



# WHAT'S HAPPENING IN THE IEEE

THE NEWSLETTER OF  
THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC  
SOUTH AUSTRALIA SECTION  
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## Our "Newest" Fellow

Shane Cloude was born in Chatham, England. He spent 6 months of his early life (1962-63) in Adelaide before returning to the UK, to grow up on the East Coast of Scotland. He received his BSc. (Hons)

from the University of Dundee in 1981.

Following graduation, he joined the Royal Signals and Radar Establishment (now QinetiQ, Malvern) working on Airborne Radar. He enrolled as an external student at the University of Birmingham, and began working towards his Ph.D on Radar Polarimetry. He was awarded his Ph.D. in 1987 and moved to the Department of Mathematics at the University of Dundee as a Research Fellow in Electromagnetic Theory. In 1990 he took up a post as Lecturer in Computational Electromagnetics at the University of York, England. In 1993, he moved as Visiting Research Professor to *IRESTE*, a postgraduate School of Electronics at the University of Nantes in France. His research at this time returned to Radar Polarimetry and its new applications in Remote Sensing.

This theme continued and, in 1996, he was awarded a Senior Research Fellowship by the Alexander von Humboldt Foundation in Germany, which supported a 12-month period at DLR, the German Aerospace Establishment, Munich, working in the Radar Institute headed by Dr. Wolfgang Keydel. Together they worked on the development of a new imaging radar mode, Polarimetric SAR Interferometry. In 1997 he received the award for best paper at the IEEE Geoscience and Remote Sensing Symposium for his work in this area. In 2001 he was elected a Fellow of the IEEE for his contributions to the development and application of radar polarimetry and interferometry in remote sensing.

From 1997-2004 he was director of Applied Electromagnetics Ltd. (AELc), an independent research consultancy based in Scotland, undertaking contract research and development in radar and antenna design for a range of industrial and government agencies.

In July 2004 he moved to the University of Adelaide as DSTO Professor of Microwave Radar, where he hopes to establish an international centre of radar expertise, attracting staff and visitors from all over the world to work and study radar in Adelaide.

## Chairman's Column

### IEEE Region 10 Internet Conference

Thanks to Kerrin Pine for organising our involvement in the recent Region 10 internet conference. This was very much a trial activity and it was clear that more progress must be made before this will become a useful/acceptable means of lecture delivery. There were 17 sites logged on (including US, India, Australia(3) and New Zealand) and others may have heard the audio which was arranged via a different line. With a little more practice this could become a useful method of delivery for some Distinguished Lectures.

### 2004 IEEE Distinguished Lecture

Dr Robin Batterham AO remarked in his 2001 Wolfsohn Lecture "It is important for Australia's continuing and improving prosperity that we become a truly innovative society. Knowledge is a key ingredient to innovation. And the ability to generate ideas rests ultimately on our creativity." Dr Robin Batterham AO has been invited to address... *how far have we progressed? ... what must we do next? ... and what should South Australia be doing?*

It will be apt timing after two years into his second three year term in his position as Australia's Chief Scientist to reflect on this subject, and we look forward to his address.

Seating is limited (and more restricted than last year), and you are advised to book early using the Registration form enclosed.

*Dr Michael E. Evans*

*Chair, IEEE South Australia Section*

*September, 2004*

## 2004 IEEE SA LECTURE

Dr Robin Batterham AO, Australia's Chief Scientist, will deliver

### Science, Technology and Innovation Challenges for the Next Generation

Friday, 12 Nov 04  
"The Crystal Room", Stamford Plaza Hotel.  
7:00pm for 7:30pm

Information:  
Tim Ferris, [timferris@ieee.org](mailto:timferris@ieee.org)

## Section Committee Members for 2004

### Officers

Chair: [michael.evans@ieee.org](mailto:michael.evans@ieee.org)  
 Vice Chair: [zia.ahmed@ieee.org](mailto:zia.ahmed@ieee.org)  
 Secretary: [timferris@ieee.org](mailto:timferris@ieee.org)  
 Treasurer: [andrew.piotrowski@ieee.org](mailto:andrew.piotrowski@ieee.org)  
 IP Chair: [bevan.bates@ieee.org](mailto:bevan.bates@ieee.org)

### Portfolios

Membership Dev. [andrew.udina@dsto.defence.gov.au](mailto:andrew.udina@dsto.defence.gov.au)  
 Professional Activity [bruce.vyden@dsto.defence.gov.au](mailto:bruce.vyden@dsto.defence.gov.au)  
 Awards [zia.ahmed@ieee.org](mailto:zia.ahmed@ieee.org)  
 Education Activity [hgreen@ieee.org](mailto:hgreen@ieee.org)  
 Publications vacant  
     *WebPage* [Damon.Couper@defence.gov.au](mailto:Damon.Couper@defence.gov.au)  
     *Newsletter* vacant  
 Student Activities [s.gordon@ieee.org](mailto:s.gordon@ieee.org)

### Chapters/Affinity Groups

SigProc/Comms [arek.dadej@unisa.edu.au](mailto:arek.dadej@unisa.edu.au)  
 AP/MTT [hedley.hansen@dsto.defence.gov.au](mailto:hedley.hansen@dsto.defence.gov.au)  
 Control/AES [mark.pszczel@dsto.defence.gov.au](mailto:mark.pszczel@dsto.defence.gov.au)  
 Computer [anup.raghavan@motorola.com](mailto:anup.raghavan@motorola.com)  
 Information Theory [Lars.Rasmussen@unisa.edu.au](mailto:Lars.Rasmussen@unisa.edu.au)  
 GOLD [andrew.piotrowski@ieee.org](mailto:andrew.piotrowski@ieee.org)

### Student Branches

UofSA: [nimrod.lilith@postgrads.unisa.edu.au](mailto:nimrod.lilith@postgrads.unisa.edu.au)  
     [kutluyil.dogancay@unisa.edu.au](mailto:kutluyil.dogancay@unisa.edu.au)  
 UofAdelaide [ksyau@eleceng.adelaide.edu.au](mailto:ksyau@eleceng.adelaide.edu.au)  
     [samuel.mickan@adelaide.edu.au](mailto:samuel.mickan@adelaide.edu.au)  
 Flinders U. [sharmil.randhawa@flinders.edu.au](mailto:sharmil.randhawa@flinders.edu.au)  
     [Jimmy.Li@flinders.edu.au](mailto:Jimmy.Li@flinders.edu.au)

## Membership Development

	31 Jul 03	31 Jul 04
Fellows	2	3
Senior Members	30	29
Members	304	309
Affiliates/Others	36	17
Students	66	59
Other	0	2
<b>TOTAL</b>	<b>438</b>	<b>419</b>

**Congratulations** to Les Doherty who has recently been elevated to SMIEEE. Les is relocating to sunny Queensland and we wish him well in his new surrounds.

**IEEE Nominate a Senior Member Initiative.** This program awards Sections and Societies with \$10 for each successful Senior Member nomination. The details of the Senior Member Nomination Initiative and all applicable forms are available at this Web site:

<http://www.ieee.org/ra/md/sminitiative.html>

**Higher Grade membership** now stands at 279,877 members (July 04), just above the level of a year ago. While this is good news, the bad news is that Region 9 and all six of the U.S. Regions continue to show declines from their 2003 levels. Region 10 continues to have the highest rate of growth and retains the second largest

higher grade membership, and is rapidly closing the gap on Region 6.

Andrew Udina

*Chair, Membership Development*

## Professional Activities

The dates have now been set for TENCON 2005, to be held 21-24 November, 2005 in Melbourne under the leadership of the IEEE Victorian Section. Further information can be obtained at <http://www.tencon2005.org/>

Bruce Vyden

*Chair, Professional Activities*

## Chapters/Branches/Affiliates

### Control, Aerospace and Electronic Systems Chapter

*The HyShot Zuni Demonstrator*, Dr. Ross Paull, from the U. of Queensland was held 30 Jul 04. Ross gave his talk at DSTO and the U. of Adelaide to large and enthusiastic audiences.

Colin Martin, Chief of Air Operations Division, Melbourne delivered *Harry Hawker and the Spin!*, 14 Sep 04, U of Adelaide.



Stephen Bourn will deliver a talk on his new wing-borne hydrofoil concept on 6 Oct 04.

The IEEE CAES has an active program of technical meetings co-sponsored with AIAA Adelaide Section in aerospace. If you would like to be put on the mailing list for future meetings please contact me.

*Dr Mark Pszczel*

Chair, CAES Chapter

### Communications and Signal Processing Chapter

#### IEEE Distinguished Lecturer Visit

On 20 August, the C&SP Chapter hosted a DLT series lecture by Professor Andrzej Jajszczyk of the AGH University of Science and Technology, Krakow, Poland. Professor Jajszczyk's current research interests focus on control plane architectures for transport networks, quality of service and network reliability. His past and present positions with IEEE Communications Society include, among others, the editor-in-chief of the IEEE Communications Magazine, and (currently) the IEEE ComSoc Director of Magazines. The lecture on "Next-Generation Networking: Solutions and Challenges" attracted approximately 75 audience from the local SA universities and industry.

#### Region 10 ComSoc Chapter Chairs Meeting, Beijing

C&SP Chapter Chair, Arek Dadej, attended the AP Region ComSoc Chapter Chairs meeting in Beijing, PRC, on the 28th of August. The meeting was well attended by the representatives of ComSoc Chapters from around the region. It was also attended by the ComSoc President Curtis Siller, Vice-President,

Membership Development, Alexander Gelman, Director, Membership Programs, Pierre B. Perra, the entire AP Board with the APB President Prof. Iwao Sasase, and the Singapore Office Manager Ms Fanny Su. From "our corner" of the region, the meeting was attended by Arek Dadej from SA Chapter, Peter Wills from Victoria Chapter, and Kevin Sowerby from NZ (North and South) Chapters.

The meeting was a very interesting and valuable opportunity to reflect on the ComSoc activities across the diverse AP region, and to meet in person the ComSoc colleagues usually known only from correspondence via e-mail. Among matters discussed were the recent activities of ComSoc and its AP region chapters, membership status and future trends, need to attract new members from within the consumer electronics industry, current and future membership services, and the need to balance the ComSoc budget. The meeting was the last AP Region ComSoc chapters meeting for the next few years, because it has been decided that the regional ComSoc chapters meetings will be replaced by more frequent global meetings. It is expected that this will promote better level of integration of ComSoc activities globally, and at the same time be more cost-efficient. More information about the meeting will be available soon via the AP Region www site.

*Dr Arek Dadej*  
Chair, C&SP Chapter

#### **Student Branch, Flinders U.**

A Final Year Student Dinner is planned for 3 December 2004.

*Sherry Randhawa*  
President

#### **Student Branch, U. of Adelaide**

Activities planned for the remainder of the year include:

*September:*

- LaTeX guide distribution
- Annual General Meeting, Thursday 16, September

*October:*

- EEESAU t-shirt
- EEESAU BBQ semester 2

*November:*

- Final year Dinner 28 Nov 04, Ayers House

*Bobby Yau*  
President

*Dr Sam Mickan*  
Branch Counsellor

<http://www.eleceng.adelaide.edu.au/eesau/>

## **NEWS**

### **IEEE Microwave Theory and Techniques Society Graduate Fellowships for 2005**

\* Up to six \$6,000 fellowships will be awarded in 2005 for Graduate Research studies in microwave engineering on a full-time basis

\* Applicants must have attained high academic achievements in engineering or physics

\* Award are for the sole use of the student and are granted in addition to any other support received by student

\* Applicant and Faculty supervisor must be MTT-S members

\* There are NO citizenship restrictions

\* There are NO restrictions as to country of residence/study

\* Odds of winning the fellowship were approximately 1 in 4 in 2004

\* A Drexel Microwave Photonics Fellowship is available to applicants working in the area of microwaves and optoelectronics. Specifics for this award are the same as for other MTT Graduate Fellowships

Application Deadline: 30 November, 2004

For application forms and eligibility requirements please check out the IEEE MTT-S Home Page at <http://www.mtt.org/> and follow the link to "Education" and "Graduate Fellowship"

or contact:

Dr. Aditya Gupta  
ANADIGICS, Inc.  
141 Mount Bethel Road  
Warren, NJ 07059, USA  
Phone: 908-668-5000; ext. 5237  
email: [a.gupta@ieee.org](mailto:a.gupta@ieee.org)

### **IEE Retired Engineers Group**

Date: Wednesday 6<sup>th</sup> October,

Venue: Room S127, Engineering South Building, University of Adelaide.

1.00 pm following an optional lunch for members and guests in the University Staff Club at 12.00 noon.

Speaker: Prof Mike Brooks will present a talk on: *Some Recent Developments in Computer Vision*. This talk will survey some of the computer vision research undertaken in recent years in the School of Computer Science. It will highlight progress in video surveillance, recovery of 3D scene information from images, and various commercial applications. A brief review of PhD projects will outline work in areas such as video synchronisation, computation of surfaces from rangefinder data, and space carving. Some future directions will be indicated. Prof Mike Brooks holds the University of Adelaide Chair in Artificial Intelligence and has spent his research life studying problems in computer vision. He carries a distinguished international reputation, having contributed major works in areas such as shape from shading, estimation of vision parameters, and video surveillance. His research has seen significant commercial exploitation, with a resultant patent, awards and worldwide sales. Prof. Brooks has served on ARC Large Grants committees for 8 years, and since 1991 has led the Image Analysis Program of the CRC for Sensor Signal & Information Processing, and held continuous ARC funding. He is a Fellow of the Australian Computer Society.

RSVP: Keith Rendell 8380 5146, [fibonacci@esc.net.au](mailto:fibonacci@esc.net.au)

## IEEE RAB 2003 Outstanding Small Section Award

Following the announcement of the Outstanding Small Section award, the SA Section has received a number of letters of congratulation from around Australia, Region 10, and in fact the world, including from the 2003 RAB Outstanding Large Section, (Long Island) Chair Dave Mesecher.

(reprinted from DSTO *Connections*)

*The Institute of Electrical and Electronics Engineers (IEEE) has declared its South Australia Section to be its "Outstanding Small Section for 2003".*

*The Section was chartered in 1985 under the leadership of former DSTO research leader (and current consultant) Don Sinnott. Don and other senior DSTO staff have played a leading role in the Section's development ever since.*

*In congratulating the group, Vice President IEEE Regional Activities, Marc Apter wrote: "This is the first year for this Award, so it is a double honour to be the winning Section."*

*"We were particularly delighted to receive this award, especially since the Section did not submit a nomination," says Michael Evans (WSD), SA Section Chair. "IEEE Region 10, which covers from Korea in the north to Pakistan in the west, made this nomination on our behalf - and without telling us!"*

*The SA Section was an underwriter of the recent RADAR 2003 conference in Adelaide and hosted the IEEE Region 10 meeting earlier this year. The Section's 2003 Distinguished Lecture was delivered by Defence Secretary Ric Smith, who addressed the topic "Defence Challenges for the Future".*

*On hearing of the Award, Secretary Ric Smith added his congratulations on "a wonderful achievement which is a reflection of the commitment and efforts made by ... volunteers to the IEEE South Australian Section."*

### Members of the IEEE SA Section Executive.

**Left to right: Andrew Piotrowski (EWRD, Treasurer), Michael Evans (WSD, Chair), Zia Ahmed (EWRD, Vice Chair) and immediate past Chair Bevan Bates (Head Strategic Programs, SSL). Inset: Tim Ferris (U. of SA, Secretary)**



## JOINT TECHNICAL PROGRAM 2004 - *Electrical and Electronic Engineering*

- 21st September **THE SENSE OF SMELL AND ARTIFICIAL NOSE TECHNOLOGY**  
Host TSA Mr Richard Gawel, Recognose Pty Ltd  
A look at the sense of smell. It is a system that rivals the best in terms of sensitivity and range, and as such, designing artificial systems to mimic it is a hotbed of research.
- 19th October **SA WATER MINI-HYDRO**  
Host IEE In association with Hydro Tasmania, SA Water has installed a mini-hydroelectric power station in Adelaide's north-eastern suburbs. More mini-power stations are planned for the future.
- 26th October **STUDENT PAPERS NIGHT**  
Host IEEE Students from our three universities present their final year projects whilst competing in the IEE Australia Technical Papers Presentation Prize Competition. IEEE Student Subject prizes will also be presented at this meeting.

Chapman Hall, Engineering House, 11 Bagot Street, North Adelaide, Light tea commences at 5:30 pm and the meeting at 6:15 pm