



CITER NEWS

Welcome to the 17th edition of CITER News.

Via this publication we aim to update you on the activities of CITER's working committees and inform you about any tissue engineering and repair related stories. CITER News also gives you the opportunity to tell other people working in the tissue engineering community of events, stories, research publications, grant opportunities and awards. So please contact me with any news items in preparation for the 18th edition of CITER News scheduled to be published in the spring term.

Many thanks, Sarah.

EXECUTIVE BOARD NEWS

Chairman's Comments

Another year where interdisciplinary research stayed very much on the University agenda. While we await the outcome of the RAE, the University has to position itself for a future which will very much see translational and multidisciplinary working as the bedrock of UK research. CITER will play its part in University deliberations and has already done so in several fora. At our AGM, Professor Terry Rees, PVC for Research, invited members to participate in the debate on interdisciplinary research in Cardiff University. Please can I encourage you to do so. I am sure it will be helpful for the University to draw upon some of the constructive thoughts evident in the members' breakout session held at the AGM. And to those of you starting off in your research career, can I point you towards the article on Postgrad@CITER, a new initiative championed by Erin Dooley and worthy of your support.

Diabetes Complications Initiative

Professor Aled Phillips has worked very hard this year to obtain the support of clinical service providers from across South Wales to back the development of an all Wales Diabetic Complications Interest Group. The primary purpose of this group, if funded, will be to collect sets of clinical data of interest to the specialities involved. To progress with this initiative, Aled is presently awaiting news from the Welsh Assembly Government concerning an application to fund a mobile unit, nurses and administration which would ultimately be the backbone to the success of this Group.

RESEARCH COMMITTEE NEWS

CIBER – the added value of CITER!

Cardiff University is one of three institutions short-listed for an Arthritis Research Campaign Centre of Excellence in Biomechanics and Bioengineering involving six Schools at Cardiff University. If successful, Cardiff would match the £2.5M from ARC with £7.6M over 10 years, providing six new permanent academic appointments. CITER has established strong interdisciplinary scientific collaborations between many of the applicants on this bid, but other aspects of CITER were also used to add value. For example, CITER provides evidence of a successful cross-School management structure, interdisciplinary post-graduate training, co-ordinated workshops and scientific meetings, and provides access to translational opportunities. The Cardiff bid was greatly enhanced by exploiting all of these aspects of CITER.

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Dates for your Diary

Seventh CITER Annual Meeting

Again many thanks to all those who contributed and attended the seventh CITER Annual Meeting at The Hill Education and Conference Centre in Abergavenny on 3^d & 4th September 2008.

Delegates attending this two day meeting represented the following Cardiff University Schools: ENGIN; PHRMY; OPTOM; MEDIC; SOHCS; DENTL; BIOSI and CHEMY. Networking is a key part of these meetings and delegates certainly embraced the opportunity to do so. Throughout the programme excellent quality presentations were featured and congratulations must be expressed to the PhD students who, once again, excelled in communicating high quality research during the presentation programme and poster session.



Clinically relevant talks by Dr Matthew Locke, Lecturer/Honorary Specialist Registrar (DENTL); Mr Chris Wilson, Consultant Trauma and Orthopaedic Surgeon; Mr Rahul Kotwal, Clinical Knee Fellow; James Morgan, Reader in Ophthalmology, Honorary Consultant Ophthalmologist (OPTOM); and Julian Halcox, Professor of Cardiology (MEDIC) were a highly successful injection into the traditional programme and proved hugely popular, particularly from a translational research point of view.

The CITER “In your hands” breakout session provided a useful insight into the areas where CITER functions well and areas which need to be developed to meet the needs of CITER members. The delegation was split into four groups and consisted of personnel from all levels (student to professor). Chairpersons encouraged participation from all which resulted in well-rounded output from this session.



A brief but not conclusive summary of discussions is provided below:

Existing Outcomes/Benefits of CITER:

- Exemplary interdisciplinary research network (bringing together geographically distant departments).
- Opportunity to collaborate
- Grant funding success
- Established links between the Hospital and University
- Annual Meeting
- Workshops/Seminars
- Notification of events and funding opportunities
- Access to equipment and expertise (CITER Website)
- MSc in Tissue Engineering
- PhD students
- Skin Focus Group
- Career opportunities
- Undergraduate Tissue Engineering module run in BIOSI
- Implicit in discussions was the value of having an administrative team to coordinate interdisciplinary research activity.



What CITER should consider for future practice:

- Widen profile to undergraduate students
- Establish more opportunities for networking at a junior level
- Provide “quickie notes” in lay speak on cross interdisciplinary topics to aide communication across disciplines (feature of the website)
- Meet more regularly as a membership
- Establish term time events targeting undergraduates
- Offer awards/funding
- Offer travel grants
- Take lead on interdisciplinary grant applications
- Fund small pilot projects
- Undergraduate summer projects
- Website – who is it for (members or external)?

- Clarify direction of institute
- Increase industrial donations to CITER
- Provide regular updates from CITER's working committees
- Include a student/post doc representative on the CITER Research Committee
- Lead regular recruitment drives to attract new members (raise profile of inclusive nature).

The plenary guest lecture, this year, was a fascinating talk presented by Professor Paul Sharpe, Department of Craniofacial Development, Kings College London entitled "Tooth development, stem cells and tissue engineering".

This year's session on the business of the CITER Executive Board was led by Professor Stephen Denyer (PHRMY), now in the second year of his Chairmanship. Professor Denyer outlined the broader capabilities of CITER and illustrated how the Institute is essential to aid interdisciplinarity in the current University structure. He reported on a number of CITER milestones, membership benefits and focussed on new developments taking place at University management level, including the establishment of research themes. These are important steps in recognising the added value that CITER brings to the University and Executive Board colleagues will continue to work with Executive Officers, particularly, Professor Terry Rees, Pro Vice Chancellor for Research and the Dean of Interdisciplinary Studies, Professor Peter Halligan, to achieve sustainable status for interdisciplinary groupings like CITER.

Professor Terry Rees, Pro Vice Chancellor for Research stated that there will be more resources available for interdisciplinary research which is good news for Centres like CITER. She also made the point that focused marketing should take place on research centres highlighting the University's uniqueness and added value. In this light she notes the importance of having good scientists who are able to communicate their research in lay terms in order to fulfil a public engagement role in the community. Continuing her informal talk with delegates, Professor Rees made the following points:

- The importance of serving on research council boards to be well positioned to influence the scientific funding agenda
- Utilising interdisciplinary research centres to support early stage researcher careers
- The need to establish an internal peer review structure and encourage researchers to become European Union evaluators.

Delegates were informed that Terry is Chair of the Committee responsible for deciding the use of the Maindy Road site. She outlined one expressed option as being the establishment of a 'Centre of Centres' which would house a limited number of flagship research institutes from across the University. In conclusion, delegates were encouraged to comment on what University measures would be beneficial to facilitating the creation and continuing development of interdisciplinary research centres such as CITER.

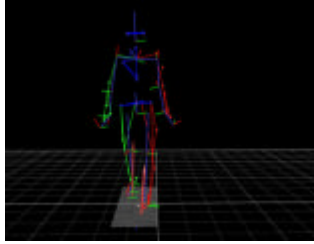


Dr Nick Allen, (BIOSI) who recently took over the Chairmanship of the CITER Research Committee from Professor Phil Stephens provided an overview of achievements over the past year. Nick on behalf of the Research Committee and the CITER Administrative team thanked Phil for his excellent Chairmanship over the last three years. However, members will, I am sure, be pleased to learn that Phil will continue to be involved in the management of CITER as a member of the Executive Board.

Dr Robert Steadman, Deputy Director, CITER MSc in Tissue Engineering informed everyone of the course's success in the first two years of operation. Bob also highlighted how to get involved as a project supervisor. To complete this session, current MSc student, Erin Dooley, presented her idea to establish a CITER Postgraduate Research Group and the activities including outreach work it would hope to undertake.

In the closing address, the very high standard of all the presentations this year was once again commended. The structure and mix of

clinical and basic science in each session was particularly applauded. Thanks were expressed to our sponsors, Cardiff University Graduate School of Biomedical and Life Sciences; Jencons PLS; GE Healthcare and Thermo Fisher who ensured we could award prizes to our PhD students and afford a healthy and good quality wine at the dinner on the first night. Congratulations must be expressed to Emma Smith, (School of Dentistry) for winning a £100 cheque for the 'Best Presentation' and Kaye Smith (School of Medicine) and June Madete (School of Engineering) for winning £50 cheques each for their poster presentations.



Details of the 8th CITER Annual Meeting can be found in the Dates for your Diary section at the end of this newsletter.

Initiating links with the Centre for Regenerative Medicine (CRM), University of Bath (<http://www.bath.ac.uk/crm>)

Following the spring-term edition of the CITER newsletter,



the Research Committee is pleased to report that it hosted a 'show and tell' event between CITER, the Centre for Regenerative Medicine at the University of Bath and colleagues from the University of Bristol on Thursday, 25th September. This event was successful and there is a strong sense that the groups will work more closely together in the future and present each other with more networking and information sharing opportunities. A direct outcome of this event is the commitment that Dr Nick Allen, (Cardiff University) Professor Melanie Welham (University of Bath) and Anthony Hollander (Bristol University) are to come together to discuss the establishment of a regional stem cell network for Wales and the South West of England.

2008 Workshops – feedback so far

The Research Committee has so far organised three workshops this year. The **3R's CITER Workshop** sponsored by the National Centre

for the Replacement, Refinement and Reduction of Animals in Research (<http://www.nc3rs.org.uk/>) was held on 12th March and drew in over 60 delegates. Dr Peter Hunt, Biological Standards Officer, who attended this event congratulated CITER on behalf of the University's Ethical Review Process and indicated that the workshop would be reported to the Biological Standards Committee (for ERP) as a positive 3Rs development. On 14th May, the **Tendon Degeneration CITER workshop** again drew in over 50 delegates. Roger Smith, Professor of Equine Orthopaedics, Royal Veterinary College spoke on 'Tendon degeneration –an inevitable consequence of ageing and exercise'. One delegate commented that 'the blend of scientific and clinical presentations worked very well, providing an excellent overview of tendon pathology, clinical perspective and current research.'

On Wednesday 3rd December, CITER hosted the third workshop of the year, entitled **Motion Capture & Analysis workshop**. This workshop provided delegates with an excellent overview of a wide range of topics within the field of motion capture and analysis. Many delegates developed external collaborates and gained an invaluable awareness of other research projects taking place in Cardiff.

CITER Cell and Tissue Database

As reported in the spring-term edition of CITER News the Research Committee have attempted to investigate the tissue requirements of the CITER membership and to establish a database of tissues and cells being worked on across the University to provide a useful resource to the membership. Unfortunately to date the response from the membership has not enabled the Research Committee to develop this initiative any further. However, the Research Committee are not prepared to let this item drop off the agenda as there is a strong sense of the value of such a resource. The next stage in this development will involve the submission of a bid for funding to the University Research Committee to support the creation of an easy to use University wide tissue and cell database. If anyone is interested in finding out more about this initiative and/or would like to discuss this matter with a member of the Research Committee, please contact Dr

Deborah Mason (Email: masondj@cardiff.ac.uk). Additionally, members wishing to find out about reagents being used by members of CITER can do so by making use of the online CITER Directory of Expertise.

CITER Directory of Expertise Up and Running

Many members will be aware that the CITER website now features a Directory of Expertise (www.cf.ac.uk/citer/directoryofexpertise).

This electronic Directory aims to provide up to date information on the individual expertise and wide range of technologies which exist in the field of tissue engineering and repair at Cardiff University.

The Directory's primary objective is to help members identify and consult with experienced colleagues and to share knowledge across disciplines, which will encourage synergy amongst members. The Directory also hopes to make the collective expertise of the Institute's members more readily available to the wider community e.g. public, businesses, industry, research organisations, Government departments and the media. If you are not featured in the Directory of Expertise please contact Vera, CITER Administrator (obrienvj@cf.ac.uk) to request a directory of expertise proforma.

LEARNING AND TEACHING NEWS

From September 2008, Dr Ryan Moseley, School of Dentistry replaces Professor David Thomas as Programme Director of the CITER MSc in Tissue Engineering. The second cohort of students completed the course in September 2008. One of the students to successfully complete the course was Daniel Morrith, a medicine graduate and he writes "I really enjoyed the MSc in Tissue Engineering. There was a good balance between the taught course (6 months) and the lab based research project (6 months). I found the taught course quite hard going in places with lots of deadlines to meet for in course assessments. However, it taught me the principles and methodology of research and this was one of my learning objectives prior to commencing the degree program. I also learned about developments in tissue engineering which is a growth area which offers huge potential to

reconstructive surgery as well as other aspects of healthcare.

The research methodology I learnt in the taught course was put to the test in the lab based research project. It was a pleasure to work in a lab of international acclaim, where the Nobel Prize for Medicine was won by Martin Evans last year for his work with embryonic stem cells. My supervisors and the other lab members had a huge amount of knowledge about stem cells and cartilage - the two areas my project encompassed. Working in the lab as part of a research team was enjoyable. It helped me appreciate the intricacies of lab research and how difficult it can sometimes be to perform what at first looks like a simple experiment.

The MSc in Tissue Engineering helped me learn about research methodology and tissue engineering. It was also a fantastic opportunity to get hands on experience in a world class research laboratory. I would recommend the degree program to anyone considering it most highly."

Academic year 08/09 sees the arrival of four new students from various different backgrounds, clinical and scientific.

A list of this year's agreed student project titles are as follows:

Immunocytochemical study mapping oxidative stress with impaired bone repair around titanium implants associated with type II diabetes.

Can p38 inhibitors reverse the effects of time?

Direct cell reprogramming for iPS cell derivation by RNA transfection.

Derivation and neural differentiation of iPS cells.

CITER Learning and Teaching Committee

This autumn sees an extension to the CITER Learning and Teaching Committee activities. Since the establishment of the MSc in Tissue Engineering the original L & T Committee morphed into the TE MSc Programme

Committee. Now that this Committee is successfully established it is time for the Learning and Teaching Committee to take a fresh look at some other opportunities within the educational remit of the group. The new leader of the Learning and Teaching Committee is Dr Bob Steadman, and he is joined by Dr Ryan Moseley and Professor Vic Duance.

Recently, Bob and Sarah met Gemma Turner from the Community Engagement Team (PRCOM) to consider ways in which wider public education concerning tissue engineering, regeneration and repair issues in their broadest sense can be achieved. Gemma emphasised the importance of the different open days that CU has and our first priority will be to ensure that there is a CITER presence at all of these in the Biomedical and Life Sciences.

It also became obvious during our discussions that CITER is uniquely placed to provide a resource for Key Stage 4 education and that a CITER "Road Show" for visiting or receiving visits from local schools is eminently feasible. Some of these already exist for different specialities within the University. This is priority 2!

Both these ideas can attract funding via PRCOM and other agencies.

If there are any members out there enthusiastic about communicating their science to a variety of different audiences, please get in touch with either Sarah or Bob (steadmanr@cf.ac.uk).

In addition to these outreach opportunities, CITER's administrative team is conducting an evaluation of all postgraduate provision across the health-related Schools to determine if there are opportunities to build on the provision of postgraduate courses by reaping the modular dividend of what already exists. This report is likely to be available in early 2009.

Postgrad@CITER

Postgrad@CITER is a new interdisciplinary student-led research group for all Cardiff University post-graduates interested in Tissue Engineering. Whether your interest is in Law, Ethics, Biological or Social Sciences, Postgrad@CITER needs you!

Our aims are to bring students together from across all schools and research disciplines to network and share ideas, access news and information about other Tissue Engineering organisations and deliver a series of talks and poster-presentations with a strong Tissue Engineering theme.



Postgrad@CITER is currently in the process of applying for post-graduate university funding and official club status through NUS. They aim to officially launch the club in spring 2009.

So if you are interested in joining or helping out, please email citerpostgrad@cf.ac.uk to sign up to the mailing list and watch this space for future updates.

Postgrad@CITER ...we'll grow on you!

CITER ADMIN TEAM DELIVER A LAUNCH EVENT FOR A NEW SCHOOL FOR PRIMARY CARE RESEARCH

This summer the CITER admin team were commissioned to manage the official launch of a new Wales School for Primary Care Research with the First Minister for Wales, Rhodri Morgan, in the Senedd on Monday 29th September.



This is an all Wales interdisciplinary initiative supported by several Welsh Universities and backed by the Welsh Assembly Government. The Director, Professor Chris Butler, Professor of Primary Care Medicine at Cardiff University, said: "Worldwide, health care

delivery is changing fast, with excellent primary care widely recognised as the key to a sustainable health service. But this has to be underpinned by world-leading research if it is to deliver. The Wales School for Primary Care Research brings together researchers from several primary care disciplines to develop and share research excellence so Wales can continue to punch way above its weight in this crucial field.”

First Minister Rhodri Morgan said: “Research shows that those countries which have a strong primary care health service are best able to control health costs and have populations that are satisfied with care provision and have a high level of health.



The Wales Office for Research and Development for Health and Social Care is developing a strong research infrastructure on behalf of the Welsh Assembly Government, who are supporting the development of the Wales School for Primary Care Research.

“The main emphasis of the Wales School of Primary Care Research will be to promote a ‘step change’ improvement in the quality and quantity of multi-disciplinary research.

World-class research of international standard will then generate evidence that is locally applicable and internationally relevant to inform practice and policy in Wales and beyond.”

UPDATE ON THE ESTABLISHMENT OF THE HEALING FOUNDATION UK CENTRE FOR BURNS RESEARCH

From September 2008, Professor Nick Topley became the Director of the Healing Foundation UK Centre for Burns Research. Nick and his team are charged with shaping the development of the centre over the next three years. One of the short-term priorities will be the appointment of a VTCT Professor of Burn Injury Study.

The Centre itself will be established at Cardiff’s School of Medicine, Heath Park Campus and at the Welsh Centre for Burns and Plastic Surgery at Morriston Hospital. It will be the only centre of its kind in Britain. The Centre’s work will cover all aspects of research aimed at improving the treatment and long-term support for survivors of burns. Researchers will investigate infection control and immunology, inflammation following major burns and improved understanding of scar formation. They will also focus on important issues such as the psycho-social aspects of living with burn scars, long-term rehabilitation and prevention.

GRANTS SUBMITTED

In this section, I wish to highlight recent grants that have been submitted that have included the added value that CITER brings to Cardiff University:

Grant	PI	Outcome
Wellcome Trust/EPSRC Medical Engineering	Professor Peter Wells	Unsuccessful
MRC Capacity Building Competition for 10 Studentships	Professor Charlie Archer	Submitted
ARC Centre of Excellence in Biomechanics and bioengineering (CIBER)	Professor Vic Duance	Submitted and one of three institutions short listed for site visit
EPSRC KTA	Profesor Hywel Thomas	Submitted

Exosomes and Tumour Stroma. Cancer Research Wales	Aled Clayton, Robert Steadman, Jason Webber.	£47,212. Project Grant beginning 3/11/08 for 12 months.
EU FP7 Stem Face	Professor Charlie Archer	Submitted

DIARY DATES

WORKSHOPS

Wednesday 18th March, 2 pm

CITER Workshop: Biology and Biomaterials

Venue: Small Chemistry Lecture Theatre

Wine and nibbles to be provided

Wednesday 6th May, 2 pm

CITER Workshop: Showcasing Tissue Engineering Expertise within Pharmacy

Venue: TBC

Wine and nibbles to be provided

SEMINARS

Thursday 23rd April, 1 pm

CITER hosted seminar: Title TBC by Professor Paolo Madeddu, Chair of Experimental Cardiovascular Medicine, University of Bristol

Venue: UG16, Henry Wellcome Building

Buffet lunch available from 12.40 pm

ANNUAL MEETING

Wednesday 2nd and Thursday 3rd September

8th CITER Annual Meeting

The Hill Education and Conference Centre, Abergavenny

Finally, the CITER administrative team would like to take this opportunity to thank members for their continued support, commitment and hard work. And wish you a.....

MERRY CHRISTMAS



A HAPPY NEW YEAR!!