonomic nervous system for soft robots”

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

- 29 June 2017, Dr Graham Ault “Smart Approaches to Distributed Generation Connection and Operation”. This was a joint IEEE / IET special event.
- Chapters also organized technical workshops:
 - 20-21 April : IEEE Instrumentation and Measurement Society Workshop, Victoria University of Wellington “Two-Day Workshop on Smart Sensors, Measurements and Instrumentation for Health, Industry and Environment”
 - 10 February, 2017: IEEE Communications Society Workshop, Massey University “2nd Workshop on Recent Trends in Telecommunications Research (RTTR)”.

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)
 - 30 August, 2017: Field trip to Ohakea Airforce Base (Massey University)
 - 4 September 2017: Postgraduate Presentation Event (Victoria and Massey University)

B.5 Affinity Group Activities

- WIE
 - WIE Chair attended Sections Congress, and ANZSCon in Sydney
 - WIE prepared a survey questionnaire to investigate the feasibility of setting up a Women in Engineering club.
- Young Professional (YP)
 - Two YP representatives attended the Sections Congress in Sydney

B.6 Awards & Recognition Activities

- R10 Women in Engineering Support Fund: US\$300 for conducting a WIE survey at Massey University.
- R10 Membership Development Incentive Grants: \$US250 for recruitment, and US\$200 for retention.
- 2017 Outstanding Section Membership Recruitment Performance, for meeting our recruitment targets for 2017.
- The Signal Processing / Information Theory chapter also received a Membership Growth Award.

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.
- Emails have been sent to new members, welcoming them to the IEEE, and to outline the range of activities.

B.8 Industry Relations

- Activities for/with industrial members
 - 29 June 2017, Joint IEEE / IET special event: Dr Graham Ault “Smart Approaches to Distributed Generation Connection and Operation”.

PART C - OTHERS

C.1 Special Events

- As part of the celebration of 50 years of Region 10, the three sections within NZ held a combined event. Talks from each of the Sections reflected on the changes within technology over the past 50 years, and the contributions IEEE have made to NZ society as a whole. The event was telecast between the venues, and was streamed via the web. Numbers were a little lower than hoped, with about 15-20 at each venue. From the Central Section, Dr Murray Milner spoke of the contributions of ICT within NZ. This even provided a good reflection to members (and wider public) of the contributions of IEEE within NZ society.

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).

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

- 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 2018
 - 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 2018
 - 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.