



IEEE SOUTH AUSTRALIA  
SECTION

2022 REPORT

R10 Meeting

4-5 March 2023

Ho Chi Minh

# Part A Section Summary

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## **A.1 Executive Summary**

### **2023 Summary**

My first R10 report as Chair of IEEE South Australia Section, I would like to express my thanks for Luke Rosenberg, for the smooth transition for reporting and the all the current executive committee members for 2023 for the support to represent the section in this meeting.

For this report I have chosen to provide majority of information provided from the 2022 Annual Report written for the 18 November Annual General Meeting and provide updated summary reports as some Chapters, Groups still had ongoing events in the month of December 2022.

I have only included minor changes to include up to date membership numbers as of 21 January 2023.

Shela Cook

Chair IEEE SA Section, 2023  
shelasouthaustralia@ieee.org

### **2022 Summary**

In my second annual report, as Chair of IEEE South Australia Section, I would like to express my thanks to all the Executive committee members for their support and making it possible for the smooth running of the committee during this year. These include: Vice-chair – Shela Cook, Secretary – Brian Ng, Treasurer – Michael Sadler and the student activity chair, Xin (Vernon) Yuan.

I also would like to express my gratitude to all the Technical Chapter and Affinity Group Chairs and the members of the respective committees, as well as the leadership teams of our Student Branches: Riley Spencer, Anna Cernev and Binu Sumanadasa. This year the highlight was the ANZSCON conference, which brought the whole team together. I am really grateful for the support by all involved.

Dr Luke Rosenberg  
Chair IEEE SA Section, 2022  
luke.rosenberg@ieee.org

## SECTION EXECUTIVE COMMITTEE MEMBER LIST

| 2022                    |                         |                        |
|-------------------------|-------------------------|------------------------|
| South Australia Section | Chair                   | Luke Rosenberg         |
|                         | Vice-Chair              | Shela Cook             |
|                         | Treasurer               | Michael Sadler         |
|                         | Secretary               | Brian Ng               |
|                         | Student Activity Chair  | Xin (Vernon) Yuan      |
|                         | Webmaster               | Scott Sleep            |
|                         | Joint Technical Program | Vanika Sharma          |
| Power & Energy Society  | Chair                   | Jamal Alameddine       |
|                         | Vice-Chair              | Wai-kin Wong           |
|                         | Treasurer               | Vanika Sharma          |
|                         | Secretary               | Chris Scherini         |
| Computer Society        | Chair                   | Adriel Cheng           |
|                         | Vice-Chair              | Adam Burdeniuk         |
|                         | Treasurer               | Hong Gunn Chew         |
|                         | Secretary               | Kyle Millar            |
| CAES                    | Chair                   | Waddah Al-Ashwal       |
|                         | Vice-Chair              | Luke Rosenberg         |
|                         | Treasurer               | Leigh Powis            |
|                         | Secretary               | Samuel Davey           |
|                         | Membership Development  | Nasim Chitsaz          |
| C&SP                    | Chair                   | Jignesh (Jay) Jokhakar |
|                         | Vice-Chair              | Ronald Mulinde         |
|                         | Treasurer               | Brian Wai-Him Ng       |
|                         | Secretary               | Sharmil Randhawa       |

|   |            |                        |
|---|------------|------------------------|
| AP/MTT  | Chair      | Morteza Shahpari       |
|   | Vice-Chair | Shengjian Jammy Chen   |
|   | Treasurer  | Kin Shing Yau          |
|   | Secretary  | Debrata Karmoka        |
| Young Professionals                             | Chair      | Elizabeth Mary Hodgins |
|   | Vice-Chair | Michael Sadler         |
|   | Treasurer  | Scott Sleep            |
|   | Secretary  | Chris Scherini         |
| Life Members Affinity Group                     | Chair      | Don Sinnott            |
|   | Vice-Chair | Keith Kikkert          |
| WIE Affinity Group                              | Chair      | Shela Guevarra Cook    |
|   | Vice-Chair | Athmi Jayawrdena       |
|   | Treasurer  | Elizabeth Mary Hodgins |
|   | Secretary  | Sharmil Randhawa       |
| University of Adelaide<br>Student Branch        | Chair      | Anna Cernev            |
| Flinders University Student<br>Branch           | Chair      | Riley Spencer          |
| University of South Australia<br>Student Branch | Chair      | Binu Sumanadasa        |



























| 2022                    |                         |                        |
|-------------------------|-------------------------|------------------------|
| South Australia Section | Chair                   | Shela Cook             |
|                         | Vice-Chair              | Jignesh Jokhakar       |
|                         | Treasurer               | Michael Sadler         |
|                         | Secretary               | Brian Ng               |
|                         | Student Activity Chair  | Xin (Vernon) Yuan      |
|                         | Webmaster               | Brandyn Walsh          |
|                         | Joint Technical Program | Vanika Sharma          |
| Power & Energy Society  | Chair                   | Jamal Alameddine       |
|                         | Vice-Chair              | Wai-kin Wong           |
|                         | Treasurer               | Ridma Kondasinghe      |
|                         | Secretary               | Ridma Kondasinghe      |
| Computer Society        | Chair                   | Adriel Cheng           |
|                         | Vice-Chair              | Adam Burdeniuk         |
|                         | Treasurer               | Hong Gunn Chew         |
|                         | Secretary               | Kyle Millar            |
| CAES                    | Chair                   | Leigh Powis            |
|                         | Vice-Chair              | Waddah Al-Ashwal       |
|                         | Treasurer               | Luke Rosenberg         |
|                         | Secretary               | Nasim Chitsaz          |
|                         | Membership Development  | Xin (Vernon) Yuan      |
| C&SP                    | Chair                   | Jignesh (Jay) Jokhakar |
|                         | Vice-Chair              | Ronald Mulinde         |
|                         | Treasurer               | Brian Wai-Him Ng       |
|                         | Secretary               | Sharmil Randhawa       |

|   |            |                                 |
|---|------------|---------------------------------|
| AP/MTT  | Chair      | Shengjian Jammy Chen            |
|   | Vice-Chair | Debrata Karmoka                 |
|   | Treasurer  | Bobby Yau                       |
|   | Secretary  | Morteza Shahpari                |
| Young Professionals                             | Chair      | Michael Sadler                  |
|   | Vice-Chair | Dr Siti Nailah Mastura Zainarry |
|   | Treasurer  | Bisma Manzoor                   |
|   | Secretary  | Jignesh (Jay) Jokhakar          |
| Life Members Affinity Group                     | Chair      | Keith Kikkert                   |
|   | Vice-Chair | Don Sinnott                     |
| WIE Affinity Group                              | Chair      | Anika Talukder                  |
|   | Vice-Chair | Anna Holland                    |
|   | Treasurer  | Sharmil Randhawa                |
|   | Secretary  | Abigail Wicks                   |
| University of Adelaide<br>Student Branch        | Chair      | Emily Hinze                     |
| Flinders University Student<br>Branch           | Chair      | Caleb Miller                    |
| University of South Australia<br>Student Branch | Chair      | Binu Sumanadasa                 |

For 2022, South Australia Section had a year full of high-quality technical activities. In support our members and the local community, the IEEE SA Section chapters, student and affinity groups held 92, admin, technical, non-technical and pre-university events.

| Name                    | Prof | Tech | Non-Tech | Admin | Hum | Pre-U | Total |
|-------------------------|------|------|----------|-------|-----|-------|-------|
| South Australia Section | 15   | 40   | 12       | 24    | 0   | 1     | 92    |

## R00557 - South Australia Section Breakdown Information

| Name  | Prof | Tech | Non-Tech | Admin | Hum | Pre-U | Total |
|---|------|------|----------|-------|-----|-------|-------|
| South Australia Section                           | 4    | 0    | 0        | 0     | 0   | 0     | 4     |
| Flinders Univ of South Australia                  | 0    | 0    | 0        | 0     | 0   | 0     | 0     |
| South Australia Section Aff Grp,YP                | 0    | 0    | 2        | 0     | 0   | 0     | 2     |
| South Australia Section Affinity Group, LM        | 0    | 8    | 0        | 6     | 0   | 0     | 14    |
| South Australia Section Affinity Group, WIE       | 0    | 0    | 7        | 0     | 0   | 1     | 8     |
| South Australia Section Chapter, C16              | 0    | 6    | 1        | 9     | 0   | 0     | 16    |
| South Australia Section Chapter, PE31             | 1    | 4    | 0        | 5     | 0   | 0     | 10    |
| South Australia Section Jt. Chapter, AES10/CS23   | 5    | 3    | 1        | 3     | 0   | 0     | 12    |
| South Australia Section Jt. Chapter, AP03/MTT17   | 1    | 14   | 0        | 0     | 0   | 0     | 15    |
| South Australia Section, SP01/COM19               | 0    | 1    | 0        | 0     | 0   | 0     | 1     |
| The University of Adelaide                        | 0    | 0    | 0        | 0     | 0   | 0     | 0     |
| Univ Of South Australia                           | 0    | 2    | 1        | 0     | 0   | 0     | 3     |
| Victorian/ACT/NSW/Qld/SA/WA Jt Chap, SIT30        | 4    | 2    | 0        | 1     | 0   | 0     | 7     |

The IEEE SA Section Committee met six times in 2021 (February, April, June, August, October and November (AGM)). The Section Committee members also maintained ongoing contact by email to deal with issues that could be handled by electronic means.

The SA Section Chair, Luke Rosenberg attended the regular meetings of the IEEE Australia Council meetings in 2022, chaired by Daniel Eghbar, in order to coordinate with other Australian Sections. This included an in-person meeting in Brisbane on the 9<sup>th</sup> April. The SA Section Chair also attended the Region 10 Annual Meeting, held virtually in March 2022.

A significant challenge this year was simplifying our banking process and then changing banks. A big thank you to those involved in making this change finally happen!

## A.2 Financial Summary

### Section budget to 18 November 2022

Income \$28,273.00 + US\$6,395.02\*

Expenses \$48,160.74

Net AU\$-11,679.85, US\$6,395.02

\*Including US\$400 for ANZSCON.

Not including US\$580 for PES, US\$300 for CS and US\$400 for WIE, all of which are yet to be transferred

### Funds

Term deposits: Closed

Cash position: down AU\$8831.44, up US\$6,395.02 (from 1 Jan 2022). Note: Radar2023 seed funding left before Jan

Total available: AU\$208,172.88 + US\$9473.49\*\*

\*\*Includes above funds, yet to be transferred

# PART B - ORGANIZATIONAL ACTIVITIES

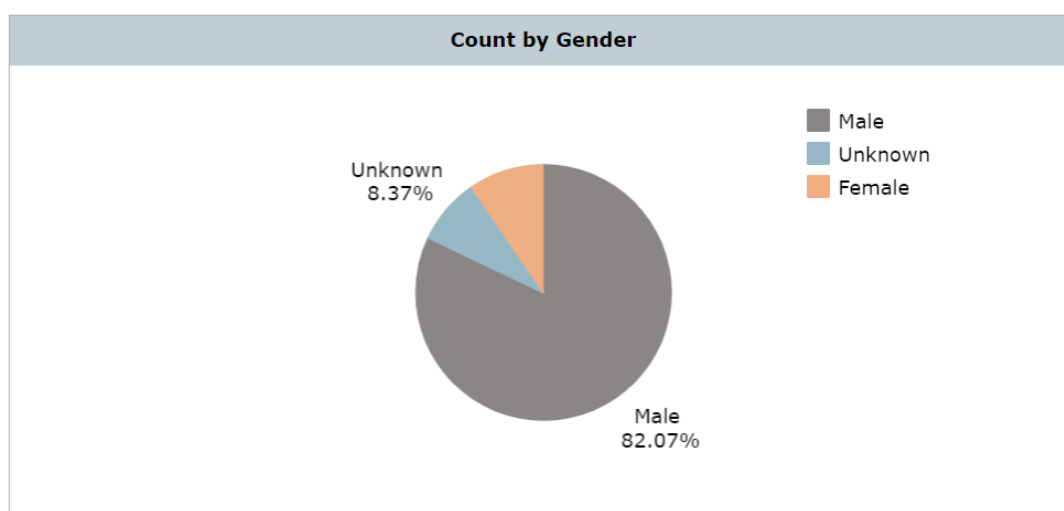
## B.1 Membership Development Activities

Our membership statistics for January 2023 (IEEE OU Analytics as of 21 January 2023) are shown in the table below.

| Current Grade Description | Count of Members (2023) |
|---------------------------|-------------------------|
| Associate member          | 2                       |
| Fellow                    | 9                       |
| Graduate, Student member  | 50                      |
| Life Fellow               | 2                       |
| Life Member               | 23                      |
| Life Senior               | 11                      |
| Member                    | 316                     |
| Senior Member             | 69                      |
| Student member            | 26                      |
| Affiliate                 | 7                       |
| <b>TOTAL</b>              | <b>515</b>              |

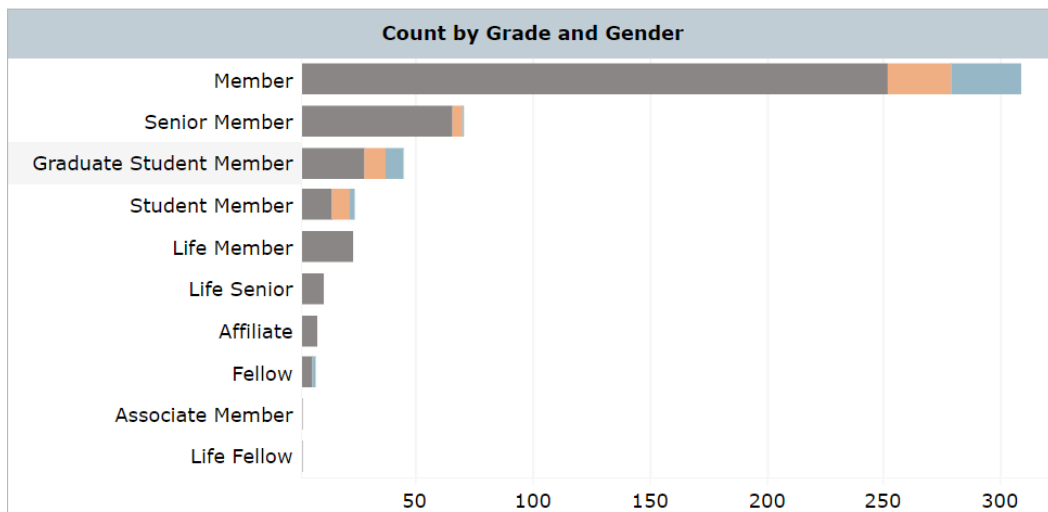
**In 2022, we became a medium section having more than 500 members.**

The spread in terms of gender is shown below, with 9.6% female, 82% male and 8.4% unknown.





The count by grade and gender shows this information in a different fashion. The majority of female members are student, members or senior members.



## B.2 Chapter Activities

IEEE South Australia section has five active chapters Computer Society, Communication/Signal Processing, Antenna Propagation/Microwave Theory & Techniques, Control/Aerospace and Electronic Systems and Power Engineering Society.

### Computer Society

- 7 Events - mix of virtual/hybrid/physical
- 4 Tech/R&D Seminars
- 2 Lab Tours
- Most followed by networking drinks/nibbles session
- 12 committee meetings
- Re-established links with Aust/NZ chapters
- Planned DL seminar, but postponed to 2023
- Some success with grants applications

### Communication/Signal Processing

Two events in 2022

2022-03-16 Deep-learning Adversarial Network – training with labelling errors/ reduced datasets, Dr Avi Chapman, BAE Systems Australia (20 in-person and online attendees)

2022-10-02 Nanoscale structures and materials for electronics and sensing, Professor Sharath Sriram, RMIT, Australia (30 in-person and online attendees)

### Other notes

- Regular chapter meetings conducted.
- Potential IEEE distinguished lectures planned for next year.
- Executive committee for the year 2022-23 proposed.
- IEEE SA section AGM and dinner to be attended.

### Antenna Propagation/Microwave Theory & Techniques

- 14 Events in 2022 (4 co-hosted with other Australian states).
- 2 DL seminars
- 1 YP ambassador

### Control/Aerospace and Electronic Systems

- Three Executive Committee meetings
- One local conference: PIRR – 120 attendees
- Short Course
- Over the horizon radar: 30 attendees
- (Upcoming) Radar Fundamentals: 38 registrations
- Technical Seminars
- Virtual: 4
- Hybrid: 1
- Distinguished lecture: 1
- Social Events
- IEEE Students DST networking event: 43 attendees.
- Appointments
- Dr Luke Rosenberg and Dr Joe Fabrizio have been appointed to the board of AESS Board of Governors for the 2023-2025 Term.

### Power Engineering Society

The summary of 2022 activities (up to 08 November 2022):

- 2 Technical Talks
- 2 Technical Visits
- 4 Administrative Meetings

### Other highlights

The Vice Chair represented IEEE PES SA at 2022 Region 10 Chapter Chairs' Meeting that was held in Singapore.

In addition, the Australia Council has Australia wide Society on Social Implications of Technology chapter and the Ocean Engineering Chapter. There are no representatives from SA for these joint chapters.

## B.3 Students Activities

IEEE South Australia has three student branches at Adelaide University, Flinders University, and the University of South Australia. In order to encourage more student members, the Section presents an award to a student at each of the three South Australian universities for the best achievement in electrical and electronic courses. The students are nominated by the University, and the awardees receive a certificate and a cash prize. The student award prize-winners for the IEEE South Australia Section 2021 Student Award for Excellence in Engineering with an electrical and/or electronics emphasis are:

- Adam Rice, University of Adelaide
- David Pedone, Flinders University
- TBA, University of South Australia

These awards will be presented to each of the students at the 2022 SA Section's End of Year dinner. The Student Branches at The University of Adelaide and Flinders University continued their high levels of activity.

This year, the section ran the Australian and New Zealand Student and Young Professional Conference (ANZSCON) which was a massive undertaking.

The event attracted a large number of students (47) and young professionals (15). Many were also women in engineering members and were able to participate in a number of dedicated sessions. The SA section required students to become members in order to receive a complementary ticket, so this greatly increased the number of IEEE members in the section.

There were 8 sponsors at the event who all commented on how well the event was run and were very thankful for the opportunity. Both Deepak Mathur, the R10 director and Emre Ayranci, the YP Global Chair attended and were impressed by the breadth of sessions and the enthusiasm of the attendees.

The program challenged many students to consider their career pathway and to explore aspects of entrepreneurship, how to better network.



## **B.4 Affinity Group Activities**

South Australia Section has three Affinity Groups: Young Professionals (YP), Women in Engineering (WIE) and Life Members Affinity Group (LMAG).

### **Young Professionals (YP)**

Pub nights held at the Griffins Hotel.

28 April

26 May

25 Aug

Seven committee meetings

### **Women in Engineering (WIE)**

#### **Completed Meetings**

WIE Meetings 11 February 2022 , IEEE attendees 6, guest: 3

WIE Meetings 12 May 2022 , IEEE attendees 3, guest: 3

WIE Meetings 14 August 2022 IEEE attendees: 7, guest: 5

WIE STEM Meetings 19 September 2022, IEEE attendees 3, guest: 4

WIE STEM Meetings – 29 October 2022, IEEE attendees 4, guest 2

WIE STEM Meetings - 27 November 2022 IEEE attendees 4 guest: 6

#### **Social Events**

International Women’s Day Social Dinner – 8 March 2022, IEEE attendees 5, guest: 3

International Women in Engineering Day Social Dinner – 23 June 2022, IEEE attendees 2, guest: 6

#### **ANZSCON WIE Panel Session Attendees**

**IEEE members** at least 9 (Face to Face) at 6 (Online including panel), **Non-Members** 5

STEM Workshop Setup- 29 November 2022 IEEE attendees 4, guest: 7

STEM Workshop for Country Highschool Girls at Murray Bridge – 30 November - 2 December : IEEE attendees 4, guest: 253



## Life Members Affinity Group (LMAG)

Life Members Affinity Group, 2022

Chair: Don Sinnott

Deputy Chair; Keith Kikkert

| Date        | Speaker  | Topic  |
|-------------|--|--|
| 3 Nov 2021  | Prof Nelson Tansu, Head of Electrical Engineering, U of Adelaide                                     | Ultrawide Bandgap Semiconductors: Materials, Devices, and AI Innovations |
| 2 Feb 2022  | Dr Patrick McConnell, Macquarie University   | Digital Currencies   |
| 6 Apr 2022  | Anthony Skeats, Chief Engineer Micro-X   | Micro-X X-ray sources and machines                                       |
| 1 Jun 2022  | Matt Tett, Enex Test Lab   | Emerging IoT Security Standards  |
| 6 Jul 2022  | Site visit to new Tindo Solar panel manufacturing facility. Mawson Lakes.                            | New Tindo Solar panel factory  |
| 3 Aug 2022  | Anthony Brennan<br>Quality Engineer, and Shantanu Shah Lead Electrical Engineer, Snowy Hydro Limited | Snowy 2.0 progress update.   |
| 22 Aug 2022 | Various  | Sesquicentenary of the Overland Telegraph Line                           |
| 5 Oct 2022  | Daniel Schell, co-founder of Airlock Digital   | Application Whitelisting to permit execution of only trusted files       |

## Part C- External Engagements

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### C.1 Relationship with National Societies

In the past, the IEEE-SA Section has had a strong collaboration with our professional colleagues in Engineers Australia, the Institution of Engineering and Technology (IET), and the Telecommunication Society of Australia (TSA). While there were ongoing technical meetings with the IET, the joint technical program (JTP) will be running a single event in 2022. A new committee has formed and is enthusiastic in organising more events for next year.

### C.2 Collaboration with other IEEE Sections

Collaboration with other neighbouring IEEE Sections has been handled through IEEE Australia Council.

The section supported WIE delegates to attend WIE International Leadership 2023 in Melbourne

### C.3 Problems ongoing/anticipated

The section anticipates that finding young people to be active IEEE members and volunteers is one of the biggest challenges that our section is facing in the future. This problem is also faced by many other sections around the world. Young members are under increasing time pressure from their employers and finding time for IEEE volunteering is a challenge. Another major concern is that we need to develop new Chapters that are in-tune with new directions in the industry.

## Part D – Concluding Remarks

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2022

Whilst the section does have a strong bank balance and has financial stability, I hope that for the coming year, the section will try different strategies to engage with potential members, particularly young professionals and postgraduate university students. I hope to see further engagement and leadership from our young members. I would like to see the JTP continue to be supported to build on the previous relationship between the IEEE and the IET and Engineers Australia.

Dr Luke Rosenberg  
Chair IEEE SA Section  
9 November 2022  
[luke.rosenberg@ieee.org](mailto:luke.rosenberg@ieee.org)

2023

For 2023 the section will attempt to conduct a wide variety of strategies for marketing and activities to attract new volunteers and members. To encourage more collaboration within chapters, groups, student branches, Sections, Industry, and other profession development organisations such as IET and Engineers Australia.

Shela Cook  
Chair IEEE SA Section, 2023  
13 February 2023  
[shelasouthaustralia@ieee.org](mailto:shelasouthaustralia@ieee.org)