

Upcoming Events & Seminars

Medical imaging at the University of Cape Town - addressing public health threats in South Africa

Speaker: Tania Douglas, Associate Professor of Biomedical Engineering, University of Cape Town
Date: 14th May 2010
Time: 12.30pm
Venue: Printing House, TCD

8th International Conference for Cellular Engineering ICCE

Trinity College Dublin
June 10-12th 2010

Postgraduate Summer School

Trinity College Dublin
June 21st – 22nd 2010

Recent Seminars

'Insect behaviour, complex worlds from simple systems'

Speaker: Dr Alice Witney
Department of Physiology
Trinity College Dublin

For next month's edition:

If you have any submissions you would like to make to the next month's edition please email to tcbe@tcd.ie. We welcome all news including journal publications, presentations at conferences, industrial or clinical collaborations, awards and research grants and new members to the teams.

Message from the Director

Congratulations to Professor Clive Lee on being awarded his ScD. based on his publications. I would also like to congratulate Dr. Ciaran Simms and Dr. Daniel Kelly on being elected Fellows of Trinity College Dublin. Prof. Clive Lee is pictured at the conferral with his daughter, Clara.



The TCD-UCD Design Innovation Day, taking place on 27th April, will showcase postgraduate & postdoctoral research projects from across TCD and UCD having direct links and relevance to industry. Senior representatives from industry will give an overview perspective of some of the key technological challenges in the coming years, followed by brief presentations of current research within the Innovation Alliance. The Panel Discussion will include distinguished key people from industry as well as academic professors from the TCD-UCD Innovation Alliance who have varying experiences of successfully commercializing their research activities.

Dr Alice Witney delivered a very interesting TCBE seminar on Insect Behaviour and how they adapt to diverse environments. The research shows the great potential for insects as model systems for understanding sensorimotor integration, and higher-order behaviour. The next TCBE seminar will be presented by Tania Douglas from the University of Capetown and she will be talking about Medical Imaging.

Prof Richard Reilly
Director, Trinity Centre for Bioengineering

this issue

Director's Message **P.1**

Events & Seminars **P.1**

Papers & Publications **P.2**

TCBE People **P.2**

Postgraduate Summer School,

There are two objectives of this Summer School which will take place on 21st & 22nd June 2010:

1. To provide postgraduates with information, skills and self-management strategies which will help them work towards successfully completing their degree and planning their future careers;
2. To encourage a sense of collegiality by encouraging postgraduate students to discuss their postgraduate experiences and to network with their peers, as well as with academic and administrative staff.

The focus will be on developing generic skills in three thematic areas through workshops and general sessions:

- (1) Personal/Professional Development – managing your research, increasing personal effectiveness and career management;
- (2) Pathway to Publishing – exploring ways to publish and disseminate your research;
- (3) Communication and presentation – writing strategies and developing effective presentations

For further information and to register please see http://www.tcd.ie/CAPSL/academic_practice/index.php?page=postgrads

TCBE PEOPLE & ACTIVITIES

Papers & Publications



Dr. Ciaran Simms and Dr. Daniel Kelly were announced as Fellows by the Provost on Trinity Monday, 12th April 2010.

Research achievement of a high order is the primary qualification for Fellowship, coupled with evidence of the candidate's contribution to the academic life of the College and an effective record in teaching.



Prof. Fergal O'Brien was the guest international speaker at a Bone Meeting in Australia. Prof O'Brien is pictured above at the conference dinner for the 6th Clare Valley Bone Meeting in Adelaide where he gave two invited talks. Dr. Orlaith Brennan (also in the photo) from his group is currently spending three months in Professor Nick Fazzalari's laboratory in Surgical Pathology, Institute of Medical and Veterinary Science and Hanson Institute, Adelaide.

Prof. David Taylor gave talks at conferences in San Francisco and Vienna in quick succession, and then got stuck in Vienna for an extra week thanks to the volcano. It was worth it though for the Vienna conference, where there were talks on the biomechanics of peacock's tails, spider leg hairs, how mussels attach themselves to rocks, and all the wonders of nature.

International Conference on Human Computer Interaction

Researchers from TCBE and the School of Computer Science and Statistics at Trinity College Dublin recently presented two papers at ACM CHI2010 in Atlanta Georgia (www.chi2010.org). CHI is the largest and most prestigious international conference on Human Computer Interaction and was attended this year by approximately 2300 researchers from academia and industry. Keynote talks were delivered by Genevieve Bell, the Director of User Experience within Intel's Digital Home Group, and Noel Sharkey, Professor of Artificial Intelligence and Robotics at the University of Sheffield.

The first paper presented by Trinity College researchers was entitled "Engaging with mental health: a global challenge" [1] and was presented by David Coyle at the Workshop on International Systems in Healthcare (WISH). WISH received 46 paper submissions and accepted 8 papers for presentation. The workshop was sponsored by Microsoft Research was attended by approx 200 researchers. It included a keynote talk by Dr. William B. Rouse, the Executive Director of the Tennenbaum Institute at the Georgia Institute of Technology. Other presentations at the workshop included a talk on adaptable games technologies for stroke rehabilitations by Professor Geraldine Fitzpatrick of the Vienna University of Technology, and at a talk on error detection in medical devices by Professor Ann Blandford, director of the University College London Interaction Centre.

The second paper, also presented by David Coyle and entitled "PlayWrite: end-user adaptable games to support adolescent mental health" [2], was presented at a work in progress session at the main CHI conference.

David Coyle is a Post-Doctoral Research Fellow with the TCBE. He is currently based at Computer Laboratory at the University of Cambridge as part of a Marie Curie Mobility Fellowship. The research presented at CHI was undertaken in collaboration with Gavin Doherty of the School of Computer Science and Statistics. Gavin leads the Technology in Mental Health working group (www.scss.tcd.ie/misc/TMH/). For further information please contact coyledt@tcd.ie.

1. Coyle, D., M. Matthews, G. Doherty, and J. Sharry. (2010) *Engaging with Mental Health: a global challenge. Workshop on Interactive Systems in Healthcare at CHI2010*. pp33-36. Atlanta, Georgia.
2. Coyle, D., G. Doherty, and J. Sharry. *PlayWrite: end-user adaptable games to support adolescent mental healthcare. WIP paper at ACM CHI2010 Conference on Human Factors in Computer Systems*. 2010. pp3889-3894. Atlanta, Georgia.

A.J.F. Stops, N.M. Harrison, M.G. Haugh, F.J. O'Brien, P.E. McHugh. Local and regional mechanical characterisation of a Collagen glycosaminoglycan scaffold using high-resolution finite element analysis *Journal of the Mechanical Behaviour of Biomedical Materials* 3 (2010) 292±302

A.J.F. Stops, K.B. Heraty, M. Browne, F.J. O'Brien, P.E. McHugh. A prediction of cell differentiation and proliferation within a collagen-glycosaminoglycan scaffold subjected to mechanical strain and perfusive fluid flow. *Journal of Biomechanics* 43 (2010) 618-626

Frey, H. P., Kelly, S. P., Lalor, E. C., Foxe, J. J. (2010). Early spatial attentional modulation of inputs to the fovea. *Journal of Neuroscience*, 30(13): 4547-4551.

Lalor, E. C., & Foxe, J. J. (2010). Reply to Skottun & Skoyles: On interpreting responses to low contrast stimuli in terms of magnocellular activity – a few remarks. *Vision Research*, 50(2010): 991-994.

H. Zahedmanesh D.J. Kelly, C. Lally. Simulation of a balloon expandable stent in a realistic coronary artery; Determination of the optimum modelling strategy. *Journal of Biomechanics*, in press.

V. Flamini, C. Kerskens, K.M. Moerman, C. Simms and C. Lally. Imaging arterial fibres using diffusion tensor imaging – Feasibility study & preliminary results. *EURASIP Journal on Advances in Signal Processing. Special issue on Image Processing and Analysis in Biomechanics*. 2010 (2010), Article ID 904091, doi:10.1155/2010/904091.

A.P. Creane, E.J. Maher; S. Sultan, N. Hynes, D.J. Kelly, C. Lally. Finite element modelling of diseased carotid bifurcations generated from in vivo computerised tomographic angiography. *Computers in Biology and Medicine*. doi:10.1016/j.compbio.2010.02.006

Saeid Kasiri, Daniel Kelly, David Taylor "Can The Theory of Critical Distances Predict the Failure of Shape Memory Alloys?" *Journal of Computer Methods in Biomechanics and Biomedical Engineering*