

# Australian Capital Territory Section Report 2024

## **PART A - SECTION SUMMARY**

### **A.1 Executive Summary – (Please follow the format given below)**

<b>ExCom Position</b>	<b>Committee Member</b>
Chair	Lily Qiao
Secretary	Anthony Jones
Treasurer	Sharon Lim
Vice Chair	Fouad Karouta
Educational Activities (Pre-Uni)	Paul Leopardi
Membership Development	Jeta Vedi
Newsletter	Anthony Jones
Professional Activities	Sharon Lim
Student Activities Co-ordinator	Rabin Basnet
vTools Coordinator	Ambarish Natu
Webmaster	Anthony Jones
<b>Societies Chapter Chairs</b>	
Antennas-Propagation/MTT (CH10298)	Greg Durnan
Aerospace and Electronics Society (CH11028)	Lily Qiao
Computational Intelligence (CH10724)	Bing Wang
Computer Society (CH10257)	Yanchang Zhao
Control Systems (CH10934)	Weichao Liang
Geoscience and Remote Sensing (CH10522)	Yiqing Guo
Joint Photonics & EDS (CH10113)	Hoe Tan
Nanotechnology Council (CH10514)	Zhe Li
Oceanic Engineering	Vacant
Signal Processing & Communications (CH10229)	Chiu Chan
Systems, Man and Cybernetics (CH10856)	Huadong Mo
Life Member Co-ordinator	Dale Siver
WIE Affinity Group (WIE00561)	Shadi Abpeikar
Young Professionals (YP00561)	Md Imran Hossain
TISP Coordinator	Vacant
ANU Students Counselor	Vacant
UNSW Canberra Students Counselor	Jing Liu
University Canberra Students Counselor	Ghazal Bargshady (December 2024)
<b>Student Branches Representatives</b>	
Australian National University (STB08001)	Qingyang Zhuang
UNSW Canberra (ADFA) (STB09141)	Atishnal Chand
UNSW Student Chapter GRSS (SBC09141)	Jue Zhang/Aiai Ren
UNSW Student Chapter IAS (SBC09141)	Zhibo Zhang (December 2024)
University of Canberra (STB2533383)	Kalam Khadka (December 2024)

- **Section Highlights**  
The section held four administrative ExCom meetings: 31 January 2024, 23 April, 26 June, 3 October attended by 62 members. The section held its AGM on 28 November 2024. It was attended by 35 members, 13 family adult members and 11 children. At the AGM, all ExCom positions and all chapter chair positions were filled.  
For the first time the ACT section sets a committee to organize the key ExCom positions election through vTools. The committee members were: Martin Leaver, Ross Summerfield and Hoe Tan.
- **Major Events (International, National)**  
Section Treasurer, Sharon Lim, attended the Australia Council f2f meeting on 1<sup>st</sup> of March 2024 and the R10 meeting on March 2<sup>nd</sup> and 3<sup>rd</sup>, both held in Kuala Lumpur – Malaysia.
- **Major Chapter Activities**  
In total section chapters have organised 34 events, most of them are technical involving a seminar given either virtually or in person. The activities were attended by 297 members and 267 guests.
- **Major Student and Affinity Group Activities**  
LM group organized two events: 03-09-2024 (meet IEEE president and R10 director elect at the Solar Observatory milestone ceremony) and a social gathering on 19-10-2024.  
ANU SB organized four events: two social (01-03-2024, 22-11-2024) and one professional (ANU Solar Photovoltaic Labs) on 19-06-2024 and one combined social/professional on 26-07-2024 (BBQ and Research Physics lab tour).  
UNSW Canberra SB organized two events: a welcome BBQ for UNSW Canberra Students on 01-05-2024 and one technical seminar on 19-07-2024.
- **Awards**  
N/A

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

- **Summary (as per submitted on NetSuite)**  
The ACT section opened a new bank account with Westpac Bank that offers an easier system for internet banking than the Commonwealth Bank.  
Westpac Acct 032730 – 405487 balance per 01-01-2024: \$0, balance per 31-12-2024: \$15,057.14  
CBA Acct 062907 - 00906547 balance per 01-01-2024: \$22,887.51, balance per 31-12-2024: \$8,893.01  
CBA Acct 062909 - 50025349 balance per 01-01-2024: \$14,150.73, balance per 11-11-2024: \$14,293.27, balance per 31-12-2024 \$0. Account closed on 21-11-2024 and \$14,293.27 transferred to Westpac Acct.  
**Total expenditure from Australian Accounts: AUD 13,230.63**  
NextGen: USD 7,792.43
- Any other financial activities

## **PART B - ORGANIZATIONAL ACTIVITIES**

### B.1 Membership Development Activities

- Total number of active members in the past 3 years.  
15 February 2025: 500  
December 2023: 477  
December 2022: 486
- Summary and evidence of work done to improve the value of membership, which leads to retention and growth of members  
The section offers technical seminars to all members in the various fields of the 10 chapters active within the section.  
Several activities (BBQs) are regularly organized at the three universities on the ACT section to attract new student members and the section provides a small incentive of AUD10.00 to each newly enrolled student member.

### B.2 Chapter Activities

- Total number of Chapters in the Section

- Eight ACT chapters, two joint ACT/NSW chapters and one Australia Council Chapter
- Number of Chapters formed in the current year  
N/A
- Number of active Chapters (Chapters who have reported required number of meetings during the year)  
Eight chapters have reported the minimum required of two activities.  
Antennas and Propagation/MTT: 2  
Aerospace and Electronics: 8  
Computational Intelligence: 3  
Computer: 3  
Control Systems: 4  
Geoscience and Remote Sensing: 2 (of which 1 jointly with Phot/EDS)  
Photonics/EDS: 4  
NanoTechnology Council: 2  
Signal Processing & COM: 3  
Systems, Man and Cybernetics: 7 (of which four jointly with Control Systems)  
Total number of chapter activities: 30
- Summary of Chapter activities (Chapter wise with attachment table/information)

Event Title	Event Date	# IEEE	# Guests	SPOID	Event Category	Event Status	Meeting Hosts Sponsor
Thermodynamically-Limited Uncooled Infrared	2024-03-01	8	6	CH10113	Technical		CH10113
Heterogeneous integration of III-V nanowires	2024-03-19	6	5	CH10113	Technical		CH10113
Optically Trapped Nanodiamonds for Nanoscale	2024-08-14	9	6	CH10113	Technical		CH10113
Past, present, and future of integrated circuits	2024-11-14	8	13	CH10113	Technical		CH10113
Heterogeneous integration of III-V nanowires	19/03/2024			CH10113,	Professor	Professor	CH10113, CH10514
DESIGNING ELECTRODES FOR POST-LITHIUM-ION	26/07/2024			CH10113,	Professor	Professor	CH10113, CH10514
Invited Seminar: Terahertz Waveguides and Fu	2024-08-20	20	1	CH10229	Technical		CH10229
Invited Seminar: Mega Satellite Constellations	2024-09-20	25	2	CH10229	Technical		CH10229
IEEE ComSoc and SPS Members Meet and Gree	2024-10-24	30	30	CH10229	Technical		CH10229
Machine Learning Without Borders - running M	2024-02-27	18	30	CH10257	Technical		CH10257
Seminar: Forecasting demand for Australian pa	2024-09-24	25	25	CH10257	Technical		CH10257
Bushwalking at Mount Tylor Nature Reserve	2024-11-08	4	4	CH10257	Nontechn	Social	CH10257
Chipless RFID Systems Modeling, Protocols and	2024-06-14	9	0	CH10298	Technical		CH10298
Cubesat Antennas and Link Budget Analysis	24/08/2024			CH10298	Technical		CH10298
Spatial Data Seminar	2024-02-14	6	12	CH10522	Technical		CH10522
Geoscience and Remote Sensing Seminar	2024-07-19	5	1	CH10522	Technical		CH10522
Bayesian Search	2024-06-11	12	2	CH10724	Professor	Professor	CH10724
IEEE CIS seminar: Search Behaviour Analysis of	2024-07-23	10	6	CH10724	Professor	Professor	CH10724
IEEE CIS seminar: Improvement of Evolutionar	2024-07-23	10	16	CH10724	Professor	Professor	CH10724
Sustainable Artificial Intelligence	2024-02-06	15	19	CH10856	Professor	Professor	CH10856
Systems Health Monitoring and Management	2024-03-08	11	5	CH10856	Technical		CH10856
Edge Intelligence for the Next-generation IoT S	2024-10-01	8	4	CH10856	Technical		CH10856
Workshop on Industrial and Quantum System	2024-02-06	8	7	CH10856,	Technical		CH10856, CH10934
Book Donation in Memory of Prof. Valeri Ougri	2024-09-27	14	8	CH10856,	Technical		CH10856, CH10934
Invited talks on quantum information	2024-11-28	10	4	CH10856,	Technical		CH10856, CH10934
Two Engaging Research Talks in Systems Engine	2024-12-06	7	5	CH10856,	Technical		CH10856, CH10934
Artificial intelligence/machine learning-driven	2024-05-08	4	0	CH11028	Professor	Professor	CH11028
Nanophotonics and nanophotonic materials fo	28/06/2024			CH11028	Professor	Professor	CH11028
Space jobs in the Digital Age	2024-08-02	5	32	CH11028	Professor	Professor	CH11028
AESS ACT Seminar : Engineering is a Team Spor	2024-08-08	5	10	CH11028	Professor	Professor	CH11028
AESS ACT Seminar:Space Businesses That Work	2024-08-12	5	10	CH11028	Professor	Professor	CH11028
Seminar:SPARTA - Advanced Test System for El	23/09/2024			CH11028	Professor	Professor	CH11028
Seminar IT Challenges for Space Domain Awar	16/09/2024			CH11028	Professor	Professor	CH11028
IEEE AESS DinIEEE AESS ACT Distinguished Lect	19/11/2024			CH11028	Professor	Professor	CH11028

### 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 Australian Federal Department of Industry, Science and Resources (DISR) reached out to all Australian sections through Australia Council seeking consultation with IEEE members about the DISR need for specialists in various technological domains like: Artificial Intelligence Standards Committee,

Cybersecurity and Privacy, etc. Two virtual events were organized on 25 January 2024 and on 2<sup>nd</sup> July 2024 that were announced with an eNotice to all section members.

## B.4 Students Activities

- Total number of Student Branches in the Section  
Three: Australian National University, UNSW Canberra and University of Canberra.
- Number of Student Branches formed in the current year:  
One formed in December 2024 (University of Canberra)
- Section level student activities (student congress, paper and other contests, awards etc)  
N/A
- Number of active Student Branches (Student Branches who have reported required number of meetings during the year)  
STB08001 (ANU): 4  
STB09141 UNSW-Canberra: 2
- Summary of Student Branch activities (Student Branch wise with attachment table/information)

Walk from ANU to National Museum with Canberra Data Scientists Group	1/03/2024	R00561	STB08001
ANU solar photovoltaic lab tour	19/06/2024	R00561	STB08001
ANU University Student - Welcome BBQ and Physic building lab tour	26/07/2024	R00561	STB08001
IEEE BBQ at ANU Campus	22/11/2024	R00561	STB08001
IEEE ACT Section Welcome BBQ for UNSW Canberra Students	1/05/2024	R00561	STB09141
Climate Change Seminar	19/07/2024	R00561	STB09141

## B.5 Affinity Group Activities

- Young Professional (YP): No reported activities
- Women In Engineering (WIE): 1 activity  
WIE Seminar: AI Synergy: Bridging Human Collaboration and Deep Learning, 3 November 2024, held at UNSW Canberra, in person, 12 attendees of which 6 IEEE members.
- Life Member (LM) 2 activities  
Social meeting, 2024-10-20, 3 IEEE LM  
Stromlo Plaque Ceremony 2024-09-03, 3 IEEE LM

## B.6 Awards & Recognition Activities

- Award constituted by the Section  
N/A
- Please list all Awards and Recognitions received by the Section, and members in the Section, from R 10 and IEEE HQ during the year  
N/A

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

- Newsletter (name and number of issues in the year)  
The IEEE Australian Capital Territory Section contributed actively to the R10 newsletter with articles related to the two celebrated milestones in the section.
- Home Page of the Section (give the URL and how often it is updated)  
<https://r10.ieee.org/act/>
- Other means of contacts with Section members including social media  
LinkedIn: <https://www.linkedin.com/company/76252810/admin/>  
Instagram: <https://www.instagram.com/ieeeeact/>

## **B.8 Industry Relations**

- Membership growth and retention  
N/A
- Activities for/with industrial members  
N/A

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

- Humanitarian Technology related activities supported by the Section including collaboration with other OUs.  
N/A
- SIGHT Activities  
N/A

## **B.10 Community Activities**

- IEEE Social activities (Family day, IEEE day, Engineers Week)”  
The ACT section held his Annual General Meeting on November 28, 2024 5:30 – 8:30 pm. For this occasion and based on an ExCom decision taken earlier the AGM was held using the premises of the Ainslie Tennis Club offering attendees free usage of three tennis courts. The AGM was attended by 35 IEEE members and 24 family members including 11 children. A coaching activity was organized and given by two young coaches introducing tennis to the present children. Turkish food was catered and served at 6:00 pm along drinks. The event was very successful.

## **PART C - OTHERS**

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

- Please briefly describe the importance of special events and the outcomes achieved  
The ACT section was privileged as it celebrated two historical IEEE milestones:
  - The DSS43 milestone celebrating 50<sup>th</sup> anniversary of the largest dish at the Tidbinbilla Deep Tracking Station (south of the Australian Capital Territory) and that in the presence of then IEEE president-elect Prof. Kathleen Kramer and R10 Director Prof. Fung. Besides attendees from the Deep Tracking station personnel, 10 ACT ExCom members attended the event along invitees from the Canberra Convention Centre and the ACT Children Week organization. A dinner was organized and attended by IEEE leaders, two IEEE members from the New South Wales section and about 20 ACT ExCom members.
  - The Solar Observatory milestone celebrating the 100<sup>th</sup> Anniversary of the establishment on the Solar Observatory in 1924 at Mount Stromlo (south west of ACT territory) in the presence of IEEE President Dr. Tom Coughlin and R10 Director-Elect Prof. Takako Hashimoto. The event was attended by staff of the Research School of Astronomy and Astrophysics (Australian National University) along invitees from the Canberra Convention Centre and the ACT Children Week organization and some ACT ExCom members including the LM Coordinator and two LM members who retired from the Research School of Astronomy and Astrophysics enabling them to reconnect with ex-colleagues. A dinner was organized with the IEEE leaders, two IEEE members from the New South Wales section and 10 ACT ExCom members.
- Funding secured from the IEEE and external sources including sponsorships  
N/A

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

- Nature of relationship and details of any formal agreement signed

- The IEEE ACT Section has an agreement with the ACT Children’s Week to promote STEM within the region. As part of the agreement, IEEE ACT Section provides a grant of \$1000 towards STEM activities organized during the ACT Children Week celebration 21-27 October 2024. Lily Qiao (section chair), Fouad Karouta (VC) and Paul Leopardi (Edu-Activities) attended the awards ceremony on Wednesday 23 October 2024.
- ACT section continue to be present at the Canberra Mathematical Association Conference, organized by the Mathematics school teachers in Canberra, manning a section booth with two money prizes of AUD 100 given during the event. The main objective of attending this conference is the networking potential to liaise with school teachers and discuss their need for STEM support (Try Engineering or through presentations at schools.
- YoWIE is another recurring event that the section maintains a booth presence. YoWIE (Young girls Women In Engineering) is a recurrent 3-days event organized by the University of New South Wales - Canberra to promote STEM among young school girls. In 2024, ACT section was allowed a booth during the lunch break on Thursday 18 April that attracted lots of attention from school girls through various quizzes encompassing Numeracy Skills and Mathematics plus logics.
- Details of joint activities  
N/A
- Benefit to IEEE members (for example discounts, access to technical information etc.)  
Through an agreement between IEEE Australia Council with Dell-Australia and Medibank (private health insurance) discounts are offered to all Australian IEEE members.
- Benefit to Section (for example help in membership development, venue facilities, cost saving etc.)  
N/A

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

- Support extended to neighboring Sections  
Discussion took place with NSW section to form a NSW subgroup of members living geographically closer to Canberra than Sydney enabling them to receive eNotices of technical seminars sent to ACT section members.
- Joint activities with any other Section  
All contacts and possible collaboration with other Australian sections occur under the umbrella of Australia Council.

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

- Support extended for organising technical, educational and professional activities
- Joint activities for membership development
- Support extended for the formation of a Sub-section or transition of a Sub-section into a full Section

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

ExCom meetings, seminars and most Section activities are organized using free venues at the Australian National University or UNSW-Canberra. The section covers incidental expenses from for food and drinks.

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

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

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

On 26 February 2025, the third historical IEEE milestone awarded to the ACT section will be celebrated at the premises of the Heavy Ion Accelerator Facility (HIAF) at the Australian National University in the presence of IEEE President Prof. Kathleen Kramer and R10 Director Prof. Takako Hashimoto. ExCom

Members will attend the ceremony followed by a visit to UNSW Canberra meeting IEEE students members.

**D.2 Goals and Future Plans**

Continue the section presence at the CMA conference (15 March 2025) and the YoWIE event (15-17 April 2025).

**D.3 Any innovative ideas to make IEEE more creative and value added for sustaining the membership retention and recruitment goals.**

**D.4 Business Plan for Sustainable Growth and Financial Stability.**

The ACT section in Australia is relatively a small size section with members working in academia or industry. We value our current members who keep renewing their IEEE membership and we organize various types of activities to the benefit of our members encompassing technical seminars and professional activities. Also, we organize regularly social activities (BBQs) at the three territory universities to attract new student members. This policy has helped us attracting a sufficient student member at the University of Canberra enabling the formation of new Student Branch.

Internally, we will focus on empowering anew generation of future section leaders while promoting improved operational efficiency and transparent management.