WELCOME

It's good to see continuing activity within the group, in particular with the FMDAT Research Showcase. I have had lots of positive feedback about this successful event which is great.

With Winter fast approaching it is a great opportunity to tuck yourself away in your lab and continue the good work! (And keep those publications coming)!

Karen Reynolds
Leader, Flinders Medical Devices & Technologies

NEWS

HEXAPOD ROBOT

The Biomechanics & Implants group are pleased to announce that the Hexapod Robot is up and running. Some small trials have been completed using the hexapod technology with the results forming part of an NHMRC grant. The hexapod was featured in page 3 of the Southern Health news (December 2010). To read the article click here. The Hexapod Robot will be formally launched in September. Stay tuned for more details.

PROFESSOR GÖRAN ROOS

Adelaide’s 20th Thinker in Residence, Prof Göran Roos will set future directions and raise the profile of the manufacturing sector in SA. During his residency, 10 local manufacturing companies will participate in a series of workshops focusing on business model innovation. Göran is very supportive of the medical device industry in SA and an advocate of the opportunities for the state. Kelly Burton, Project Officer of the MDPP and FMDAT will be working with Göran as a project catalyst during his residency.

BABY NEWS

Congratulations to Melissa Ryan and partner Luke, on the early arrival of their baby daughter, Audrey Jean Hofmann. Audrey was welcomed to the family on 27th March (4 weeks early) and weighed only 2.2kg. We wish Mel and Luke all the best.

MEMBER SUCCESS

Congratulations to the following members;

- Two papers were recently presented at the Virtual Reality International Conference (VRIC) in Laval, France.
  - Ruthenbeck G, Lim F, Reynolds K. ‘TSF: A versatile new tissue simulation framework for simulating haptically interactive tissue with volumetric cutting’.

- Two abstracts have been accepted for the International Society of Biomechanics (ISB) conference to be held in Brussels, Belgium July 3-7.
  1) Pham D, Shapter J and Costi J. ‘A novel nano-tensile testing technique for determining the Young’s Modulus of collagen type I fibrils in the intervertebral disc’.
  2) Bandyopadhyay K and Costi J. ‘Development of a micro-finite element model of the intervertebral disc using sub-modelling techniques’.

The ISB is the most prestigious biomechanics conference in the world, and the official conference associated with the Journal of Biomechanics, which is an A* ERA-ranked journal.

- Faculty Major Equipment Grant Dr John Costi and Prof Karen Reynolds secured funds to purchase a Biaxial Micro-mechanical Testing System from CellScale in Ontario, Canada. This system will allow testing of soft tissues and bone at the micro-scale and will provide an important tool for further developing our multiscale program of research to understand the relationships with both the nano– and macro-scales.

UPCOMING GRANT DEADLINES (External)

- ARC DECRA (Discovery Early Career Researcher Award) proposals
  *ARC closing date - 18 May 2011

- NHMRC Program
  *NHMRC closing date - 1 June 2011

- ARC Linkage Infrastructure, Equipment & Facilities
  *ARC closing date - 22 June 2011

- NHMRC Development
  *NHMRC closing date - 18 July 2011

* Note: Flinders internal review deadlines may apply.
UPCOMING GRANT DEADLINES
(Flinders University Internal - FU)

- **FU Conference Travel Fellowship (Carer Support)**
  The DVC(R) introduced this grant to assist those researchers who normally would have difficulty attending and presenting at research conferences due to carer responsibilities.
  Value: Up to $1,000 for National Conference
  Up to $2,500 for International Conference
  Closing date - open at any time.

- **FU Re-Entry Fellowship**
  To assist those researchers in re-establishing their research careers after time away from research due to parental leave.
  Value: Up to $50,000
  Closing date: by 30th April and 30th November each year.

- **FU Visiting International Research Fellowship**
  To provide matching funds to Schools to attract a visiting international researcher.
  Up to three (3) each year.
  Value: Typically $5,000 to $15,000 (3-12 wks)
  Closing date: 31st October each year

(Faculty of Science & Engineering funded grants)

- **Research Higher Degree Student International Conference Travel**
  To encourage Research Higher Degree (RHD) students to attend international conferences (both in Australia and overseas) and to present the results of their research.
  Value: Up to $1,000 for conference outside Australia
  Up to $500 for conference in Australia.
  Total amount available $15,000 per year.
  Applicants must meet eligibility criteria as specified in the policy.
  Applications will be considered in June for conferences in July-December of same year. December for conferences in January - June in following year.

- **Faculty Visiting Researcher’s Funding**
  Applications can be submitted at anytime throughout the year and are subject to the availability of funds. Max $2,500 to support cost of travel. Refer to the policy for more information.

ASRI UPDATE

**RENAMING AND RESTRUCTURE OF ASRI’S**

It was recently decided that the term ASRI (Area of Strategic Research Investment) be dispensed and to rename some of the former ASRI’s as Centres or Institutes. However, the current financial commitment to ASRI’s (including FMDAT) will continue.

The three former ASRI’s within the Faculty of Science & Engineering (including FMDAT) will not become Insitutes or Centres at this point in time but will remain part of the research focus of the Faculty. Therefore, FMDAT will be referred to as a research cluster or group for now.

**NEW PROGRAM FLYERS**

New program flyers were developed in preparation for the FMDAT Research Showcase. Hardcopy versions are available from Kelly Burton (email kelly.burton@flinders.edu.au if you would like some copies). Soft copy PDF versions are available online (http://fmdat.flinders.edu.au) or by clicking below.

- Assistive Technologies
- Biomechanics & Implants
- Health Informatics
- Medical Devices & Technologies
- Medical Signals & Imaging
- Medical Simulation & Modelling

UPCOMING EVENTS

**OPEN BIOMEDICAL ENGINEERING LAB**

Biomedical Engineering Lab (Rm 318, Engineering Building), will be open to all Biomedical Engineering students and anyone else who would like to learn more about the types of projects our biomedical post-grad students and academics are working on.

Sponsored by Engineers Australia, students are encouraged to attend and enjoy some free pizza at the same time. Examples of projects on display include haptics/virtual reality training simulations, a shopping simulator, hexapod robot (tour of new facility), and various orthopaedic projects.
PAST EVENTS

FMDAT RESEARCH SHOWCASE
On 14th February 2011, over 80 people from industry, government, external research organisations and Flinders University attended the FMDAT Research Showcase event to learn about some of the exciting medical device research and collaboration opportunities with Flinders. Guest speaker, Dr. Jeff Armitstead from ResMed, provided an interesting insight into the beginnings and recent developments of ResMed.

A special ‘thank you’ to Jeff and also to our event sponsor, National Instruments for their contribution.

Thank you also to the staff and students who helped make this event such a success.

SA ITA BONE AND JOINT MEETING
FMDAT sponsored the ITA-Biomed Bone and Joint SA meeting 2011: promoting opportunities for scientific and commercial collaboration in biomedical bone and joint research between Italy and South Australia.

The two-day workshop (21-22 February) included a visit by selected Italian group leaders to view FMDAT facilities including the hexapod robot and biomedical engineering lab.

MEDICAL DEVICE PARTNERING PROGRAM (MDPP) - UPDATE

MEDICAL DEVICE COMMERCIALISATION PROGRAM
The Department of Trade and Economic Development (DTED) recently launched a new program, the Medical Device Commercialisation Program (MDCP) on 29 March 2011. The MDCP is a $500,000 per annum, competitive commercialisation program funded by the South Australian Government, through DTED.

The Medical Device Partnering Program (MDPP) have been contracted by DTED to assist in the administration of this new program.

Two new grant opportunities are available through the MDCP for companies and researchers;
- Medical Device Research Grant (MDRG): up to $15,000 on a 3:1 funding basis, or
- Medical Device Commercialisation Grant (MDCG): up to $40,000 on a 1:1 funding basis.

Round 2 is now open until Friday 29 July 2011.

To download the guidelines or application forms, please view the MDPP website.

SHOPPING SIMULATOR
A Shopping Simulator, developed by the MDPP with consultation from the Repatriation General Hospital, will be launched this Friday 13 May 2011 by Minister for Ageing, Jennifer Rankine.

The prototype simulator was developed to allow therapists and patients access to a rehabilitation tool. The focus on cognitive assessment through the simulator enables occupational therapists to determine a patient’s ability to undertake the everyday task of supermarket shopping.

The prototype has been evaluated in a pilot study at the Repatriation General Hospital and a paper was recently presented at the Virtual Reality International Conference in Laval, France.

HOW TO ENGINEER SUSTAINABILITY
FMDAT were asked to present at the ‘How to Engineer Sustainability’ event organised by the Australian Institute of Policy and Science (Tall Poppy Campaign) on 25th February 2011. The interactive workshop was for students in years 10 to 12 (from eight schools across the State) to involve them with Engineering and its practical application in regards to the sustainability of our future.

FMDAT were asked to talk about Biomedical Engineering from a student, researcher and industry perspective, and include interactive display’s to encourage students to consider biomedical engineering as a possible career pathway.

A huge ‘thank you’ to Ms Diana Pham, Dr Olivia Lockwood, Mr Karthik Pasumarthy and Mr Andrew Riggs (Innovate SA) who presented on the day.
STUDENT CORNER

We are pleased to announce that former FMDAT student representative, Melissa Ryan, welcomed baby daughter, Audrey Jean Hofmann to the world on 27th March. We wish Mel all the best during her maternity leave and look forward to seeing her when she returns.

This leads me to welcome our new FMDAT student representative, Ms. Diana Pham. Diana, a PhD student, is looking at multi-scale mechanical testing of collagen type I in the human intervertebral disc.

You may have seen Diana around the school as she has assisted us with numerous FMDAT and school events. Diana is very approachable and eager to help other students where possible.

Diana can be contacted at diana.pham@fiinders.edu.au and is on-campus most days. If you have any questions about FMDAT or suggestions for future events or activities, please do not hesitate to contact Diana.

Diana will take over this column from next issue but in the meantime I would like to congratulate a few of our student members on recent successes.

Firstly, congratulations to Diana Pham and Kaustav Bandypadhyay who have both had abstracts accepted for the International Society of Biomechanics (ISB) Conference to be held in Brussels, Belgium from July 3-7. This is an outstanding achievement and it is fantastic to see you both recognised for your hard work.

Congratulations also to Dr. Greg Ruthenbeck who was awarded his PhD earlier this year - well done Greg!

The School of CSEM recently held the ‘Three Minute Thesis’ competition, where six research higher degree students presented a 3 minute talk on their research project. Well done to everyone who presented, but particularly to David Hobbs (first place) and Tony Carlisle (second place). David and Tony will now represent the School at the Faculty competition in late July. Good luck to you both!

We would also like to welcome any new student members who have recently joined FMDAT. Just a reminder that as a student member, you can benefit from a number of initiatives such as;

- FMDAT Mentoring Scheme and career support
- Assistance and advice on grant opportunities and preparing travel grants etc
- Networking opportunities (with internal and external contacts)

The next ‘student specific’ event will be primarily for the biomedical engineering students. Please refer to the ‘Open Biomedical Engineering Lab’ event in the ‘Upcoming Events’ section.

Welcome again to Diana in her new role as FMDAT student representative.

All the best, Kelly

FMDAT MEMBER PROFILE

Dr Martin Caon

Research Focus:
Medical physics, particularly radiation dose received from medical diagnostic imaging from modern CT scanners.

Martin is currently working on:
Segmenting the 368 PET/CT images of a seven year-old boy, so that a digital representation of his entire anatomy can be utilised to calculate the dose of radiation received by a child of this size from CT procedures.

Collaboratively (with Gobert Lee) on automating the segmentation of medical images - which is very time consuming to do by hand.

When he's not working, Martin enjoys...
Playing the Saxophone, playing Hockey, Bushwalking, making wine, playing at being a cattle farmer.

Martin's favourite food is...
I am omnivorous and enjoy all my food, especially anything cooked by my mother, or my wife or my mother-in-law and fruit and bread.

The last movie that Martin watched was...
The King’s Speech

Martin’s favourite television show is...
Bones

Martin is currently reading...
Physics World (the UK Institute of Physics member magazine)