

# EEUG News

The newsletter for the Educational Electronic Computer Aided Design users

Volume 17 N<sup>o</sup> 2 June 2004 Editor: Robert Self [rpsself@essex.ac.uk](mailto:rpsself@essex.ac.uk)

## News from the ECAD Educational User Group Committee

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## 1. Introduction

Welcome to this issue of the EEUG Newsletter. The main work at the moment is in the preparation for the Autumn 2004 workshop at Loughborough University in September. We hope to see everyone there. Please make the effort to attend and to register as soon as possible. The workshop programme is developing and is being updated as the organisation continues.

## 2. Workshop 2004 (1) – additional call for contributions and registration

Thanks to those who have indicated their interest in the Workshop this year, but we are still looking for oral presentations and demonstrations. We set the deadline this year for the 30<sup>th</sup> June, but will still be able to include submissions after this date. As usual, we do look for good support from the EEUG Community. This year, a good mixture of both teaching and research activities would be of interest.

If you are intending to attend the workshop, we do need to know as soon as possible the number of attendees. The registration form is attached to the end of the newsletter and is also available on the EEUG Website. Can you either register with Richard Walters, or email him your intention to register as soon as possible.

## 3. EEUG Flyer

Recently, we have just sent out, via letter, information relating to the EEUG. Specifically, we have created an "advertising" flyer for the EEUG activities and enclosed this with a covering letter and a "Call for Contributions" for the September workshop. Where we have contact information and addresses for members, we have sent out a set of information (to keep the costs down) to one person in that Institute with the hope that the information can be disseminated to everyone interested. Unfortunately, we do not have full current mail addresses for everyone and if anyone has not received the information pack, please contact either

myself or any other member of the committee.

#### **4. Contributions to the Newsletter**

We would like to invite articles from the EEUG community on aspects of teaching and learning, along with suitable research activities, for publication in the newsletter. Articles to be a maximum of 1 page in length. Please forward any articles for the January 2005 newsletter by the *end of December 2004* to the Chair (Ian Grout).

#### **5. Low-Voltage Digital ICs in a Teaching Lab**

At Southampton, all our standard electronic laboratory exercises on digital logic use 5V technology. Signal sources and monitoring arrangements are all 5V “TTL” compatible. Everything is straightforward, well-understood, easy to use, and thoroughly debugged.

But technology marches on, particularly where programmable logic is concerned. If we want our students to experience FPGAs and CPLDs that are moderately state-of-the-art, then they can’t drive the IC pins directly from TTL sources, while the IC output HI voltages aren’t necessarily high enough to be recognised by TTL-compatible loads. The opportunities for damage are also significant – and far from theoretical.

One way out of the bind is to use only full-featured experimenter boards from the IC manufacturer or associated company. Such units incorporate switches, LEDs and other ports/devices, and only need a mains power unit and download cable to allow a range of designs to be implemented and tested. Of course, the suppliers’ ideas of what sort of exercise one might want to carry out can often be rather different from those of the course leader, and sometimes

owe more to the needs of an impressive stand at a trade show than anything else. In extremis, one can design and build one’s own experimenter unit, which is usually a fairly expensive option.

Another alternative is to hang on to existing hardware. This can be scuppered two ways. First, it can be difficult or impossible to obtain new supplies of the 5V ICs should they get zapped by faulty connections or accident. Second, it is not uncommon for new versions of design software to drop support for obsolete devices.

A final aspect is that many teachers of electronics – including myself – like students to do a certain amount of construction, actually wiring things up for themselves to an extent. With ICs which aren’t easily or cheaply socketed, at least some pre-assembly work has to be done for the student, with the IC soldered onto a “breakout” unit with pin headers or some other interconnection scheme. Protective (and sacrificial) buffering can be incorporated onto this breakout unit to minimise costs should student wire things up wrongly. Even so, the design of such units is not necessarily straightforward if they are to have maximum flexibility of application.

I am sure it is not just at Southampton that these issues are a concern. To give them an airing – along with some suggestions on ways to go forward – I will be offering an EEUG Workshop presentation on this topic to the Committee. So that this can be as useful as possible, I am putting this note into the newsletter to solicit views and experiences from others. All suggestions, reports of experiences and ways of working will be gratefully received and duly acknowledged.

*Tim Forcer, University of Southampton*

## 6. EEUG Website

<http://www.eeug.org.uk>

## 7. Treasurer's Report

June 2003 – June 2004

The EEUG accounts balance as of the last committee meeting (21<sup>st</sup> April 2004) was:-

- Deposit Account £1368.43
- Current Account £1062.27

This year, the registration fees for the Autumn Workshop will remain the same as for last year.

## 8. Committee Members

The current committee members are:-

Chair	Ian Grout (University of Limerick, Ireland)
Vice-Chair	Stephen Dickinson (Lancaster University, UK)
Treasurer	Richard Walters (London Metropolitan University, UK)
RAL Liaison Officer	Robert Self (University of Essex, UK)
Secretary	Vacant position
Information Officer	Vacant position

## 9. Call for New Committee Members

Both the Committee Chair and Treasurer are due to step down from the committee in March 2005. We need replacements for the following committee members:-

- Chair (from March 2005)
- Treasurer (from March 2005)
- Secretary (immediately)
- Information Officer (immediately)

If anyone is interested in joining the committee in the above posts, please contact the Chair (email: [Ian.Grout@ul.ie](mailto:Ian.Grout@ul.ie)) for further information.

## 10. Upcoming events

- 7<sup>th</sup> Biennial Analog Signal Processing Conference, Wednesday 3<sup>rd</sup> November 2004, Oxford Brookes University, Oxford, UK. For details, email: [analogsignalprocessing@brookes.ac.uk](mailto:analogsignalprocessing@brookes.ac.uk)
- IEEE IC Test Workshop, 13<sup>th</sup>-14<sup>th</sup> September 2004, University of Limerick, Ireland, <http://www.ece.ul.ie/ictw>
- Remote Engineering and Virtual Instrumentation Symposium, Rev 2004, 28-29 September 2004, Villach, Austria, <http://www.cti.ac.at/online-lab/rev/>
- EEUG Autumn Workshop, 7<sup>th</sup> – 8<sup>th</sup> September 2004, Loughborough University, UK. <http://www.eeug.org>
- 3rd IFAC Symposium on Mechatronic Systems, September 6-8, 2004, Manly Beach, Sydney, Australia. <http://mechatronics2004.newcastle.edu.au/mech2004/>
- 9th Mechatronics Forum International Conference, (Mechatronics 2004), August 30 - September 1, 2004, Culture & Convention Centre, METU, Ankara, Turkey. <http://mechatronics2004.newcastle.edu.au/mech2004/>
- Mechatronics and Robotics 2004,

Aachen, Germany, 6th – 10th  
September 2004.  
<http://www.mechrob.de/>

- Frontiers in Education Conference 2004, Savannah, Georgia, USA, 20th – 23rd October 2004, <http://www.fie-conference.org/04/>
- LTSN Engineering events calendar. <http://www.ltsneng.ac.uk/nef/events/index.asp>
- IEE Calendar of events. <http://www.iee.org/Events/Calendar>

## 11. Autumn Workshop 2004 - Call for AGM Items

If anyone has an item for the AGM agenda, please forward it to the Chair by 31<sup>st</sup> August 2004 (email: [Ian.Grout@ul.ie](mailto:Ian.Grout@ul.ie)).

## 12. Autumn Workshop 2004 (2)

### Call for Contributions

*“Applying ECAD - hardware choices for teaching exercises”*

Loughborough University, UK

7<sup>th</sup> – 8<sup>th</sup> September 2004

Within the engineering disciplines, the role of ECAD is critical to the teaching and learning experience. As electronic systems become ever more complex, the need for the user to deal with circuit and system level simulation and the potential for simulation results to become distant from the real operation has to be adeptly dealt with. Approaches and strategies for encouraging validation, while ensuring that real operation isn't ignored, is key to this. In addition, as the ECAD toolsets themselves become more complex to deal with the types of circuit/system

encountered, the potential danger that the learning experience becomes a vendor specific tool training exercise, must be dealt with. Transferable ECAD skills (the need to produce graduates with experience of commercial tools vs the learning time and effort required to inculcate those skills with complex modern suites of software) is a problem for the educators.

The EEUG Autumn Workshop 2004 is to be held on the 7<sup>th</sup>-8<sup>th</sup> September 2004 at Loughborough University. Contributions are sought from those involved in (or have planned involvement in) ECAD teaching and research activities, in particular (but not exclusively):

- Developing courseware incorporating ECAD.
- Hardware/Software co-design.
- PCB/IC/MCM/MEMs teaching experiences.
- University based ECAD development.
- Activities in National and European based Educational research activities and projects.

### Directions to Loughborough University

Travel details to the University by road, rail or air can be found on the University travel page:-

Travel to Loughborough University  
<http://www.lboro.ac.uk/about/findus.html>

### Internet Resources

EEUG Web Site  
<http://www.eeug.org.uk>  
Loughborough University  
<http://www.lboro.ac.uk/>  
LTSN Engineering  
<http://www.ltsneng.ac.uk/>

## Provisional Programme (June 2004)

<b>Tuesday 7<sup>th</sup> September</b>		
4.30pm – 7.00pm	Registration	
7.00pm – 8.15pm	Evening Meal	
8.30pm – 9.30pm	Industry Presentation	Steve Collis, Mentor Graphics, Newbury, UK

<b>Wednesday 8<sup>th</sup> September</b>		
7.30am – 8.30am	Breakfast	
8.45am – 9.20am	Registration	
9.30am – 10.45am	Morning Session (1): Oral Presentations	
10.45am – 11.15am	Coffee break and Demonstrations	
Morning Session (1) 11.15am – 12.30pm	Morning Session (2): Oral Presentations and LTSN Engineering Update	
Lunch 12.30pm – 2.00pm	RAL Roadshow and Demonstrations	
2.00pm – 2.25pm	EEUG AGM	
2.25pm – 2.50pm	EDEC Consortium Update	
2.50pm – 3.15pm	RAL Microelectronics Support Centre update	
3.15pm	Close of Workshop	
3.15pm – 3.45pm	Afternoon Tea	

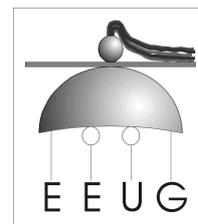
### Workshop Costing

Overnight rate	(incl. evening meal and room on day 1, along with breakfast, lunch and refreshments on day 2)	£90
Day rate	(incl. lunch and refreshments on day 2)	£50

Payment by cheque or company invoice. Cheques to be made payable to **EEUG**

# EEUG Workshop 7-8<sup>th</sup> September 2004

## LTSN Engineering, Loughborough University - Registration Form



Please complete all sections below and return to:

Dr. Richard Walters, EEUG Treasurer,  
CCTM, London Metropolitan University- North Campus, 166-220 Holloway Road, London, N7 8DB,  
UK

Email: [r.walters@londonmet.ac.uk](mailto:r.walters@londonmet.ac.uk)

Surname: \_\_\_\_\_ Style: (Dr/Mr/Miss etc) \_\_\_\_\_

Forename: \_\_\_\_\_ Sex: Male / Female

Organisation: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

County: \_\_\_\_\_ Country: \_\_\_\_\_

Postcode: \_\_\_\_\_ Email: \_\_\_\_\_

**Attendance Details:** (Please tick as appropriate)

I will be attending on both 7 <sup>th</sup> and 8 <sup>th</sup> September and will require overnight accommodation (Total cost £90.00 : includes evening meal, accommodation, breakfast, lunch and refreshments).	
I will be attending only on 8 <sup>th</sup> September (Total cost £50.00: includes lunch and refreshments).	

**Payment Details:**

Enclosed Cheque		Company Purchase Order	
Order/ Cheque Number: _____			

Please indicate any special dietary or other requirements in the space below, e.g. Vegetarian meals, wheelchair access, etc.

**Cancellation Policy:**

The EEUG reserves the right to charge an administration fee of 25% for cancellation after 31<sup>st</sup> August, and 100% for un-notified non-attendance.

Further details concerning the workshop can be found at the EEUG website (<http://www.eeug.org.uk>)