



# United Kingdom & Republic of Ireland

March 2001

News

Issue Number 31

## **Outstanding Engineer Award:**

Loi Lei Lai received the IEEE Power Engineering Society (PES) United Kingdom and Republic of Ireland (UKRI) Chapter Outstanding Engineer Award at the IEEE PES Chapter Meeting held on 16 November 2000 at City University London, UK. This prestigious award is to recognise his outstanding professional and leadership contributions to the power engineering profession, and the citation is 'For Outstanding Contributions in the UKRI Chapter in Organising the International Conference on Electric Utility Deregulation and Restructuring, and Power Technologies 2000'.

This is the second time the award has been made by the IEEE UKRI Power Engineering Chapter since the PES Executive Board established the award in 1994. Lai is with City University London, UK.

The plaque was awarded to recognise his outstanding professional and leadership contributions to the power engineering profession in organising a first time International Conference, for significant contributions to the UKRI Chapter community representing the power engineering profession, and for service to both the Power Engineering Society and IEEE student recruitment.

Internationally, Dr Lai has worked with many academic and industrial researchers. He is active in the Intelligent Systems Subcommittee in Power System Analysis, Computing and Economics Committee of the IEEE Power Engineering Society. He is also Student Recruitment Co-Officer for the IEEE UKRI Section. He was a Research Professor at Tokyo Metropolitan University and is also an Honorary Professor at the North China Electric Power University, Beijing.

Significant professional activities include his contributions to organising many international conferences in power engineering and evolutionary computing. He is a Ph.D. external examiner for several universities in the UK and abroad. He has extensively lectured overseas.

*Lai graduated from the University of Aston in Birmingham with a B.Sc. (First Class Honours) and a Ph.D. degree in 1980 and 1984, respectively. In 1984, he was appointed Senior Lecturer at Staffordshire University. From 1986 to 1987, he was a Royal Academy of Engineering Industrial Fellow to both GEC Alsthom Turbine Generators Ltd and Engineering Research Center. He is currently Head of the Energy Systems Group and Reader in Electrical Engineering at City University London.*

*T. J. Hammons*

## **Standing Room Only !!!**

On the 28th November 2000 the Scottish Chapter held its third and last technical meeting for the year 2000. The attendance seems to be growing with each meeting to such an extent that Analog Devices new design center in Edinburgh city center was only just able to cope with the audience.



*Loi Lei Lai (right) receives the 2000 IEEE PES UKRI Chapter Outstanding Engineer Award from T. J. Hammons (left), UKRI Chapter Chair.*

Jon Strange of Analog Devices gave a talk on 'A Direct Conversion Transceiver for Multi-band GSM Applications'. The technology presented formed the basis of the Othello chipset, which won the Electronics Products magazine 'Product of the Year' 1999 award.

It was an extremely interesting talk appreciated by an audience drawn from both industry and academia. Jane Jackson, the Secretary of Scottish chapter, who seems to be taking the challenge of providing more engineers in Scotland rather personally, made all arrangements for a splendid evening.

*Jim Brown*

European Business Manager  
Analog/Mixed Signal/RFIC Design  
Tality UK Ltd

email: [jbrown@tality.com](mailto:jbrown@tality.com)

## **Inside:**

**Dr Robert Hawley CBE, DSc, FRSE FEng**  
Chairman of Taylor Woodrow plc and the Engineering Council

**to present the IEEE UKRI Section Lecture  
for 2001**

**"Making the Best of Valuable  
Engineering Talent"**

Lecture and AGM

Wednesday 14<sup>th</sup> March, IEE, Savoy Place.  
All students, members and guests welcome.

**AND**

**Isn't It Time You Upgraded Your  
Membership ?**

## From the Section Chair:

The UKRI (United Kingdom and Republic of Ireland) Membership at the end of December 2000 (excluding approximately 1500 Affiliates) was 7342 (compared with 6561 in 1999 and 5976 in 1998). Of these Members, 816 were Students (compared with 735 in 1999 and 769 in 1998). This represents an increase in Total Section Membership (excluding Affiliates) of 12% over the past 12 months and 11% for Students.

With GOLD (Graduates of the Last Decade) there has been problems of filling membership positions. More effort is being made to contact these members and provide a service to them.

The Section now publishes and distributes a Newsletter twice a year. Indications in the Section are that the Newsletter is well received and is what is required. The success of distributing the newsletter is noticeable with contact being made that would not occur in any other easy way. The effort required is high with over 7300 Members. Good management and experience is required to manage mailing list inconsistencies.

WWW information for Section Members is being maintained and constantly updated. In particular:

- WWW details of Section activities by date and activity type (<http://www.ieee.org.uk>)
- Email contact with individual Chapter members and the Section.

The Section is regularising and training its Executive Membership by developing documentation and procedures that aid others learning the role. This is being done through the present officers and experience of previous Chairs.

The number of Chapters has stayed more or less constant (19) but there has been a marked increase in the number of Technical meetings each Chapter in good standing has held. Of particular note, several Chapters held more than 10 meetings. New Chapters are being considered where a need is found and there are sufficient members of the UKRI Section in the Society to keep it viable.

Ties with the national professional body in the UK (Institution of Electrical Engineers) have enabled joint meetings to be held and costs to be shared. Recently the UKRI has become the lead professional organisation at PREP2001 that provides a forum for EE students to present postgraduate papers. The event is sponsored by the UK's funding council and will provide a high profile venue for the IEEE.

The UKRI Section is attempting to improve its contact with industry through its officers.

A further activity has been finalising the arrangements for the IEEE Region 8 (Europe, Middle East and Africa) meeting in Edinburgh, Scotland, August 31-September 2, 2001. Six Hotels were approached, inspected, and submitted estimates. Venues for visits and the dinner, etc., have been identified and estimates obtained. It was decided the Conference would be held at the Edinburgh Hilton Belford Hotel, that there would be visits on the Saturday afternoon to Hopetoun House and Holyrood House, and that the venue for the Dinner would be Edinburgh Castle on the Sunday evening (September 2). All of these have now been booked.

Industrial visits are being considered and these will probably take place on the Monday. A workshop on the facility 'IEEE Xplore' coincident with the Meeting is being considered.

Certificates of Appreciation (year 2000) have been awarded to the Chairs of 12 High Performing Chapters having four or more Meetings, and to 7 Junior Officers for High Performance of their Duties (G. H. Byford, James Christie, Tony Davies, Brian Harrington, Jeremy Newberry Roland Saam, and Robert C. Winton). In addition, the UKRI Section Volunteer Award for 2000 has been awarded to the Section Secretary Gordon Dodds.

Dr. Tom Hammons

UKRI Section Chair

Chairman's report is based on Dr. Hammons report to the Region 8 Committee in Seville [March 2nd to 4th 2001].

## Isn't It Time You Upgraded Your Membership ?

The process of upgrading your IEEE membership to Senior Member has been greatly simplified. Much of the former 'mystique' that became associated with this procedure is now removed.

The process can be carried out on-line using the main IEEE web-site based at the IEEE offices in Piscataway NY.

<http://www.ieee.org>

All documents for applicants and supporters are here.

For those members that may find difficulty with the process, or are unable to locate IEEE members of appropriate standing to support their application, UKRI e-mail contacts are given below to provide assistance.

....a **candidate** shall be an engineer, scientist, educator, technical executive or originator in an IEEE-designated field. The candidate shall have been in professional practice for at least ten years and shall have shown significant performance over at least five of those years.

In order to qualify for Senior Member status, an individual must also provide three references from IEEE members of Senior Member, Fellow or Honorary Member grade.

IEEE-designated fields: These fields of endeavour are defined by the areas of technical interest included in the 37 technical Societies / Councils that are part of IEEE; that is the local 'Chapters' or specialist interest groups.

Many prospective applicants make the mistake of assuming that *significant performance* requires special awards, patents or other extremely sophisticated accomplishments; such is not the case. Substantial job responsibilities such as team leader, task supervisor, engineer in charge of a programme or project, engineer or scientist performing research with some measure of success (published papers), or faculty developing and teaching courses with research and publications, are all indications of significant performance.

**Assistance:** Roland Saam

[r.saam@ieee.org](mailto:r.saam@ieee.org)

Past UKRI Section Chair

Gordon Dodds

[g.dodds@ee.qub.ac.uk](mailto:g.dodds@ee.qub.ac.uk)

UKRI Section Secretary

Simon Jones

[s.r.jones@lboro.ac.uk](mailto:s.r.jones@lboro.ac.uk)

UKRI Vice-Chair.

## ***New Initiatives:***

The EMS (Engineering Management Society) Chapter held an inaugural meeting at King's College on March 15th 2000 in conjunction with the UKRI Section where a lecture on 'European Electricity De-Regulation and Restructuring' was given by Dr. Nigel Burton from Deutsche Bank.

An amalgamation with the Professional Communications (PC) Chapter was made later in the year to exploit the common interests of the two groups. The first meeting of the new joint Chapter was held at King's College on December 14th. Professor Charles Turner gave a talk on 'Managing Your Career in the New Economy'.

Our aim is to have an active programme of events during 2001. We would like to hear from members interested in further developing the activities of this new joint Chapter.

*Charles Turner: Acting EMS / PC Chair.  
c.turner@ieee.org*

The new joint UKRI Chapter of the CPMT and Reliability Society was formed on January 30th.

Committee members will be: Tony Corless (Secretary), Nihal Sinnadurai (Chairman), John Barrett (Representative for Ireland) and Charles Free. Other volunteer members are expected to join the Committee.

The IEEE CPMT & Reliability Society of UKRI will work closely with IMAPS-UK and IEEE globally to ensure that members are served with relevant events without dilution by unnecessary competition with like minded organisations.

*Nihal Sinnadurai  
sinnadurai@aol.com*

## **CIRCUITS AND SYSTEMS CHAPTER**

### **Recent Advance on Circuit and Interconnect Simulation for Deep-Submicron IC Design**

**Professor Ernest S Kuh, Fellow of IEEE  
UNIVERSITY OF CALIFORNIA, BERKELEY**

**5.00 pm, Thursday 22 March 2001**

**Gabor Room, Level 6 (Room 611)  
Department of Electrical and Electronic Engineering  
Imperial College, Exhibition Road, London SW7 2BT  
Coffee will be available from 4.30 pm.**

The Spice Simulator which was first introduced 30 years ago is still the dominating circuit simulator used throughout. It is slow and clearly not suitable to handle large deep-submicron circuits. During the past decade a number of efficient simulators have been developed, primarily based on the moment matching technique. However, these methods have not been extensively used in industry because they cannot meet the stringent accuracy requirement.

The talk will review some of the recent work and especially the moment matching method and moment computation. A new method based on orthonormal basis function will be introduced. The method works well because it gives an optimal series match in both the frequency domain and the time domain. Furthermore, it can be related to moment matching and takes advantage of the moment computation algorithms. Preliminary results indicate that the method yields highly accurate results on coupled transmission lines. For further information contact:

*Prof. Vedat Tavsanoglu  
IEEE CAS Chapter Chairman  
Phone: 020 7815 7526  
tavsanav@sbu.ac.uk*

## **AGM Lecture 2001**

### **Making the Best of Valuable Engineering Talent**

**By Dr Robert Hawley CBE, DSc, FRSE FREng,**

Chairman of Taylor Woodrow plc and the Engineering Council

6.30pm, Wednesday 14<sup>th</sup> March, IEE, Savoy Place, London

UKRI IEEE AGM Beforehand Starting at 5.30pm

(Tea and Biscuits 6:00 pm)

#### **Synopsis:**

Making the Best of Valuable Talent - for individuals, industry, professional and educational bodies - all are vital for future wealth creation. Finding ways to realise the potential of that talent, in a world in which knowledge and technology change faster than ever before, is a challenge that has to be met.

The "Hawley Group" worked on this challenge over two years, directing their research towards the wider engineering and technology community, - covering new technology companies, the engineering institutions, academic bodies; trade associations and many others. The result is an approach that embraces the needs of the wider community rather than simply focusing on the engineering profession. The approach is a step-change that will add value by:

- Helping to link the skills and know-how of the "old" and "new" economy
- Identifying the skills that industry will require in future
- Improving the links between business and universities
- Helping individuals and industry to keep pace with changing knowledge

As a result of this work, a new "Engineering and Technology Board" has been created which provides an opportunity for the engineering sector to remain in the forefront of global wealth creation.

Dr Gordon Dodds, Tel: 02890 274512, [g.dodds@qub.ac.uk](mailto:g.dodds@qub.ac.uk) [UKRI Section Secretary]

## Control Chapter Activities:

The Control Chapter is planning to hold a one day workshop on 'Advanced Robustness Analysis Tools for Aerospace Applications' in July 2001. The workshop will be held at the University of Leicester. If you are interested in attending or contributing, please e-mail the Chapter Chair, Dr. Sarah Spurgeon, [eon@le.ac.uk](mailto:eon@le.ac.uk) expressing your interest and you will be kept informed of further details nearer the date.

*Sarah Spurgeon*

## Communications Society Chapter:

The Sixth International Symposium on Communication Theory and Applications **ISCTA'01** will be held at Charlotte Mason College, Ambleside, Lake District on July 15th—20th. This is sponsored by IEEE, IEE, HW Communications Ltd. and Advanced Hardware Architectures Inc.

The major objective of the Symposium is to pursue the progression from communication and information theory through to the implementation, evaluation and performance of practical communication systems of various types.

There will be sessions on wireless networks, software radio and reconfigurability, error control coding, decoding algorithms, modulation, detection and synchronisation, source coding, security, sequences, signal processing for communications, and other topics. There will be a tutorial on the latest applications of turbo codes.

For information, registration, and details see:

<http://www.hwcomms.com/conferen.htm>  
<http://www.dcs.lancs.ac.uk/conferences/iscta01>

Or Mrs Janet Wiggins on 01524 592121  
[j.wiggins@lancs.ac.uk](mailto:j.wiggins@lancs.ac.uk)

## Signal Processing:

The SPC Chapter held a meeting on '**Speech Recognition based on Fractal Dimension Techniques**' by Professor Marwan Al-Akaidi at the University of Sterling, Scotland on December 1st. A further meeting was held at De Montfort University, Leicester on February 28th on '**3-D Image Processing: The Way Forwards**' and given by Dr. Amar Aggoun. For details of further planned events contact:

*Professor Marwan Al-Akaidi*  
 Professor of Digital Communications and Signal Processing  
 De Montfort University  
[mma@dmu.ac.uk](mailto:mma@dmu.ac.uk)

## EMBS:

The 'Engineering in Medicine and Biology' Chapter is very active under the Chairmanship of Dr. GZ Yang. Some six meetings were held in 2000 including a meeting at Imperial College on 'Respiratory Motion Compensation for 3D Free-hand Echocardiography'. For further details of EMBS activity contact:

*Roland Saam*  
 EMBS Chapter Secretary  
[roland@microman.co.uk](mailto:roland@microman.co.uk)



## POWER ELECTRONICS SOCIETY

### UKRI IEEE POWER ELECTRONICS CHAPTER

**WEBSITE:** The UKRI PELS Chapter website should now be active.

<http://www.ieee.org.uk/chapter.html>  
**why not have a browse?**

There is an urgent need to assess the way forward to ensure Chapter survival and to best serve the members needs and wishes. The website has a feedback form that will let the present committee know your views and more importantly if you would be willing to serve on the committee. **Please take a few minutes to complete and send back.**

Feedback re two meetings under consideration and an indication of possible attendance would be appreciated.

1. Joint EMC & PELS Chapters morning/afternoon meeting on **Wednesday 19<sup>th</sup> September 2001**  
**"Line Current Harmonics and Emissions"**  
 EMC Chapter contact: Roy Ediss  
[roy.ediss@philips.com](mailto:roy.ediss@philips.com)
2. **"The all electric ship"** speaker from MOD.  
 Date and Venue to be confirmed.

*Robert Kennedy*  
 PELS Chapter Chair  
[rtkennedy@plymouth.ac.uk](mailto:rtkennedy@plymouth.ac.uk)  
 phone: 01752 232593

## Power Engineering Events:

**March 13, 2001:** Apollo Suite, 127-129 Cockfosters Road, Cockfosters. 'The Application of Micro-Turbine Generators to Distributed Power Generation', Professor Colin Besant PhD FEng FIEE FIMEchE (Imperial College), 7:00 pm (coffee and sandwiches 6:30 pm). Co-sponsored with IEE.

**March 14, 2001:** Maple Room, Fairfield Halls, Park Lane, Croydon. 'Control and Instrumentation in the Power Industry', David Lindsley FIEE, FIME, SMISA (Consultant), 7:30 pm (coffee, tea and sandwiches 7:00 pm). Co-sponsored with IEE.

**July 1-6, 2001:** University of Northumbria at Newcastle-upon-Tyne; Ninth Vacation School in HV Engineering and Testing; (co-sponsored with IEE and British National Committee CIGRE); details from Mr Derek Kenneally, Professional Network Manager, IEE, Savoy Place, London WC2; [dkenneally@iee.org.uk](mailto:dkenneally@iee.org.uk) or Professor Hugh Ryan, The Coach House, 31 Low Gosforth Court, Melton Park, Newcastle-upon-Tyne NE3 5QU.

**September 12-14, 2001:** 36th Universities Power Engineering Conference (UPEC 2001), University of Wales at Swansea, co-sponsored with UPEC and IEE.

**September 12, 2001:** Chapter Administrative Committee Annual Meeting, University of Wales at Swansea, (co-incident with 36th Universities Power Engineering Conference (UPEC 2001)).

*T. J. Hammons*  
 Chair, Power Engineering Chapter  
[T.Hammons@ieee.org](mailto:T.Hammons@ieee.org)