

SINAPSE JUNE 2010 NEWSLETTER

SINAPSE SPIRIT AWARD

SINAPSE was awarded £1.2M from the Scottish Funding Council (SFC) as part of an £8.1m programme that was announced on 20 April 2010 by the Cabinet Secretary for Education and Lifelong Learning Michael Russell.

The SFC programme called SPIRIT will involve universities and businesses working together in a series of innovative knowledge exchange projects, ten in total, aimed at key sectors of the Scottish economy.

SINAPSE has been awarded the grant to lead on developments in Novel and Collaborative Approaches to Knowledge Exchange in Translational Imaging. Professor Joanna Wardlaw, University of Edinburgh, is the Principal Investigator for this award.

The SINAPSE SPIRIT project will see 12 industry-partnered PhD studentships starting in October this year. There will also be 3 post-doctoral Knowledge Exchange fellowships specifically aimed at developing radio-chemistry skills in Scotland to support the three Scottish cyclotrons.

Michael Russell, Cabinet Secretary for Education and Lifelong Learning, said of the SPIRIT



Cabinet Secretary for Education and Lifelong Learning Michael Russell visits Toshiba Medical Visualization Systems Europe (one of SINAPSE Spirit Award Partners) From Left to Right: Dr Janet De Wilde (SINAPSE), Dr Ken Sutherland (TMVSE), Sean Murphy (TMVSE), Cabinet Secretary Michael Russell, Dr Siobhan Jordan (Interface)

programme: "The considerable economic benefits of the impressive projects that will benefit from this funding are beyond doubt. Students benefit from industry expertise and knowledge, informing their research and development, while industry staff will be able to develop their skills no matter what stage their career is at.

Our universities have an important role to play in helping us emerge strongly from the current economic downturn. As well as ensuring our people have the skills they need as individuals and to grow our

economy, they are also businesses in their own right, generating around £2 billion a year. They support research and development in the business community and attract young people to live and work in Scotland."

The industrial partners for the SINAPSE Spirit award are General Electric Healthcare, Siemens Medical, Pfizer, Toshiba Medical Visualization Systems Europe, Propeller Media, Varian, Reneuron, GlaxoSmith-Kline, Molecular Neuroimaging, Digital Learning Foundation, and NHS Lothian.

Toshiba Medical Visualisation Systems Europe Visit

Cabinet Secretary for Education and Life Long Learning Michael Russell MSP visited the offices of Toshiba Medical Visualisation Systems Europe (TMVSE) in Edinburgh to hear about their industrial collaborations with academia. The meeting was organised by

Dr Siobhan Jordan of INTERFACE, who specialise in linking industry to academia. The focus of the visit was on TMVSE's work with SINAPSE. Dr Janet De Wilde, SINAPSE Executive Manager, attended the meeting. The benefits to the both sides were emphasised by demon-

strating the work of Sean Murphy, TMVSE, who has been involved in the exchange activities with the SINAPSE centre in Edinburgh. The collaborative work undertaken so far will be further enhanced by the 2 new SINAPSE -Spirit studentships co-supervised by TMVSE.

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JUNE 2010 ISSUE

Special points of interest:

- Better research outcomes can be obtained from multi-centre MRI research trials **but** funders need to recognize that these trials take longer, and require longer funding periods. Read about this and other conclusions from the Multi-centre MRI Research Day organized by SINAPSE and IPEM on page 3.
- Neuroimaging is now being used for applications not intended by research developers. Read about the outcomes for the first part in a series of debates between imaging researchers, lawyers and many others on page 3.

Inside this issue:

| | |
|---|---|
| Student Led training | 2 |
| Learning Materials for S2 - S3 | 2 |
| Star SINAPSE Student | 2 |
| More SINAPSE PhD's | 2 |
| Brain Imaging and Its Impact on Society | 3 |
| Multicentre MRI research | 3 |
| SINAPSE Events listing | 4 |

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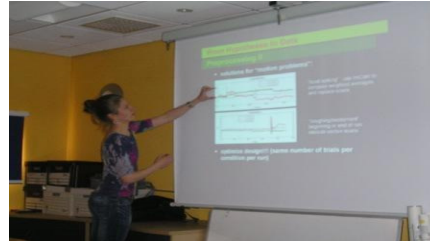
SINAPSE STUDENT-LED TRAINING

Second year SINAPSE PhD students were challenged to develop student-led initiatives. As part of this, second and third year SINAPSE students (Victoria Gradin, Moses Sokunbi, and Will Lloyd) organized a workshop on fMRI experimental design and biophysical mechanisms held in May at the University of Aberdeen.

This workshop targeted PhD students using fMRI in their research. The speakers included SINAPSE researchers: Professor Christian Schwarzbauer, Dr Trevor Ahearn and Dr. Gordon Waiter, alongside other researchers from the university such as Dr Jane Utting. The workshop was well-

received and ran smoothly thanks to the support of the SINAPSE PhD students & support staff. Contribution by Harriet Johnston

Photographs by Moses Sokunbi: SINAPSE Students and Staff attending the fMRI course at the University of Aberdeen



SINAPSE STUDENTS CREATE LEARNING MATERIALS FOR S2-S3

Learning materials for school children have been produced by second year PhD students Adriana Tavares and Harriet Johnston. The materials are based on videos showing various aspects of brain imaging. These videos will be used as material for a topical science unit on brain imaging being

developed for S2 and S3 high school students in Scotland.

Videos were created introducing molecular imaging, MRI, MRI Safety, and EEG, thanks to the help of first year PhD students Carlos Mugruza and Elaine Masson and SINAPSE researchers, Dr. Sue Champion, Dr. Douglas

Potter, and Dr. Jennifer MacFarlane, who were brave enough to be videotaped, and SINAPSE researcher, Dr. Sally Pimlott who worked behind the scenes. First year PhD student Jehill Parikh will answer students' questions online when this material is made available to schools later this month. Contribution by Harriet Johnston

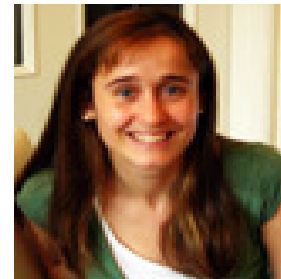
SINAPSE STAR STUDENT

SINAPSE is very pleased to announce that Victoria Gradin, a SINAPSE PhD student, won a very competitive invitation to present at the 23rd European College of Neuropsychopharmacology (ECNP) Congress, Amsterdam in August 2010.

Victoria will present her work on "Abnormalities in reward prediction error signals in depression and schizophrenia".

Over a hundred PhD students and post-docs competed for 8 clinical and 8 pre-clinical presentations places to present at the Young Scientists Award Symposia as part of the ECNP Congress. Victoria was selected as one of the clinical presenters in Amsterdam, which is an excellent achievement.

Photograph: Victoria Gradin, SINAPSE PhD Student



SINAPSE SNIPPETS: PhD STUDENTS and KE SHOWS

Eighteen new SINAPSE PhD students will be warmly welcomed to Scotland in October 2010. Twelve students will be SPIRIT funded and will have placements with industry during their studies. Six students will be traditional SINAPSE funded studentships. This will bring the number of SINAPSE students to 36. This is a great addition to imaging research in Scotland.

SINAPSE exhibited at the Scotland Knowledge Exchange Conference, held at Heriot-Watt University, on the 23rd April 2010. Professor David Wyper, SINAPSE Director, gave an excellent presentation on SINAPSE Health Technology Innovation, highlighting SINAPSE's successful industrial collaborations to date plus SINAPSE's technological developments and innovations.

SINAPSE also exhibited at the Convergent Technologies Showcase, in Stirling, on the 17th March 2010 and Scottish Technology Showcase, in Glasgow, on the 26th March 2010. Both events provided excellent opportunities for SINAPSE to increase its liaisons with industry in Scotland. Overall SINAPSE is very enthusiastic at its growing industrial connections.

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What are you thinking? Who has the right to know? Brain Imaging and its Impact on Society

Neuroimaging is being used in a wider range of settings than researchers first anticipated. Applications now being queried are for example “Should research data from imaging experiments be used in a court of law” or “Should neuroimaging be used for neuromarketing?” To further understand the societal implications a group of 41 neuroradiologists, neurologists, neuroscientists, psychologists, psychiatrists, physicists, lawyers, ethicists, political scientists, philosophers, social scientists, science journalists and imaging and law students met on 6th and 7th of May 2010 at the Institute for Advanced Studies, University of Strathclyde, Glasgow, for the first of a series of workshops. After two days of expert talks, panel question and answer sessions, discussion groups and feedback, a brief summary of the main conclusions of the group is provided below (for a complete report written by Professor Joanna Wardlaw please con-



tact: janet.dewilde@ed.ac.uk).

- ▶The use of neuroimaging techniques in law, marketing etc, is at present without a secure scientific foundation.
- ▶Hence there is concern about the increasing use of neuroimaging techniques as evidence in a court of law, in marketing or in public security.
- ▶Increased research and greater academic engagement is needed to ensure that the methods and interpretation are fit for purpose.
- ▶Extrapolation of the results of neuroimaging research from the subject group and research setting to another groups or individuals could be misleading.
- ▶Larger and more diverse normative data sets, from both structural and functional neuroimaging, are required to enhance understanding of research outputs and to inform its wider use.
- ▶Researchers need to understand that results expressed as an image can be highly compelling and may be disproportionately persuasive compared with other forms of evidence.
- ▶Communication between the different sectors and stakeholders involved in using neuroimaging technologies is poor and needs to be improved.



- ▶Media communication should be improved.
- ▶Guidance for conduct and presentation of neuroimaging, particularly functional neuroimaging, experiments would be valuable.
- ▶Given that neuroimaging is a rapidly advancing and complex field, researchers should understand that there is the possibility of re-evaluation of previous results, or adoption of new research designs, leading to radically new interpretations.

The second debate will take place on 7th and 8th June. It will discuss how this information is being used in a legal setting and whether it should form part of a trial and, if so, in what form. Key Speakers are Prof Hank Greely, Stanford University and Co-Director of the MacArthur Law and Neuroscience Project, and Judge Jed Rakoff, District Judge for the Southern District of New York.

MULTICENTRE MRI RESEARCH DAY

On 26th March 2010, Dr Janet De Wilde, SINAPSE, organised jointly with IPER MR Special Interest Group, a conference on “Experiences and Optimisation of Multicentre MRI Research Studies” in Edinburgh. Multicentre MRI is an increasingly popular approach for acquiring large datasets from diverse geographical populations yet technical issues in combining data from multiple sites need to be addressed.

A key theme arising from the day was the length of time required to set up multicentre research. A considerable dilemma of research is the rapid delivery of results required by funders. Whilst it may be possible

in a single centre research trial to set up in a couple of months for a multi-centre trial the setup period needed is much greater. The consensus at the conference was that one average at least one year was needed as all the centres involved needed to be working to the same quality assurance procedures, using the same protocols, same methods of data collection, and to be processing results in a unified method. To establish that all centres involved are doing this and rigorously takes time. The conference agreed that this should be recognised by funders as necessary in order to obtain much more meaningful and applicable results than for

any single centre trial.

Keynote speakers included Dr Jorge Jovicich, from the University of Trento, who presented “Functional and Structural Neuroimaging: Reproducibility issues in multicentre MRI studies” and Professor Martin Leach, from The Royal Marsden, who presented his experience in “Establishing and conducting a Multicentre MRI Clinical Trial: MRI Breast Cancer Screening in Women at High Risk”

The experiences of all the presenters from multicentre MRI research were similar and it was extremely valuable being able to share this as a community.

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SINAPSE EVENTS JUNE to DECEMBER 2010



the institute for advanced studies

PUBLIC LECTURE 2010

On **7 June 2010**, Professor Hank Greely from Stanford University, USA will give a one hour public lecture on **Neuroscience, Law, and Society: The Coming Revolution**, at 6 p.m. at University of Strathclyde McCance Lecture Theatre 1 Richmond Street, Glasgow G1 1XQ

BRAIN IMAGING & SOCIETY DEBATE—PART 2

On **7 and 8th June 2010**, SINAPSE with its partners Edinburgh Neuroscience and SCRIPT will be hosting part 2 of the debate on “Who has the right to see your brain images” at the Institute of Advance Studies, University of Strathclyde, Glasgow. Part 2 will examine the legal aspects. If you want to follow this debate live online, you can do so at: <http://dcnwebcall.dcn.ed.ac.uk/iaslecture/>

PUBLIC SURVEY 2010

As part of the Brain Imaging Debate we are seeking public opinion via online survey. Its release will be announced on the SINAPSE website <http://www.sinapse.ac.uk>

SINAPSE ANNUAL SCIENTIFIC MEETING 2010

On **16th June 2010**, SINAPSE will be hosting its Annual Scientific Meeting at the Royal Society in Edinburgh. The keynote speaker is Professor Jeff Bulte from John Hopkins University, USA.

BRAIN IMAGING & SOCIETY DEBATE—PART 3

Part 3 of “Who has the right to see your brain images” will take place as 3 one day debates : 25th June (public debate), 19th Aug (policy makers debate), 29th Sept (politicians debate), these will be organised by the Scottish Futures Forum.

ETHICAL MANAGEMENT OF RESEARCH IMAGING

On **1st July 2010**, at the Wellcome Trust in London, the Royal College of Radiology and SINAPSE are hosting a seminar involving Professional and Regulatory bodies and representatives from research imaging centres to discuss the ethical issues related to imaging research findings in research volunteers.

NEURORECEPTOR MAPPING 2010

On **22nd-24th July 2010**, the 8th International Symposium on Functional Neuroreceptor Mapping Congress (NRM2010) will be hosted at the Glasgow Hilton Hotel; the www.nrm2010.org. SINAPSE members are on the organising committee.

SINAPSE SPIRIT TRANSLATIONAL IMAGING SEMINAR

On **23rd September 2010**, SINAPSE will be hosting a Translational Imaging workshop in University of Edinburgh, Playfair Library. See SINAPSE website for details. This is the first of six translational imaging seminars to be held under the SPIRIT project

SINAPSE PhD INDUCTION

On **23-29th October 2010**, SINAPSE will be hosting its annual student induction at the Burn, Angus. This year SINAPSE will be welcoming 18 new students. See SINAPSE website for details.

IMAGING in DEMENTIA & COGNITIVE IMPAIRMENT

On **16th November 2010**, SINAPSE and Centre for Cognitive Ageing & Cognitive Epidemiology will be hosting an Imaging in Dementia and Cognitive Impairment Seminar at Institute of Medical Sciences, University of Aberdeen. See SINAPSE website for details.



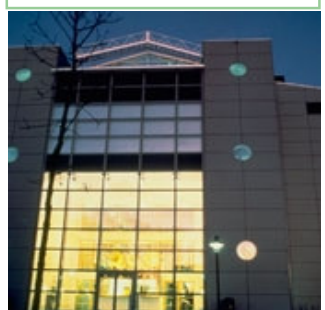
Royal Society, Edinburgh



Wellcome Trust, London



Hilton, Glasgow



Institute of Medical Sciences, Aberdeen

Produced for SINAPSE by Dr Janet De Wilde, SINAPSE Executive Manager. Any comments on this newsletter please send to Janet by phone on 0131 651 1735 or email janet.dewilde@ed.ac.uk

Do you have something to contribute: deadline for submissions to the next newsletter is 27 August 2010

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