



IBLS

Annual Report
2008/2009



About IBLS

The Institute of Biomedical & Life Sciences (IBLS) is one of three SWan Institutes. It brings together the strengths, diversity and excellence of biological and medically-related research and teaching that has flourished at Kingston, Royal Holloway and St George's for the past 100 years. Using state of the art informatics, learning and research technologies, IBLS harnesses world class expertise and facilities to generate a vibrant environment of scholarship and innovation.

There are over 250 academic leaders and 2,000 undergraduate and graduate students researching and studying in areas under the remit of IBLS including:

- Clinical & translational Sciences
- Biotechnology & Basic Life Sciences
- Medicinal, Pharmaceutical & Natural Products
- Chemistry
- Neuroscience, Human Cognition & Mental Health.

IBLS also has complementary technical expertise and research facilities spanning the Biosciences spectrum from molecular genetics, through cellular and organisational biology, to behavioural and population sciences.



SWan-IBLS Management Structure:

Director: George Dickson (RHUL)

Deputy Director (Undergraduate Teaching): David Mackintosh (KU)

Deputy Director (Graduate Training): Paul Andrews (SGUL)

Deputy Director (Research & Enterprise): Peter Bramley (RHUL)

Steering Group: David Mackintosh, Peter Bramley, Paul Andrews, Philip Beesley, George Griffin, Declan Naughton, Alan Gange, Nigel Brown, Alan Seddon.

B. Undergraduate Teaching Sub-group: David Mackintosh, Alan Seddon, Alan Gange, Alan Johnstone, Richard Grant, Helen Mason, Dewi Davies.

C. Graduate Training Sub-group: Paul Andrews, Philip Beesley, Nigel Brown, Lucy Jones, Helen Mason, Chris Rider.

D. Research & Enterprise Sub-group: Peter Bramley, George Griffin, Declan Naughton, Vincent Jansen, Andy Agosti, Johannes Zanker, Gary Coulton.

Other Working Groups: MSc Biotechnology: MRes Molecular Neuroscience: BSc Timetabling.

B. Undergraduate Teaching Sub-Group - Main Achievements:

BSc in Biomedical Science(s) (BMS)

Recruitment

BSc-BMS recruitment targets were easily achieved at all three sites for the current academic year (2009-2010) and are as follows:

Kingston University = 196

St George's = 101

Royal Holloway = 100

Total = 397

Shared Final Year Modules

A series of some 10 courses (15 credit modules or half-units) delivered from all three sites have been made available to a select number of final year BSc BMS students. Eligibility criteria were agreed and complex timetabling issues have been resolved. The student records system at each Institution has been enabled to allow access to facilities, both physical (libraries, sports centres etc.) and virtual (student portals), on all three sites.

Online Lecture Delivery

Bilateral and Trilateral Delivery

Facilities for live streaming and recording of lectures between SWan member Institutions, with or without interactivity, have been established, tested and are functionally active.

Remote site students will have additional access to lecturers via email, message boards and face-to-face tutorial sessions (2-3 per term).

Staff Development

Training for staff in online lecture delivery has occurred, co-ordinated across the three institutions. Further top-up sessions will be made available throughout the academic year.



Student Feedback

Initial Collaboration & Learning Environment (CLE) reports suggest that the current students are comfortable with the learning technologies. Detailed feedback will be solicited from students and academic staff throughout 2009-10. Results will be used to make informed decisions on and/or changes to module delivery in the next academic year.

Expanding Undergraduate Opportunities

IBLS continues to seek ways in which to bolster its undergraduate offering, with strong emphasis on cross-site collaboration.

Cross-campus modules

The option of offering cross-campus modules to other bioscience students will be considered for 2010.

New Joint BSc Programmes

Options for new joint BSc programmes (e.g. Genetics) will also be considered for 2010.

C. IBLS Graduate Training Sub-Group - Main Achievements:

MSc in Biotechnology

In October 2009, a joint course was launched with 13 students (7 overseas; 6 home/EU). Some 90 mostly overseas applications were received, with interest from students in India notably high. Student records systems have been enabled to allow students access to facilities on all three sites.

MRes in Biomedical Sciences (Molecular Neuroscience):

A joint pathway launched in October 2009 within the SGUL MRes in Biomedical Sciences. Two students have selected this pathway. Plans are in hand for a concerted recruitment drive for 2010. Student records systems have been enabled to allow access to facilities on all three sites.

Graduate Summer School

This event took place in July 2009 at Royal Holloway and was attended by over 30 late stage PhD students from across SWan. It was highly successful and well received. Some students from the two other SWan Institutes also participated.

SWan-IBLS PhD studentships

Four new joint SWan-IBLS PhD studentships have been awarded for the academic year 2009/2010.

"Engineering JA-regulated secondary metabolism in plants with the potential to produce therapeutic drugs"

Student: Moritz Bömer

Lead supervisor: Dr Alessandra Devoto, Royal Holloway

Co-supervisor: Prof Julian Ma, St George's

"Investigating potential interactions between glutamatergic signalling and dopamine receptor interacting proteins (DRIPs) in psychiatric disorders"

Student: Farah Syed Salim

Lead supervisor: Dr Philip Chen, Royal Holloway

Co-supervisor: Dr Jamal Nasir, St George's

"An investigation of brain morphology and function in a mouse model of schizophrenia"

Student: Stephen Randall

Lead supervisor: Dr Paris Ataliotis, St George's

Co-supervisor: Dr Pavlos Alifragis, Royal Holloway

"Identification of a role of KCNQ channels in vascular reactivity by lentiviral-dependent gene modification"

Student: Kate Orton

Lead supervisor: Dr Iain Greenwood, St George's

Co-supervisor: Dr Rafael Yanez, Royal Holloway



Generic Postgraduate Training

Shared training modules and courses are now freely available across the three sites to all postgraduate students.

CLE-based PhD Data and Journal Club:

This project will commence in 2010.

New Courses

Two new courses are under consideration for 2010:

MSc in Genetics

Kingston University is currently performing market research into the viability of this course.

MSc in Global Health - Pathogens and Policy

Royal Holloway, St George's and the Veterinary Laboratory Association (VLA) are jointly developing this course.

D. Research & Enterprise Sub-Group - Main Achievements:

Workshops

Neuroscience, Psychology and Mental Health Workshop, July 2009

This staff-oriented event took place at Royal Holloway with around 50 participants. Feedback was extremely positive.

Advanced Bio-imaging Workshop, May 2009

This collaborative workshop was led by Johannes Zanker, Head of Department of Psychology (RHUL), Prof Tim Ellis and Prof Jamshid Dehmeshki, both from Kingston University's Faculty of Computing, Information Systems and Mathematics. There were some 20 participants and feedback was good.

Drug Abuse in Sport Workshop, July 2009

Prof Declan Naughton, Faculty of Science, Kingston University, organised this event, which featured a number of external speakers. Feedback from the 40 participants was good.

Several workshops are planned for the 2009/10 academic year:

Infection, Immunity and Microbiology

Workshop: This event is scheduled to take place at SGUL.

Natural Products, Systems and Synthetic

Biology Workshop: This event is in planning for 2009-10 at RHUL or KU.

Advanced Technology Expert Workshop

Series: This series of events (eg. microscopy, mass spectroscopy, genomics, bio-informatics, RNAi, etc.) has been proposed and will be investigated for 2010.

Databases

Academic Expertise Database

This database, originally proposed by IBLS, is nearing launch.

Research Facilities Database

IBLS has assembled a comprehensive database of high-end bioscience facilities and equipment available across SWan.

External Collaboration

Veterinary Laboratory Association (VLA)

Interaction with VLA has been initiated, and a formal link with RHUL established.

National Physical Laboratory (NPL)

Interaction with NPL has been initiated and formal discussions will commence shortly.

Small Collaboration/ Sabbatical/ Workshop Grant Scheme:

To further stimulate and pump-prime cross-institutional research collaboration a series of small (£2k) grants has been awarded under peer-review by this sub-group.

The following awards were made during the 2008/09 academic year.

A pilot study to investigate the possibility of using the social amoeba Dictyostelium discoideum to identify emetic liability of new chemical entities.

Lead Investigator: Dr Robin Williams, Senior Lecturer in Biomedical Sciences, School of Biological Sciences, RHUL.

Co-Investigator: Prof Paul Andrews, Professor of Comparative Physiology, Division of Basis Medical Sciences, SGUL.

Further psychometric testing of the Stroke Self-efficacy Questionnaire (SSEQ): sensitivity and responsiveness.

Lead Investigator: Dr Fiona Jones, Principal Lecturer Physiotherapy, Faculty of Health and Social Care Science, SGUL/ KU.

Co-Investigator: Dr Afsane Riazi, Lecturer in Psychology, Department of Psychology, RHUL.



Determination of the role of an apical potassium conductance in the control of sodium absorption by lung epithelial cells

Lead Investigator: Dr Mark Carew, School of Pharmacy and Chemistry, Penrhyn Road, KU.

Co-Investigator: Dr Debbie Baines, Ion Channels and Cell Signalling Research Centre, Division Basic Medical Sciences, SGUL.

Giardia lamblia - a genome-informed approach for the development of effective detection and genotyping methods.

Lead Investigator: Dr. J Tovar, RHUL.

Co-Investigators: Prof. P Butcher, SGUL; Dr. A Breathnach, Medical Microbiology, St George's NHS Trust

The Mechanisms of α CaMKII Synaptic Targeting in Long-Term Potentiation and Hypoxia

Lead Investigator: Dr. K. Török, Reader in Cell Biology, SGUL;

Co-Investigator: Prof. Philip Beesley, Chair in Molecular Neuroscience, RHUL.

The identification and characterisation of novel tachykinin peptides

Lead Investigator: Dr Nigel M. Page, Senior Lecturer in Molecular Biology, KU.

Co-Investigator: Dr Mikhail Soloviev, Senior Lecturer in Biological Chemistry, RHUL.

Chemical synthesis and functions at the hippocampal synapse of soluble amyloid dimers.

Lead Investigator: Prof Brian Austen, Department of Basic Medical Sciences, SGUL.

Co-Investigator: Dr Pavlos Alifragis, School of Biological Sciences, RHUL.

The Dark Side of Sport: Chemical Enhancement of athletic performance

Lead Investigator: Dr. Andrea Petroczi, Reader in Public Health, Faculty of Science,

KU. Co-Investigators: Prof Declan Naughton KU, Dr. Gary Coulton SGUL, Prof George Dickson RHUL, Prof George Griffin SGUL.

The effects of an exercise training intervention programme (ETIP) in patients with lymphoma on quality of life and ability to return to pre-morbid functioning.

Lead Investigator: Prof Andrew Jewell, Reader in Oncology, KU.

Co-Investigators: Mrs Lisa Daroux-Cole, PhD Student Investigator; Dr. Andrea Petroczi, Reader in Public Health (KU), Prof Phil Terry, Professor of Psychology (KU).

Dissecting the role of soluble b-amyloid dimers in synaptic function

Lead Investigator: Dr Pavlos Alifragis, School of Biological Sciences, RHUL.

Co-Investigator: Prof Brian Austen, Department of Basic Medical Sciences, SGUL

The Mechanisms of α CaMKII Synaptic Targeting in LTP and Hypoxia

Lead Investigator: Dr. K. Török, Reader in cell Biology, SGUL.

Co-Investigator: Prof. Philip Beesley, Chair in Molecular Neuroscience, RHUL

Signalling Mechanisms regulating target selection of neuronal axons in the rodent brain.

Lead Investigator: Dr Pavlos Alifragis, School of Biological Sciences, RHUL,

Co-Investigator: Dr. K. Török, Reader in cell Biology, SGUL

Comparison of T- lymphocyte kinetics in HIV-1 and HIV-2 infections

Lead Investigator: Professor Derek Macallan, SGUL.

Co-Investigator: Professor Vincent Jansen, RHUL

The following proposals have been put forward for small grant awards:

Engineering JA-regulated secondary metabolism in plants with the potential to produce therapeutic drugs

Lead Investigator: Dr Alessandra Devoto, RHUL.

Co-Investigator: Professor Julian Ma, SGUL.

Develop and share shotgun proteomics and phosphoproteomics methods and data analysis for the study of plant and animal signalling pathways, biomarker discoveries

Lead Investigator: Prof Laszlo Bogre, School of Biological Sciences, RHUL.

Co-Investigators: Prof Gary Coulton, Medical Biomics Centre, SGUL Dr Alberto Paccanaro, Department of Computer Science, RHUL

If you'd like to find out more about IBLs activities and how the Institute might benefit you, please contact the IBLs Director, Prof George Dickson (g.dickson@rhul.ac.uk) or email: ibls@swlacademicnetwork.ac.uk.

