SINAPSE NEWSLETTER DECEMBER 2010

SCOTTISH IMAGING NETWORK A PLATFORM FOR SCIENTIFIC EXCELLENCE

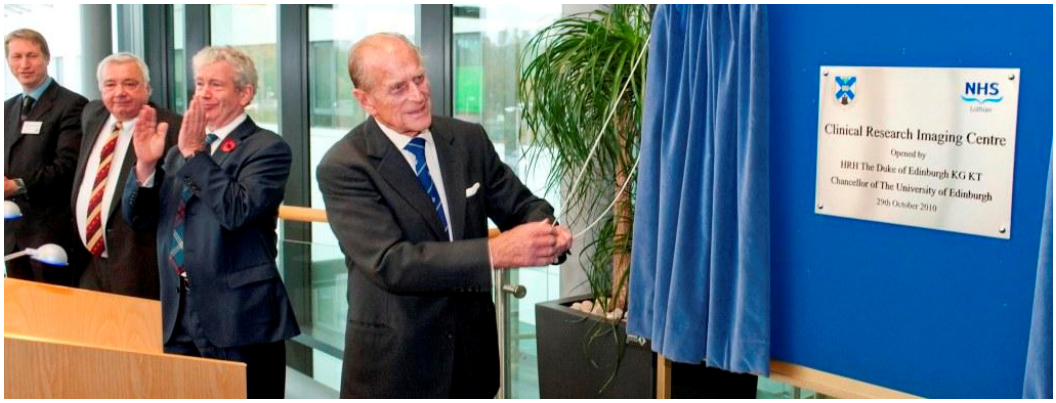
HEALTH TECHNOLOGY ASSESSMENT AWARD

The National Institute for Health has awarded £270,000 to SINAPSE researchers in Edinburgh and Glasgow and HERU in Aberdeen for a Health Technology Assessment study, to be led by Professor Joanna Wardlaw (Edinburgh) and Prof Muir and Prof Hadley (Glasgow).

The study will look at the cost-effectiveness of brain imaging in patients who have suffered a mini stroke - or transient ischaemic attack. Over 80,000 people have mini strokes every year in the UK, and current research about the best way to diagnose them hasn't given a clear picture of the most effective approach.

This study will help decide which method is more effective at diagnosing mini stroke and also determine whether it could potentially prevent people from suffering a more severe stroke.

OFFICIAL OPENING OF IMAGING CENTRE



HRH The Prince Philip, Duke of Edinburgh opens the Clinical Research Imaging Centre at the University of Edinburgh (photographer Douglas Robertson; copyright: University of Edinburgh).

The official opening of the Clinical Research Imaging Centre (CRIC) at the University of Edinburgh took place on the 29th October 2010 by HRH The Prince Philip, Duke of Edinburgh and Chancellor of the University.

The CRIC was built over a period of nearly 2 years, and comprises state of the art facilities, including 3T MRI, 320-slice MDCT, 128-mCT-PET, Radiochemistry and cyclotron facilities and an image analysis laboratory, all aimed at improving patient care and research capabilities through a partnership between the University of Edinburgh and NHS Lothian Health Board.

The facility received vital funding from a large number of sources, including major grant governing bodies (Wellcome Trust, Medical Research Council, British Heart Foundation), the European Union, the Scottish Funding Council, the Chief Scientist Office as well as corporate, charitable and private individuals, with a total cost of over £20 million. It will support broad imaging-based research within the University and further afield, benefitting areas ranging from Psychiatry to Oncology and from adult Cardiology to Obstetric and prenatal assessment.

The opening was preceded by a tour of the facilities, conducted by SINAPSE Chair of Clinical Radiology, Edwin van Beek, who had the opportunity to introduce the staff and demonstrate the potential applications of the scanners and image analysis laboratories. After the tour, the Chancellor also visited other parts of the Queen's Medical Research Institute and finished his visit with the official unveiling of a plaque to commemorate the event.

Contributor Prof Edwin van Beek

SINAPSE

DECEMBER 2010 ISSUE

Special points of interest:

- SINAPSE has begun a series of seminars for knowledge exchange with industry. Read about them on pages 4 and 5.
- The SINAPSE Graduate School is growing in strength read about the PhD Induction and student led training events. Read about them on pages 6 and 7
- SINAPSE is planning its Annual Scientific Meeting for 2011, it will be in Dundee on 16th June 2011 - make sure the date is in your diary.
- SINAPSE is starting a series called My Story highlighting how SINAPSE PhD students came to study with SINAPSE in Scotland. Read the first one on page 8.

Inside this issue:

SINAPSE

SINAPSE COMMERICAL LINKS

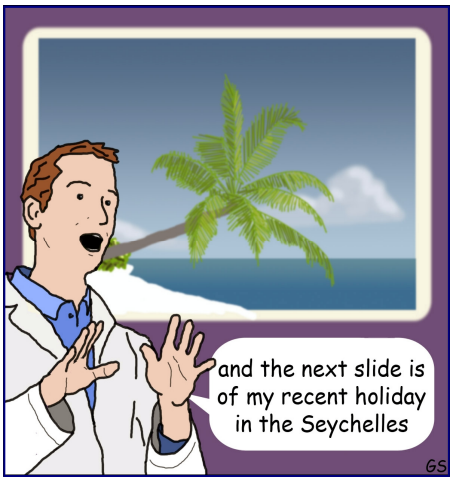
SINAPSE has established joint projects with some of the leading companies with an interest in clinical imaging, including Pfizer, GE, GSK, TMVS, Agilent Technology, AstraZeneca and MNI. The latter, Molecular NeuroImaging Inc, is a spin-out from Yale set up by John Seibyl and Ken Marek – see www.mnimaging.com. They share with SINAPSE an interest in the development and application for novel radio-labelled molecules that can assess drug action and specific molecular abnormalities in pathologies such as Parkinson's Disease, Major Depression and Alzheimer's Disease. The full list of companies and academic links for the SPIRIT project can be seen on the next page.

Both SINAPSE and the collaborators are excited about these joint developments. We envisage that the interactions will extend well beyond the specific science underpinning the projects that have been set up and will lead to joint educational developments and CPD for the NHS, Universities and companies. However, one problem has arisen and I suspect we are not alone in experiencing this.

The Molecular Imaging Committee organized a splendid one-day symposium that is reported below. The unfortunate issue of confidentially arose. My first exposure to this was well over a decade ago at a meeting of the European Molecular Imaging Society, when one of the world's leading radio-chemists presented a 20 minute apology for not being able to present anything of substance because of confidentiality. Scientific developments involving molecules appear to be particularly prone to protection sensitivities. This has been described to me as acknowledgement that SINAPSE is now in the 'real world'. If that is the case, we would love to learn from those who entered the real world before us.

Since it's inception, SINAPSE has had an internal NDA covering the six University partners. This can be extended to include individual commercial partners, but not a collection of commercial partners. Help! How do we conduct meaningful symposia with active participation by multiple commercial partners? I wonder if the answer is that we all need a better awareness of the boundaries of exploitability. Have any groups found a way of dealing with this?

Take home messages from several recent events such as the recent Nexxus Scotland Annual Life Sciences Awards 2010 meetings are:



1. links with industry are important to both academia and the industrial partners
2. Scotland is making considerable progress in this area.

In SINAPSE we aim to build on the solid platform already established. We have a great deal to offer with considerable scientific and clinical expertise in imaging. We have a series of meetings with industrial partners in the pipeline, but would encourage others who might be interested to contact the SINAPSE office.

Contributor: Prof Dave Wyper

Illustration: Gordon Simpson

SECOND SINAPSE MOLECULAR IMAGING RESEARCH SYMPOSIUM

The second SINAPSE Molecular Imaging Research Symposium was held in Aberdeen on 8th November. The meeting was a platform for SINAPSE mid level staff and students to present their current research work. We were treated to a range of presentations covering many aspects of PET and SPECT tracer development from enzymatic fluorination for PET to the use of germanium in radioiodination. It is clear from these presentations that chemistry and molecular imaging in Scotland have forged strong links. Special thanks must go to the new SPIRIT award students who presented clear outlines of their proposed projects only a few weeks after starting. Given the enthusiasm shown we look forward to seeing results presented at future meetings. As mentioned above the SPIRIT program with its multiple commercial partners has raised issues about how we maintain open scientific discussion across the network in an environment with very real IP concerns.

We are very grateful to Nicolaos Avlonitis from Prof Mark Bradley's group in Edinburgh for providing an overview of recent developments in optical imaging probes. This area presents opportunities for collaboration between the radionuclide and optical expertise with the potential to address challenges in translating preclinical to clinical imaging.

Contributor: Dr Jonathan Owens

SINAPSE SPIRIT :Novel and Collaborative Approaches to Knowledge Exchange in Translational Imaging

Neuroimage processing tools for studies of brain ageing

•University of Edinburgh
•University of Aberdeen
•Toshiba Medical Visualisation Systems Europe

Development of a normative brain image bank and template across the lifespan

•University of Edinburgh
•University of Aberdeen
•Toshiba Medical Visualisation Systems Europe

INTERACT: Medical imaging accessibility project

•University of Dundee - Ninewells
•Duncan of Jordanstone College of Art & Design, University of Dundee
•Digital Learning Foundation

Development of a Hybrid VBM, FBM, SVM Image Analysis Technique – Prediction of Treatment Non-Response using Individual Subject Neuroanatomical Scans in ADHD

•University of Dundee
•University of Edinburgh
•Siemens Medical

OVERVIEW

SINAPSE is collaborating with industry to build capacity for imaging research and address government priorities in healthcare and life science. SINAPSE has received funding for this project from the Scottish Funding Council, partner universities and the industries highlighted here. The key areas of this project are:-

- **Image analysis expertise** to extract and quantify pathological information from the increasingly detailed outputs of MR and PET/SPECT. Good analysis software developers require strong mathematics and physics skills, but also exposure to neuroscience and medicine.
- **Novel radiochemistry** to develop new ligands for PET and SPECT imaging. Such expertise enables tracking of specific biological pathways for drug discovery.
- **Translational Imaging Researchers** to build bridges between experimental model and human imaging. Imaging is now a core component of experimental models.

There are several mechanisms used to interact with Industry:-

- **SINAPSE Enterprise Studentships:** funded by SFC, universities, and industry, will strengthen expertise and build capacity in key areas. All students have three months placement with industry, and joint academic and industry supervisors to facilitate industry-academic collaboration. The original allocation of 12 students has been extended to 15 with funding from Scottish Universities Physics Alliance, SUPA and industry.
- **Joint SUPA-INSPIRE-SINAPSE studentships:** two students, funded by industry and the SUPA INSPIRE programme, will participate with the SINAPSE SPIRIT cohort and have access to the SINAPSE PhD induction and seminars throughout the year. (Projects coloured in orange)
- **Knowledge Exchange Fellows**: three fellows will be recruited to transfer technologies and know-how between companies and academia and leverage commercialisation potential by working on radiochemistry collaborations with industry and labs across SINAPSE and ScotChem.(Projects coloured in light purple)
- **Industry-academic staff exchanges:** Industry staff placement in SINAPSE labs and secondment of academic researchers to industry.
- **Central Data Repository for Knowledge Exchange:** will enhance SINAPSE's efficiency, opportunities for research, development and commercialisation of ligands, contrast agents, analysis tools, patents, access to expertise and good working practices.

Development of PET Imaging Biomarkers for Alzheimer's Disease

•University of Aberdeen
•University of St Andrews
•Pfizer

Development of new molecular tracers as tools for imaging neurological disease

•University of Glasgow
•University of Aberdeen
•Molecular Neuroimaging

Novel chemistry for isotope labelling of proteins with fluorine-18, for PET ligand synthesis

•University of St Andrews
•University of Aberdeen
•GSK

Development of novel one-step PET-isotope labelling methods for radiotracers

•University of Edinburgh
•University of Glasgow
•NHS Lothian

PET Imaging with Membrane Transporter Ligands

•University of Aberdeen
•University of St Andrews
•AstraZeneca

Image guidance for in situ ablation cryotherapy treatment for cancer

•University of Dundee
•University of Glasgow
•SUPA INSPIRE
•Galil Medical

Improved diagnostics for Magnetic Resonance imaging in microvascular stroke and ageing.

•University of Edinburgh
•University of Glasgow
•GE Healthcare

Adaptation of [18F]-FDOPA synthesis to FASTlab® platform

•University of Edinburgh
•University of Glasgow
•GE Healthcare

New synthetic methodology for radioiodination

•University of Glasgow
•University of Aberdeen
•GE Healthcare

Fluorinase derived fluorine-18 biotrans products as imaging agents for PET

•University of Aberdeen
•University of St Andrews

Translating MR neuroimaging protocols from human to experimental models

•University of Edinburgh
•University of Glasgow
•Agilent Technologies

Fluid dynamics assessment of spiral flow inducing intravascular stents.

•University of Dundee
•University of Edinburgh
•SUPA INSPIRE
• Tayside Flow Technologies Ltd

Potential MRI indices of functional recovery after focal cerebral ischaemia treated with neural stem cells

•University of Glasgow
•Reneuron

Computer assisted therapy and fMRI in aphasia

•University of Edinburgh
•University of Glasgow
•Propeller Multimedia

FIRST SINAPSE SPIRIT SEMINAR ON TRANSLATIONAL IMAGING

The first SINAPSE SPIRIT seminar organized by Prof Ian Marshall was held in the Playfair Library at University of Edinburgh on the 23rd September 2010. Seventy nine attendees from both industry and universities came together to discuss the translation of Imaging from preclinical to clinical. We were privileged to have two internationally renowned keynote lecturers and presentations from both SINAPSE staff and PhD students. There was also a poster exhibition.

Dr John Waterton

The meeting began with an excellent overview of the use of preclinical imaging in drug development by Dr John Waterton (AstraZeneca). John explained how many potential drugs have failed to show real benefits in clinical trials, and that the cost of these programmes can be up to $1B each. There is now a concerted effort to validate every step of drug discovery (e.g. that molecules reach the correct target; bind to the appropriate receptor; modulate the pathways; alter the physiology) with lab tests so as to control these huge costs.

Dr Malcolm Macleod (Edinburgh) followed on very neatly, describing a meta-analysis of preclinical studies of neuroprotective drugs in stroke models. The concentration on structural rather than functional outcome in many of those studies may partially explain why their apparent success has not been translated into the clinic. Both structural and functional biomarkers are necessary.

Professor Keith Muir (Glasgow) described an oxygen challenge test for identifying the ischaemic penumbra in stroke patients. Current MR and CT measurements of "perfusion" do not provide reliable definition of the penumbra, which is vital before thrombolytic drugs can be given safely. The penumbra in animal models of ischaemia was further discussed by Emma Reid (Glasgow) and Tracey Baskerville (Glasgow). Emma presented work in hypertensive rats, which showed larger initial ischaemic injury than did wild types. Again, the difficulties of identifying and quantifying penumbra were discussed. Tracey showed that male rats developed larger lesions than female rats although CBF values in the penumbra were similar between the sexes. It is possible that sex hormones influence the severity of the insult.

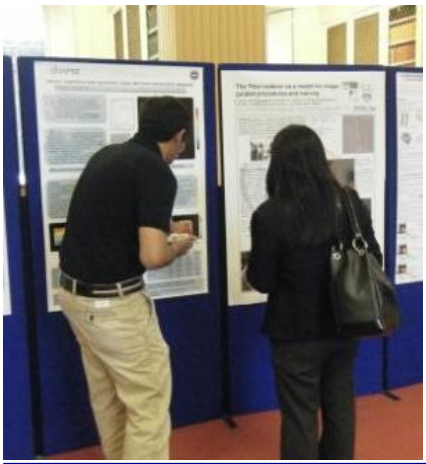
Dr Mark Lythgoe

The second keynote speaker, Dr Mark Lythgoe (University College London) gave a fascinating overview of advanced techniques being developed by his group. Of particular interest were the attempts to "steer" iron-oxide particles using the scanner's magnetic field gradients. This could be used in the delivery of stem cells, for example. Mark also described the simultaneous 3D microscopic imaging of many mouse embyos for phenotype screening. Automated image analysis is crucial to achieve a reasonable throughput.

Dr Mark Bastin (Edinburgh) described the translation of diffusion tensor imaging (DTI) and magnetisation transfer imaging (MTI) from human to rodent for the study of white matter integrity. The small size of rodent brains and their relatively low proportion of white matter make this translation challenging.

Dr Roger Staff (Aberdeen) described the use of SPECT imaging to study rCBF in Alzheimer patients who had been given a placebo or a therapeutic drug (MTC). The study was able to show that a particular dosage of the drug gave the optimal (i.e. least) reduction in rCBF over the course of 24 weeks.

Prof Andy Welch (Aberdeen) described progress in translating PET imaging from clinical to mouse studies. Challenges are posed not only by the small size of the mouse brains, but also by their low uptake of FDG tracer, the effect of anaesthetic, and the difficulty of controlling the animals during the uptake period.



Poster Session

Contributors: Professor Ian Marshall and Dr Janet De Wilde

SEMINAR IMAGING in DEMENTIA & COGNITIVE IMPAIRMENT

On 16th November at the Institute of Medical Sciences, University of Aberdeen, academics and industry representatives gathered to hear about the latest developments in Imaging research in dementia and cognitive impairment. The seminar organised by Dr Alison Murray and Mrs Teresa Morris was a joint SINAPSE SPIRIT and CCACE (Centre for Cognitive Ageing and Cognitive Epidemiology) seminar and included presentations from two of industry collaborators in the successful SPIRIT award from SFC.

Tim McCarthy, Pfizer

The day began with Dr Tim McCarthy, Pfizer, highlighting the challenges and opportunities of molecular imaging in drug development, describing their world-wide multicentre trials in this area. This was followed by a presentation from Professor Bettina Platt on preclinical imaging markers of Alzheimer's Disease and how techniques developed for human imaging (statistical parametric mapping) had been translated to preclinical imaging research in transgenic animal models. The challenges of co-registration between modalities for preclinical images were highlighted.

Dr Mark Bastin gave an overview of the first wave of imaging the Lothian Birth Cohort 1936 and illustrated the role of diffusion tensor imaging. Using this exceptional data set is greatly enhancing researchers' ability to study cognitive impairment and ageing in relation to dementia. Dr Roger Staff followed this with imaging the ageing brain in the North East of Scotland and the longitudinal imaging results from the Aberdeen Birth Cohorts of 1921 and 1936. Discussion focussed on the attrition rate from longitudinal studies with ageing cohorts.

Mr Colin Roberts and Dr Ian Poole from Toshiba Medical Visualisation Systems Europe highlighted the research and development strategies of a large multinational company and their work on developing image analysis tools for routine practice and plans to collaborate on development of a brain image databank with the Universities of Edinburgh and Aberdeen.

Dr Meike Vernooij gave an excellent overview of imaging of brain haemorrhage in the Rotterdam Scan Study, she showed exquisite high resolution of cerebral microbleeds and highlighted their high rate of detection using

Dr Meike Vernooij

3T MRI and high resolution T2* sequences.

Dr John-Paul Taylor discussed imaging biomarkers in Dementia with Lewy Bodies, he highlighted the different clinical phenotypes (Parkinson's disease dementia versus Dementia with Lewy bodies) depending on the location of neuropathology. He illustrated the role of structural MRI and FP-CIT SPECT in diagnosis.

Professor John Starr, Edinburgh, showed the Scottish Dementia Research Interest Register and highlighted where this excellent resource could be used in imaging studies. Dr Paul McNamee, health economist, Aberdeen, discussed how to measure cost effec-

Prof John Starr

tiveness of diagnostic tests in dementia. Current publications in this area are limited due to lack of currently available disease modifying therapies but once such therapies become available health economic research will be important.

The day was concluded by Professor Claude Wischik, Executive Chairman of TauRx, who highlighted his experience of drug development in Alzheimer 's disease describing the lengthy process from preclinical research to clinical trial, the potential market and the fundamental role of imaging in demonstrating drug effect.

Dr Alison Murray and her staff deserve great credit for putting together this excellent meeting. A key message coming from many presentations was the important of early engagement between academic groups and industrial partners.

Contributors: Dr Alison Murray, Dr Janet De Wilde and Prof Dave Wyper

Professor Claude Wischik

SINAPSE GRADUATE SCHOOL PhD INDUCTION

Thirty two SINAPSE PhD students and staff gathered at the Burn, Glenesk, near Montrose, for the third annual SINAPSE PhD induction. This year the focus was on presentation skills, as SINAPSE aims to ensure that its PhD Students are skilled communicators and can go out and present their research with confidence. Iain Davidson led a session on how to present research results, how to engage with the audience and how to deal with difficult questions.

Iain Davidson
"Taking a message on Board"

The students were given plenty of opportunity to practice their skills. They had to present why their project would have the greatest impact and then had to excite the audience about a general article of interest in three minutes. The well deserved winner was the excellent communicator Islem Rekik (below)

Islem Rekik
Winner of Best Communicator

who joined SINAPSE as a first year student at the University of Edinburgh.

Professor David Donaldson and Dr Madeline Keehner led sessions to discuss SINAPSE student issues (see picture below). The 3 days also gave the opportunity for all the disciplines to have a brief insight into other disciplines. There were three lay presentations on key areas of SINAPSE: Magnetic Resonance Imaging, Psychology and Imaging, and Radiochemistry based Molecular Imaging. Professor Keith Muir gave a keynote lecture on Imaging in Stroke.

The first evening event entitled " A taste of Scotland" including lessons in Scottish Dancing and with Professor David Wyper on the bagpipes once again proved to be the most enjoyable and fun introduction to Scotland.

Contributor Dr J De Wilde

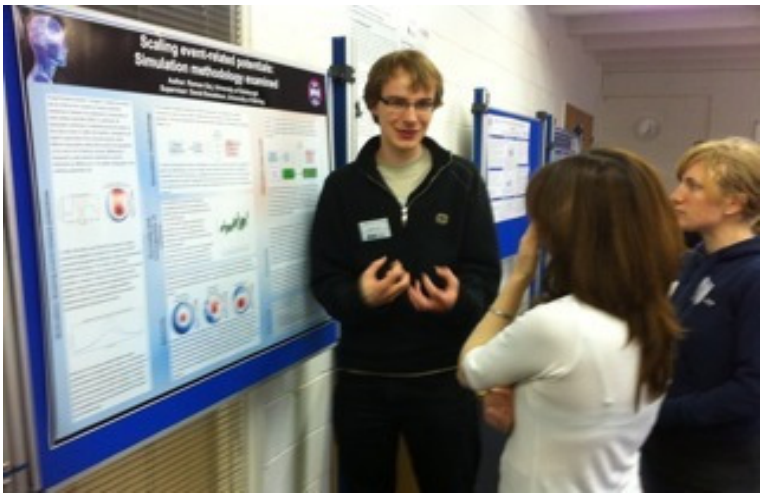
Discussion on "What is a SINAPSE PhD student?"

GRADUATE SCHOOLS and RESEARCHER EXPERIENCE

Graduate Schools and the researcher experience is a top priority in Scotland. The Vitae Hub in partnership with SFC, HEA and QAA Scotland aim to deliver an integrated programme of work in this area. To examine these issues a workshop was held on 10 November 2010 at the University of Strathclyde enabling participants to explore approaches to Graduate Schools. Professor David Gani opened the workshop with an overview of developments to date and a look at the way forward. All the graduate school examples were very different in size and approach. The SUPA (Scottish Universities Physics Alliance) graduate school presented by Avril Manners has 500 PhD students and offers them in person courses using video conferencing to transmit across institutions and a wide range of online courses using mySUPA which is based on Moodle. The SINAPSE Graduate School, presented by Dr Janet De Wilde, in comparison is smaller consisting of 40 students and this allows a residential induction and student-led training, both described on these pages. SINAPSE also has a suite of elearning courses. There was a presentation from Professor Tore Furevik on the Norwegian Research School in Climate Dynamics. This gave an interesting view on international approaches. There were breakout sessions which explored the definition and purpose of a graduate school, providing opportunities to discuss creating cohorts and communities, the benefits of Graduate Schools, Multi-disciplinary Graduate Schools, Pan-Scottish Graduate Schools and Student Membership of Multiple Graduate Schools. *Contributor Dr J De Wilde*

STUDENT-LED TRAINING: EVENT RELATED POTENTIALS

On the 15th of October, within the beautiful context of the University of Stirling, the Psychological Imaging Lab run by Professor David Donaldson had the pleasure to host an Event Related Potentials workshop aimed at the SINAPSE PhD Students. During the workshop students were exposed not only to the basic notions behind the technology, but also to some of the most important applications in current research. Johanna Simpson and Daniele Ortu, SINAPSE PhD students working in the PIL lab, gave a general introduction to the technique and described the steps involved in ERP data processing. Part of the workshop took place within the lab itself where the attendees had a chance to witness the data collection process in all its stages, asking questions and fulfilling their curiosities about ERPs. During lunch time a poster session gave the students a further chance to familiarize with the concepts described in the morning by having face to face conversations with several members of the PIL lab. The afternoon was dedicated to ERPs in current research: Dr. Lea Pilgrim, SINAPSE post doc working in the PIL lab, talked about how ERPs can shed light on the costs of unitization within an item recognition paradigm; Prof. David Donaldson explained how ERPs can help discriminate between memory and metamemory; Dr. Ines Jentzsch, from the University of St. Andrews, showed the students how the P3 effect can be used to answer meaningful questions about human cognition. *Contributor; Daniel Ortu 3rd SINAPSE PhD Student Stirling*

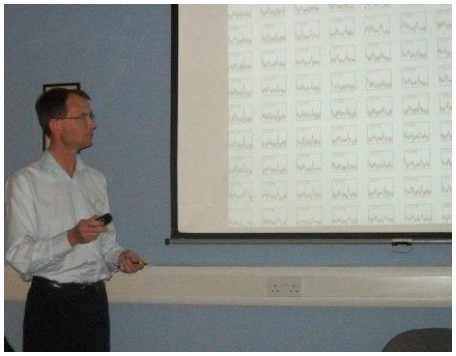


Roman Goj (SINAPSE PhD Student) Discussing Poster

STUDENT-LED TRAINING: MR SPECTROSCOPY WORKSHOP

SINAPSE MR Spectroscopy workshop was held on 20th October 2010 at the Institute of Neurological Sciences, Southern General Hospital, Glasgow. 15 participants (SINAPSE and non-SINAPSE PhD students and researchers) from Aberdeen, Glasgow and Edinburgh attended this full day workshop. Speakers included researchers from University of Glasgow, Southern general Hospital (Glasgow) and Royal Hospital for Sick Children (Glasgow) as well as University of Edinburgh. The talks included theory of MR spectroscopy (by Dr William Holmes, University of Glasgow), clinical applications of MR spectroscopy in stroke (by Dr Krishna Dani, Institute of Neurological Sciences, Southern General Hospital, Glasgow), clinical MRS-neuro (by Mr John McLean, Institute of Neurological Sciences, Southern General Hospital, Glasgow), MRS thermometry (by Dr Ian Marshall, SFC Brain Imaging Centre, University of Edinburgh), paediatric/fetal MRS (by Ms Christie McComb, Department of Clinical Physics, Anne Hollman MRI Unit, Royal Hospital for Sick Children, Glasgow), and fat quantification in the liver by SAGE (by Mr Scott Hanvey, University of Glasgow). Practical sessions were led by Mr John McLean and included demonstration of the data acquisition procedure on 3T GE scanner and a session on MRS data analysis using the software JMRUI as well as a review of the most popular MRS analysis softwares. The workshop was ended by discussions on the challenges of MRS (by Dr Ian Marshall), and the future of MRS (by Dr Rosario Lopes, SINAPSE researcher, Institute of Neurological Sciences, Southern General Hospital, Glasgow). Evaluation of the workshop by participants was positive.

Contributor; Mahsa Shokouhi 3rd SINAPSE PhD Student Glasgow



Dr Ian Marshall, University of Edinburgh

SINAPSE ANNUAL SCIENTIFIC MEETING—DUNDEE 2011

SINAPSE Annual Scientific Meeting moves to Dundee next year. This event will take place on 16th June 2011. Please put this date in your diary. It will be held at Bonner Hall. A call for papers will be announced in the new year. Societies and companies wishing to exhibit should contact Dr Janet De Wilde- janet.dewilde@ed.ac.uk.

BIR-SINAPSE MRI and BRAIN BIOMARKERS: AUTISM & BEYOND

On the 24th March 2011 in London, BIR is hosting a day organised by Dr Janet De Wilde (SINAPSE) on MRI and Brain Biomarkers: Autism and Beyond. Following the recent publicity around diagnosing Autism using MRI, this event will delve into questions such as “Are some conditions more suited to imaging biomarkers than others?” and "Can imaging biomarkers be applied rigorously to conditions governed by behaviours such as Autism?". For details please go to www.bir.org.uk/bir-events-home.aspx

MY STORY - LIZ JAMESON DESCRIBES HER MOVE TO SCOTLAND

Street dancers, flame throwers, the cacophony of voices proclaiming “possibly the only show with a puppet murderer / sonnets on stilts / a balalaika” (the last one in my own voice) and a vibrant multitude of flyers – these were some of my first experiences of my adopted home city. It was, of course, the festival season in Edinburgh – and as no mere tourist, I found myself nightly in a claustrophobic, dark loft playing about five minutes of cello music in the ominously-named ‘Cabaret of Menace.’ After a demanding first year of my undergraduate degree in Cambridge, I was relishing the atmosphere of freedom, fun and fortunately no Saturday lectures in sight; and I soon came to appreciate the beauty of the city beyond the giant inflatable purple cow and other Festival haunts.

So the idea of moving to Edinburgh was long-established in my mind when, after completing my Bachelor’s degree in Natural Sciences specialising in Chemistry, I searched for a suitable Master’s course. Fortunately, the MSc in Medicinal and Biological Chemistry offered by the University of Edinburgh seemed to match my interests perfectly, so I moved to Edinburgh last year to study. Having grown up in Southampton, Edinburgh was quite a distance to move; but I was used to travelling to Scotland. My grandfather was Scottish and we’ve enjoyed several family holidays in a beautiful part of the north-west highlands, so I really looked forward to living in Scotland. I settled in quickly, finding my bearings, thick sweaters, a flat and great flatmates within a few weeks. And despite the hard winter last year, I’m still glad to be here!

My undergraduate degree allowed me to study other disciplines alongside Chemistry, so I tackled some Cell Biology and Pharmacology (as well as Physics and Mathematics, which I perhaps appreciated somewhat less.) This way, my interest in the biological sciences developed. Studying the MSc in Edinburgh has exposed me to a range of areas at the interface of Chemistry and Biology, which I have really enjoyed. With my love of the city and the friendly atmosphere of the School of Chemistry, it seemed an obvious decision to apply to groups here for my PhD. I have now completed the first few weeks of my SINAPSE-funded PhD under supervision of Professor Mark Bradley. I am working towards the development of a generically applicable method for the rapid and efficient release and simultaneous labelling of solid phase-synthesised pre-probes with the PET isotope 18F for use in radiotracers.

Anyone who has begun a PhD will know all too well the challenges of starting work in a new laboratory – from learning names to finding the precise piece of glassware you require amongst a labyrinth of cupboards, drawers and shelves. However, I hope to learn quickly and I am already enjoying the challenges of research… and looking forward to next year’s Fringe!

Contributor: Liz Jameson

Produced for SINAPSE by Dr Janet De Wilde. Any comments phone her on 0131 651 1735 or email on janet.dewilde@ed.ac.uk