

New Zealand Central Section, 2018

PART A - SECTION SUMMARY

A.1 Executive Summary

- Section Executive Committee Member List (2018)
 - Donald Bailey (chair, student branch counsellor)
 - Fernando Castellanos (vice-chair)
 - Steven Le Moan (secretary, young professionals)
 - Yi Mei (treasurer, young professionals)
 - Abhipray Paturkar (membership development)
 - Richard Harris (web coordinator & notice coordinator)
 - Murray Milner (industry coordinator)
 - Kanwal Zaidi (women in engineering)
 - Bing Xue (women in engineering)
 - Arif Ahmed (Victoria student branch chair)
 - Chanjief Chandrakumar (Massey student branch chair)
 - Mengjie Zhang (student branch counsellor, CI society)
 - Yusuke Hioka (SP/IT society)
 - Nurul Sarkar (Communications society)
 - Akbar Ghobakhlou (I&M society)
 - Ramesh Rayudu (Power and Energy society)
 - Xiang Gui
 - Gourab Sen Gupta
 - Ken Mercer
- Section Highlights
 - Mengjie Zhang was elected a fellow of IEEE
 - Section was awarded “R10 Outstanding Small Section Award 2018”
- Major Events (International, National)
- 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, 2018)	NZ\$ 12,352.06
Receipts	NZ\$ 6,668.09
Payments	NZ\$ 4,934.14
Closing balance (31 Dec, 2018)	NZ\$ 14,086.01

PART B - ORGANIZATIONAL ACTIVITIES

B.1 Membership Development Activities

- Total number of active members in the past 3 years.
 - 2015: 287
 - 2016: 285
 - 2017: 303
 - 2018: 289
- 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 representation from industry on the committee.

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
 - Juan Rada-Vilela – 12 January, 2018 “The Fuzzylite libraries for fuzzy logic control”
 - Wenlong Fu – 12 January, 2018 “Feature extraction using genetic programming for high dimensional sparse data”
 - Zhi-Hua Zhou – 15 February, 2018 “Deep Forest: A preliminary exploration to non-NN style deep learning”
 - Juergen Branke – 4 May, 2018 “Integrating preferences into evolutionary multiobjective optimization”
 - Dr Bing Xue – 9 November 2018 “A Gaussian Filter-based Feature Learning Approach Using Genetic Programming to Image Classification”
 - Signal Processing and Information Theory Chapter
 - Mathew Legg – 23 March 2018: “Acoustic Sensors for Imaging and Non-destructive Evaluation”
 - Power and Energy Society
 - 26 April 2018, Michael Emmanuel, “Impact of utility-scale photovoltaic systems variability using the wavelet variability model for smart grid operations”
 - 11 June 2018, Anwarul Sifat, “Towards an Experimental Facility for Physical Simulation of High Impedance Faults in Low Voltage Networks”
 - 15 July 2018, Raghu Deshagani, “Calculating Earth Electrode Length for a Wind Turbine Generator Grounding System based on a Two-Layer Soil Structure”
 - 4 September 2018, Abhi Chatterjee, “Distributed Generation for Electrification of Rural Primary School and Health Centre: An Indian Perspective”
 - 25 September 2018, Efim Sturov, “Stability Analysis of Hydraulically Driven Synchronous Generators in Power Engineering”
 - Communications Society
 - 6 September, 2018: Tutorial on “Software Defined Radio: FPGA Prototyping with Over-the-Air Signals”, AUT Auckland.
 - 7 September, 2018: IEEE NZ Wireless Workshop, held at AUT, Auckland.
 - 30 October, 2018, Distinguished Lecture at Victoria University of Wellington, Dr Venkatesha Prasad “Internet of Things, Approximate Services and Virtual Sensing”

- 31 October, 2018, Distinguished Lecture at Massey University, Dr Venkatesha Prasad “Internet of Things, Approximate Services and Virtual Sensing”
- Instrumentation and Measurement
 - 2 day workshop – September 6-7, held at Massey University, Palmerston North. Workshop theme: “Smart Sensors, Measurements and Instrumentation for Health, Food, Agriculture, Environment and Security”

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

- 4-6 April, 2018: Joint Massey University / IEEE Workshop on “Image Processing in VHDL on FPGAs”
- 9 May, 2018: Public Presentation by Dr Murray Milner “Superfast Broadband - A Kiwi approach to building a Superfast Broadband Network”
- 28 June, 2018: Joint IET / IEEE Lunchtime Event, Olivia Carpenter of Ricardo Energy & Environment: “The cutting edge of the UK power sector: Power network innovation in the UK”
- 19 September, 2018: Annual Joint Institutions Breakfast, Presenter was Tony Ryall, Chair of Transpower: “How Transpower is thinking about the future of the electricity industry in New Zealand”.
- 19-21 November, 2018: Technical co-sponsor of International Conference on Image and Vision Computing NZ, held in Auckland
- 29 November, 2018: at our AGM dinner, we had 3 short talks:
 - Mengjie Zhang, “AI and Machine Learning at VUW”
 - Damien O’Niell, “Evolutionary Computation for Novel ANN Architecture Discovery”
 - Steven Le Moan, “Hyperspectral Image Analysis”

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)
 - Massey branch chair attended the R10 SYWL Congress in Bali, 30 August – 2 September 2018.
 - 5 September 2018: Postgraduate Presentation Event (Victoria and Massey University) hosted by Victoria Student Branch
 - 2 October, 2018: IEEE Day (Massey University) set up a publicity stall for membership promotion

B.5 Affinity Group Activities

- WIE
 - WIE Chair attended Women in Engineering Summit in Brisbane, 26-27 November, 2018
- Young Professional (YP)
 - 6 July, 2018: Career planning seminar, by Duncan Hall, “What I did while not being on holiday: what went to plan, and what didn't”

B.6 Awards & Recognition Activities

- We were awarded “R10 Outstanding Small Section” for 2018.

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

- 28 June, 2018: Joint IET / IEEE Lunchtime Event, Olivia Carpenter of Ricardo Energy & Environment: “The cutting edge of the UK power sector: Power network innovation in the UK”
- 19 September, 2018: Annual Joint Institutions Breakfast, Presenter was Tony Ryall, Chair of Transpower: “How Transpower is thinking about the future of the electricity industry in New Zealand”.
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PART C - OTHERS

C.1 Special Events

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 Engineering New Zealand (ENZ) Wellington Branch.
- Details of joint activities:
 - 28 June, 2018: Joint IET / IEEE Lunchtime Event, Olivia Carpenter of Ricardo Energy & Environment: “The cutting edge of the UK power sector: Power network innovation in the UK”
 - 19 September, 2018: Annual Joint Institutions Breakfast, Presenter was Tony Ryall, Chair of Transpower: “How Transpower is thinking about the future of the electricity industry in New Zealand”.
- 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
 - Annual IEEE NZ Wireless Workshop, held at AUT, Auckland
 - 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)

- Maintaining regular (monthly) committee meetings.
- We have defined a “Portfolio responsibilities” document, which outlines the roles and responsibilities for the various portfolios on the executive committee.
- Close coordination of activities with those of affiliated groups such as Engineering New Zealand and Institute of Engineering and Technology.

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 Affinity groups organization / committee as it is being left to only one or two volunteers.
- Actively engaging with a membership with a wide diversity of interests.

PART D - GOALS AND PLANS

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

- Ongoing plans for 2019
 - Continue to organize our very successful joint institutions breakfast meeting for industry.
 - Continue with the successful postgraduate presentation event.
 - Continue to encourage Distinguished Lecturers to present to our members.
 - Continue to send introductory letters to all new members within the Central Region.

D.2 Goals and Future Plans

- Goals
 - To increase membership in all disciplines.
 - To encourage members to enhance their membership level.
 - To actively engage with all members within the Central Region.
- Future Plans
 - To determine what will encourage members to participate in events.
 - To structure a programme of events to best match members' needs.