

Upcoming Events & Seminars

Mechanoregulation of joint morphogenesis

Speaker: Karen Roddy
Venue: Auk room,
Department of Zoology,
When: 10.00am, 16th
February

8th International Conference for Cellular Engineering ICCE

Trinity College Dublin
June 10-12th 2010

Recent Seminars

Interpreting Neural Activity from Surface EEG Recordings

Speaker: Dr
Kevin Whittingstall
Dept. of Physiology of
Cognitive Processes
Max Planck Institute for
Biological Cybernetics
Tubingen, Germany

Smarter, Cheaper, Simpler Medical Robots

Speaker: Conor Walsh
Division of Health Sciences
and Technology
Harvard-MIT,
Boston, USA

Allogeneic cell therapy: the impact of the engineering environment on cells during processing

Speaker: Dr. Ryan McCoy,
RCSI

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.



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Message from the Director

Welcome to the first TCBE newsletter. This monthly newsletter is part of a communications initiative for the Trinity Centre for Bioengineering. As our numbers have grown dramatically in recent years so has the need to keep all informed about activities in the various disciplines involved in the centre. There are currently 19 Principle Investigators, 24 Post docs, 59 PhD students and 23 MSc students covering five major research themes including Neural Engineering, Biomaterials, Musculoskeletal, Cardiovascular and Regenerative Medicine.

Please keep the Centre informed of your activities and achievements and any other news you would like shared through this means of communication.

Prof Richard Reilly

**Director
Trinity Centre for Bioengineering**



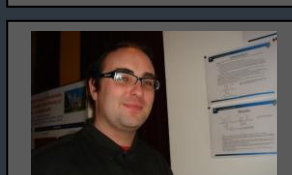
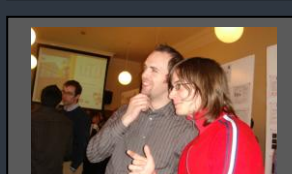
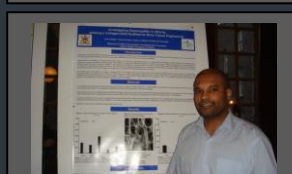
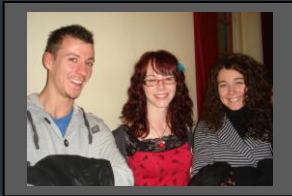
**Trinity Centre for
Bioengineering**

Bioengineering for better health

Papers & Publications

- Mechano-regulation of mesenchymal stem cell differentiation and collagen organisation during skeletal tissue repair. Biomechanics and Modeling in Mechanobiology** (in press).
Nagel, T., Kelly, D.J.
- Structural Adaptation and Intracortical Bone Turnover in an Ovine Model of Osteoporosis**
Claragh Healy,¹ Oran D. Kennedy,¹ Orlaith Brennan,¹ Sue M. Rackard,² Fergal J. O'Brien,¹ Thomas Clive Lee¹
¹Department of Anatomy, Royal College of Surgeons, ²Department of Veterinary Medicine, University College, Dublin,
Received 17 February 2009; accepted 19 June 2009. Published online 1 September 2009 in Wiley InterScience (www.interscience.wiley.com). DOI 10.1002/jor.20961
- The effect of mean pore size on cell attachment, proliferation and migration in collagen-glycosaminoglycan scaffolds for bone tissue engineering**
Ciara M. Murphy a, Matthew G. Haugh b, Fergal J. O'Brien a,b,*
a Department of Anatomy, Royal College of Surgeons in Ireland, 123 St. Stephens Green, Dublin 2, Ireland
b Trinity Centre for Bioengineering, Trinity College Dublin, College Green, Dublin 2
Article history: Received 7 August 2009. Accepted 16 September 2009. Available online 9 October 2009

Delegates reviewing posters at the Winter Symposium



Winter Symposium

Strategy & Vision for 2010

The Trinity Centre for Bioengineering held its Annual Winter Symposium on 7th December 2009. The event took place in the Printing House Hall with a revised format to previous years given the expansion in numbers in the Centre. This worked extremely well.

The Symposium was opened by Prof Richard Reilly with an overview of the Centre's activities, collaborations and strategies during the past year. Expanding on Prof. Reilly's introduction there followed presentations from each of the five research themes. These were delivered by senior postdoctoral fellows Dr Ed Lalor (Neural), Iratxe Mijanos (Biomaterials), Michael Early (Cardiovascular), Dr Alex Lennon (Musculoskeletal) and Dr Conor Buckley (Regenerative Medicine).

The poster event took place where all PhD students, Postdocs and PI's had the opportunity to review and discuss the Centre specific research projects across the different themes.

Following the poster event each PI presented a brief overview of their plans for the year ahead.

Congratulations to the successful prize winners. Thomas Nagel and Tatiana Vinardell who were awarded prizes for the best posters.

The Annual Report for 2009 was presented to the Vice Provost, Prof. Patrick Prendergast.



The Symposium concluded with a wine reception which was enjoyed by all!

Prize Winners



Prof Prendergast presented Tatiana Vinardell with her prize.



Pictured above is Prof Prendergast presenting Thomas Nagel with his prize.

TCBE PIs



Prof David Taylor giving his overview for 2010



Dr Garry Duffy and Prof Clive Lee, RCSI,



Dr Biqiong Chen giving her strategy for 2010



Keynote Address:

Prof Rose Anne Kenny

Professor Rose Anne Kenny delivered the keynote address reinforcing the conference theme of Bioengineering for Better Health. Professor Kenny is the Director and lead PI for the Irish Longitudinal Study on Ageing (TILDA) and is a world leader in research into cardiovascular and mobility disorders in ageing.

Samuel Haughton:

Prof Clive Lee

Professor Clive Lee delivered the prestigious Samuel Haughton lecture, delivered annually at the Bioengineering in Ireland Conference. He is pictured above receiving the RAMI Silver Medal.



Bioengineering in Ireland¹⁶ Annual Conference

The Sixteenth Annual Bioengineering in Ireland Conference of the Section of Bioengineering of the Royal



Academy of Medicine in Ireland (RAMI) took place in the Grand Hotel,

Malahide, Co Dublin on 22nd and 23rd January 2010.

This multidisciplinary research event brought together over 150 leading biomedical engineers and scientists covering a broad range of clinical engineering issues all with a focus on 'bioengineering for better health'. Dr. Kevin O'Kelly, Deputy Director for the Trinity Centre for Bioengineering and Secretary of the Royal Academy of Medicine in Ireland, chaired this year's extremely successful event.

The aim of the conference is to promote Bioengineering in its many facets by bringing together the clinical, engineering and scientific communities thus providing a platform for new and advanced researchers alike.

As in previous years, the conference commenced on Friday and finished on Saturday night with the gala dinner and awards ceremony.

This included the RAMI silver medal to the Haughton lecturer, the RAMI Bronze medal to the best overall paper as well as prizes for best student papers and commented posters.

The programme for this year's gathering featured over 100 presentations with papers being delivered on a broad spectrum of research being conducted in the Irish Higher Education sector covering Biomaterials, Musculoskeletal, Cardiovascular, Regenerative Cell and Tissue Engineering and Neural Engineering themes.

The conference was also host to the Engineers Ireland Biomedical Research Medal competition won by Kevin Moerman of the Trinity Centre for Bioengineering. He was awarded a €1,000 honorarium sponsored by Georgia Tech Ireland for his research entitled 'Non-invasive determination of the mechanical properties of living human soft tissue'. Kevin's techniques allow us to better understand human muscle behaviour in compression. This is important for preventing pressure sores from prolonged use of wheelchairs and/or lying in hospital beds and how to design vehicle safety systems to prevent occupant injuries in the event of a crash.

Grainne Cunniffe, Michael Early and Ross Ormsby were the other Finalists shortlisted for the award.

The RAMI Bronze Medal for the best overall paper was awarded to John Gleeson, his research was titled '*In vivo* comparison of novel collagen-based composite scaffolds for bone tissue repair in rabbit radius model'. In addition to these prizes, the Trinity Centre for Bioengineering sponsored prizes for the top three oral presenters and top three commented poster presenters. 1st prize for the best oral presenter was awarded to Rochelle O'Hara with second and third prize to Ciara Murphy and William Denny respectively. Alice Sykes received 1st prize for best Commented poster with Erica Tierney and Amos Matsiko in 2nd and 3rd place. We were also delighted to have support from Boston Scientific, Sigma Aldrich, Tomkins and Zwick Roell.

The conference concluded with Dr. O'Kelly being elected as President of the Section of Bioengineering, succeeding Professor Pierce Grace, Professor of Surgical Science and Consultant Vascular Surgeon at the University of Limerick

Photo Gallery



Dr. Kevin O'Kelly Conference Chair



Medal Winners pictured L-R: Kevin Moerman, Prof. Clive Lee, Dr John Gleeson



RCSI group L-R: Ciara Murphy, Erica Tierney, Clive Lee, John Gleeson, Amos Matsiko, Fergal O'Brien



Movie Theme Night: Gladiator (Hugh Nolan); Wolverine (Ed Lalor); Princess Leia (Isabelle Killane); Rambo (Alan Power)