

FACULTY AND RESEARCH UPDATE

Faculty of Health & Life Sciences November 2017



**How does
movement
control
decline with
age?**

Find out more on page 3

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WELCOME



Welcome to the first edition of the Faculty and Research Update for the 2017-18 academic year. This newsletter covers the research stories, events and latest teaching and staff news from the Faculty of Health and Life Sciences.

Our lead story covers Kate Wilmut's research project which is the first of its kind to comprehensively investigate factors that influence changes in motor control across the entire adult lifespan.

November will see the Faculty hosting a number of exciting events, including the Annual Research Lecture with Professor Dame Theresa Marteau, and the launch of the new lab facilities in Sinclair. At the launch Faculty staff, students and collaborators will have an opportunity to visit these facilities as well as listen to talks by new Research Fellows of the Department of Biological and Medical Sciences.

If you are working on an interesting research project, have just won an award or grant, attended or organized a conference, or know of any other news or successes within the Faculty, please let us know by emailing us at: fhls-news@brookes.ac.uk or fhls-news@brookes.ac.uk

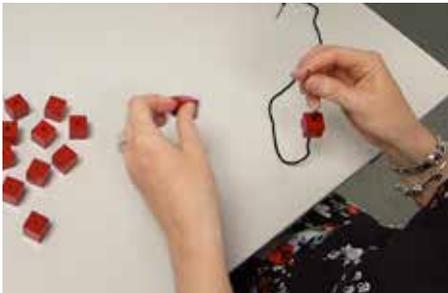
Rebecca Jones, Research Engagement Officer
Renáta Novák, Marketing Officer

MOVEMENT CONTROL & AGE

A steady or a sharp decline?

In 2016 Kate Wilmot, Reader in Psychology, was awarded £52,582 by The Leverhulme Trust to investigate changes in motor control with ageing. Kate and her Research Assistant, Shan Wang, are looking into factors which relate to, and may predict, the decline in motor control seen with ageing.

Kate Wilmot



Movement is essential in our daily interactions with the environment. From talking to gesturing and from walking to writing, movement is the only method we have to interact with the world around us. However, research has shown that movement control declines with age. This can result in a difficulty with safe completion of everyday activities such as cooking, dressing, writing. This can lead to a reduction in quality of life for an ever-increasing older population. Before we can think about why an ageing population struggles with movement we first need to consider what accurate motor control really is. Research has shown that an ability to move quickly and efficiently relies on our ability to plan our movements; motor planning refers to how well we can, in advance, create motor plans which allow us to generate a required movement. The primary aim of this current work is to consider factors which may constrain motor planning in different ways as we age and may, therefore, explain the decline in motor control. The factors which this project will consider include physical constraints (does our perception of comfort change as we get older?), cognitive processing constraints (how do

processes such as executive functions and memory relate to motor control) and motor processing constraints (how does our ability to internally simulate or imagine a movement influence motor control).

The project will be the first to comprehensively investigate many factors which may influence motor control in different ways as we age. Moreover, another really important aspect is that it is one of the first studies to consider the entire adult lifespan rather than just focusing on the very old. Typically, research studies measure motor control in a young population and an old population (circa 60-70 years of age) and these studies highlight a decline. However, this fails to shed light on when the decline begins, ie whether this decline is a gradual one starting in early adulthood or a much sharper decline with an onset into 60's. Therefore, in this project, we will study the trajectory of motor abilities of individuals ranging from 20 to 79 years to unpick age-related differences and to determine at which point in the adult lifespan that difficulties with motor control and planning first emerge.

Although no direct remediation for movement difficulties will be forthcoming from this study, it is an important step in our understanding of movement in humans and how this declines during ageing. Given the known decline in motor control with age and the impact this has on quality of life for this population, understanding a trajectory such as this is crucial in building effective interventions in



the future. For example, this work will help us to understand what the constraints on movement in ageing really are, ie whether this is due to cognitive decline or whether it is due to underlying motor processes (or both). Once we have a better understanding of what constrains movement, research can build on ways to reduce these constraints.

We have now started data collection and we envisage that this will continue until February 2018. We are asking participants to complete a battery of tasks which measure the range of factors described above each using a different experimental task.

If you are interested in taking part or would like to know a bit more about this project, please don't hesitate to get in touch with Shan Wang at s.wang@brookes.ac.uk



EUROPEAN CONFERENCE OF SPORT SCIENCE

At the beginning of July, five members of the Department of Sport, Health Sciences and Social Work (Dr John Jakeman, Dr Roger Ramsbottom, Dr Peter Wright, Dr Alaaddine El-Chab and Dr Greg Walsh) presented their research at the 22nd annual congress of the European Conference of Sport Science (ECSS) in Essen, Germany. Their research was well received with interests of collaboration established with several world leading research groups and companies, such as the Children's Health and Exercise Research Centre at Exeter University and Gatorade Sport Science Institute.

Sarah Davey

The conference also served as an opportunity to visit the Faculty of Sport Science at Ruhr University, Bochum, Germany (hosting university of ECSS 2017). The aim of the visit was to establish potential research collaborations and to inform plans for the design of the department's research and teaching facilities, as part of the redevelopment of the Harcourt Campus. This opportunity resulted in a collaborative project being established between the two departments (validating a psychometric questionnaire designed to assess the physical, mental, emotional, and overall recovery and stress states of athletes) and a visit to Oxford Brookes by Dr Markus de Marees (Sports Medicine and Nutrition, Ruhr University, Bochum) in October 2017 aimed at developing other research links and projects.



Staff presenting their research at the conference



From left: Dr Alaaddine El-Chab, Dr Roger Ramsbottom, Dr John Jakeman, Dr Peter Wright, Dr Greg Walsh and Dr Sarah Davey

Presenter and research titles:

- **Dr John Jakeman:** 'Effect of different sprint interval training work: rest ratios on performance adaptations.'
- **Dr Alaadine El-Chab:** 'The consumption of liquid diet pre-experimental trials improves adherence compared to solid diet in athletes.'
- **Dr Greg Walsh:** 'The effect of static and dynamic stretching on knee joint proprioception and strength.'
- **Dr Peter Wright:** 'Effect of a 4 week rope-training on mobility, strength and coordination compared to machine based training'
- **Dr Roger Ramsbottom:** 'Effect of chronic dietary nitrate supplementation on time to exhaustion and total work during all-out upper body resistance.'

MELLON-SAWYER SEMINAR SERIES

Vince Connelly

Professor Vince Connelly and Rita Phillips, Doctoral student, has been awarded a Postgraduate Fellowship with the Mellon-Sawyer Seminar Series 2017-18. Rita is currently working on her PhD 'Understanding and explaining societal perceptions of UK Veterans'.

She will receive a tax-free bursary of £14,296. The Fellows will be involved in the scholarly activities of the Mellon-Sawyer Seminar Series Post-War: Commemoration, Reconstruction, Reconciliation, led by Professor Kate McLoughlin (University of Oxford) and Dr Niall Munro (Oxford Brookes University). The Series will bring together academics, creative practitioners and policy experts in a series of events to discuss the contribution of cultural practices of commemoration to post-war reconstruction and reconciliation across the world. Rita will be able to gain valuable professional training by working with the Mellon-Sawyer Postdoctoral Fellow to organise the seminars and charring sessions at the Pecha Kucha event and the Postgraduate Conference, and will be offered access to appropriate training in the Humanities Division and from the Oxford Learning Institute's portfolio of courses for research staff.

FOSTERING COLLABORATION IN CANCER RESEARCH

Convened by Dave Carter and Mary Boulton

Cancer is an all-pervasive disease, whether in terms of prevalence or plain devastating impacts. As this workshop so successfully demonstrated, every academic discipline can make a contribution as we strive for advances in the detection and treatment of cancer.

Tudor Georgescu

There are numerous areas of research that can benefit from a collaborative, interdisciplinary approach to solving problems relating to an improved understanding of cancer biology, mathematical modelling, improved imaging technologies, engineering solutions, as well as the sociology of cancer. Central to these endeavours must be improved support for patients and their loved ones through innovations in healthcare, insights into the psychological impact of the disease, better communication with patients, and the use of the arts both to support patients/families and as a medium to express the complexities of cancer and its impacts.

The workshop set out to map these areas and explore the potential for collaborative, interdisciplinary projects on cancer. The remarkable turnout of colleagues spoke not only to importance of cancer research, but offered an intriguing cross-section of the range of expertise spread across the university: Twenty-three colleagues from HLS, HSS, Business and TDE presented short introductions to their research areas and sketched out potentially collaborative spaces. These were subsequently explored at greater depth in nine individual group discussions, producing an array of interesting thematic clusters and research priorities from computational

cancer biology to enhancing the patient experience. Developing interfaces between technology and medicine proved to be a particularly fruitful area, for example the use of virtual reality as an educational tool to help children understand the biology of cancer, or advances in wearable technology to support diagnostic or self-management. Similarly fascinating were the debates on the use of the arts and architecture to render clinical spaces more engaging, to even make them an integral part of treatments. A third cluster that emerged from the workshop revolved around the use of big data, in terms of access and analysis as well as the ethical implications of modern technology.

The workshop succeeded in not only beginning a conversation on how cross-disciplinary collaborations can tackle many of the key questions in cancer research, but has already signposted a range of specific areas to explore further.

If you would like to join the discussion and be added to the mailing list please get in touch with Dave Carter or Mary Boulton: dcarter@brookes.ac.uk mgboulton@brookes.ac.uk



BONE CANCER CONFERENCE

On 22 July, Dr Verna Lavender was invited to talk at the Bone Cancer Conference 2017 in Birmingham about her award winning research that investigated the low participation of young bone cancer patients (15-24) in clinical trials. It is hoped that these findings will help healthcare professionals caring for young people with bone cancer, and improve participation of young people in clinical trials. Hannah Birkett, Research and Information Officer at the Bone Cancer Research Trust thanked Verna for her excellent presentation, noting that the audience of patients, carers, health professionals and fund-raisers really enjoyed her talk and the open discussions that followed. Verna enjoyed speaking to other attendees during the conference and was glad her research findings resonated with delegates' experiences of primary bone cancer.



SUCCESSFUL EVENT FOR ALCOHOL RESEARCHERS

On 13 June, alcohol researchers from across the UK attended the inaugural 'Alcohol Research Mixer' at Headington Hill Hall. The event, organised by Dr Emma Davies, was designed to foster future collaborative work in the alcohol and health field.

Dr Emma Davies



Photos by Claire Rathbone

Delegates took part in group work activities to discuss how to approach applying for grants and shared their experiences of success with different funders. Research talks were also given throughout the day within the themes of 'influences on drinking', 'non-drinking and moderate drinking', and 'interventions'.

Presentations were given by 10 researchers at different career stages. Joanne Smith from Northumbria University presented her PhD work, which explores the influence of popular team members on drinking behaviours in student athletes. Dr Kyle Brown from Birmingham City University presented an outline of the 'Sober Raving'



project, a collaboration with researchers at Brookes and elsewhere. Dr Tony Moss from London South Bank University ended the day with an interesting presentation highlighting the need for more research to understand campaigns to encourage 'responsible' drinking.

The day was hailed as a success as evidenced by positive feedback from delegates and there are already discussions underway to hold similar events in the future. One delegate said 'It was great to network with researchers from across the country; I came away with new ideas'. Another said 'The group based activity was really informative; I would like to keep in touch and collaborate in the future'. Many thanks to Fiona Matley, Research Assistant, for her help with the organisation and smooth running of the event.

A ROUNDTABLE DEBATE ON YOUNG PARENTS' BEHAVIOUR

Sarah Bekaert, newly appointed Senior Lecturer in Nursing, chaired a roundtable debate at the Healthy Teen Network Conference in Baltimore, USA in October. The debate covered findings from her doctoral research entitled: 'Presenting the good father; teen mothers' assets view of their baby father's involvement in family life, a wise approach to encouraging growth as a family'.

Sarah Bekaert

Interviews with teenage mothers highlighted how they were keen to challenge common assumptions about the 'absent father stereotype'. They stressed how their babies' fathers supported them in a number of ways beyond basic financial provision. Encouraging their partners to continue providing support led to better circumstances and a positive environment, in which the young men were motivated to change their lifestyles; including leaving gang life, and even seeking training and work opportunities to improve their family life. However, for some of the young women, this approach also

encompassed more challenging aspects, such as tolerating their partner's additional sexual relationships and violence. The roundtable debate considered how professionals could learn from these young women encouraging the young fathers' involvement in their family life yet gently challenging disrespect or abuse. How can we align a positive, encouraging approach with a public health and safeguarding remit?

Discussions focused on how professionals who work with teenage parents might improve their practices by increasing their

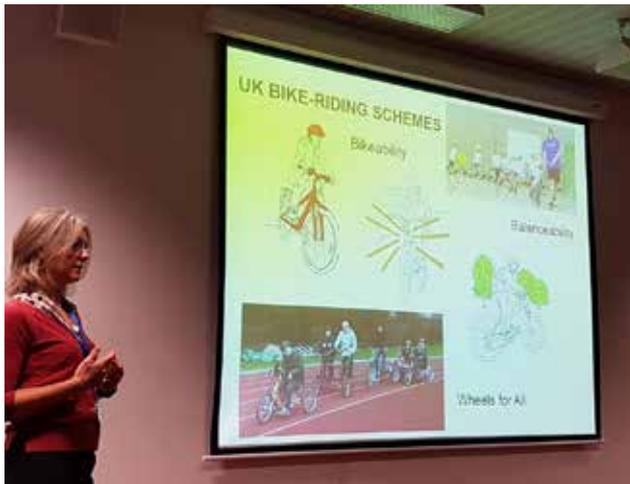


understanding of young parents' lives, as these young mothers' approach challenges middle class 'nuclear' relationship norms. Additionally, the financial provision along with other means of support provided by the fathers was also valued. Much can be learnt from these young women's positive and encouraging approach that draws the young fathers into family life by expressing appreciation towards what they can provide rather than lamenting what they don't; and how these young women 'grow' their families for the future by encouraging the young fathers' involvement with the children.

HELPING CHILDREN WITH MOVEMENT DIFFICULTIES LEARN TO RIDE A BIKE

Bike riding not only offers important opportunities for physical activity but also for participation in social activities with family and friends. Most children in the UK learn to ride a bike by their early primary school years. However, for children with motor control and coordination difficulties, this is a task that they struggle to learn and may never master.

Prof Anna Barnett



sometimes having tried for several years. Falls and failure can have a negative impact on the child's confidence and motivation to keep trying.

Anna has therefore been keen to become involved in a local bike riding programme specifically designed for children with movement difficulties. This is organised by the Oxfordshire Fire and

Prof Anna Barnett has been involved in researching movement difficulties in children for many years. She has a particular interest in Developmental Coordination Disorder (DCD), a condition affecting the acquisition and performance of everyday motor tasks in children who are otherwise healthy and developing normally. Bike riding is just one of the skills that children with DCD have difficulty with. Their balance and coordination difficulties make it hard for them to get going and parents often struggle to teach their child,

Rescue Service, Oxford Health NHS Foundation Trust, and Oxfordshire Sport & Physical Activity, supported by volunteer trainers. It is run in various venues in Oxfordshire, most recently in a large car showroom at the BMW Factory in Cowley. The week-long programme runs during half-term and the summer holidays, with children aged 5-15 years attending for an hour each morning over 5 days.

Anna has been working with the team to describe the course content, document

the progress of children and to conduct interviews with parents and trainers to gain their views of the programme. This work has highlighted some of the important features of their approach, which includes breaking the task down so that children can learn each element before progressing to the next stage. This helps building skills and confidence, and with appropriate support most of the children make good progress, with the majority riding their bike independently by the end of the week. Keen to disseminate the good practice of this local community group, Anna has presented this work at national and international conferences - most recently at the 12th International Conference on Developmental Coordination Disorder held in Fremantle, Australia in July 2017. She gave a pre-conference workshop to practitioners and parents on the techniques used as well as an oral presentation at the conference, presenting the findings from interviews.

Funds from a Research Excellence Award are supporting Anna's work to gather further information, (including from interviews with children on the programme) and prepare the findings for publication in academic and practitioner journals. This builds on Anna's previous work on the identification and assessment of children with movement difficulties, which was submitted as an impact case study in Research Excellence Framework (REF) 2014. This new work describing the learning of bike riding skills will contribute to the development of an impact case study in preparation for the next REF.



A CONVERSATION WITH

Astrid Schloerscheidt, Pro Vice-Chancellor and Dean of the Faculty of HLS

In August, our Research Grants Officer Tudor Georgescu met with Astrid Schloerscheidt for a coffee and a chat about exercising the brain and behaviour, the challenges of change, and horses. A cognitive neuroscientist, Astrid joined Brookes from Dundee in September 2016 as HLS Associate Dean for Strategy and Development, and was recently appointed Pro-Vice Chancellor and Faculty Dean in May this year.

Tudor Georgescu



TG: Hi Astrid! Our mandatory first question, of course, is what attracted you to Brookes?

AS: Brookes, it's a name that everybody knows, and the University has a really good reputation. So when the Associate Dean job came up it really wasn't a hardship to apply!

TG: And since arriving you have made quite a splash during a time of significant change.

AS: Working with Linda was very interesting, very informative, and I learned a lot about the university and the Faculty. So when it came to applying for the Dean's job I felt I had already worked with the team and with the Faculty for a while. Clearly there are challenges, but they are interesting and present great opportunities. One of the immediate challenges was, of course, student recruitment, particularly to our health programmes. In Scotland, where I worked before, the challenges around this were of a different nature, as student numbers are capped.

TG: So would you consider that to be one of the big differences?

AS: The way higher education is funded is totally different, so that was a transition for me. In England, fees are a large part of our income generation, so student recruitment matters enormously. Given the recent changes in funding in most of the health programmes, a lot of focus had to be on student recruitment in this area. The exciting development related to this is the new Oxford School of Nursing and Midwifery. We needed to look at new models of how we could work much more closely with the Trusts – the new school is a direct consequence of that thinking, in terms of attracting good students but also, and very importantly, to allow the Trusts to recruit and retain good staff, and give people opportunities for career development. And Oxford is just the right place to do this given that we have two world-leading Trusts on our doorstep as well as a great research eco-system. There are a myriad of opportunities here that just don't exist anywhere else, and which we can tap into.

TG: Amidst it all, do you think you'll find some time for some research?

AS: Certainly, I'm starting to think about it again. I am hoping to possibly be able to supervise dissertation students again, and I also want to bring some projects still running with colleagues from Scotland to fruition. I feel very lucky in that there are people here with shared interests, so I am hoping I can build relationships as a collaborator here and continue to do some research.

I'm a cognitive neuro-scientist and interested in the interaction between brain function and behaviour generally, but more specifically the strategic control of behaviour and the many variables that affect how effective these control mechanisms are.

In the context of this, I work on various things. One example is the effect of exercise on cognition as exercise has a direct effect on brain physiology and thus on cognition (particularly executive function which is really just another name for the strategic control functions, I referred to earlier) and consequently behaviour. I'm also interested in the factors underlying students' drinking behaviours and why, even though those drinking behaviours may be similar, consequences, for instance in terms of alcohol dependency problems, may differ from person to person. One of the interesting aspects of this work is whether we can identify patterns of such factors and potentially design interventions around them.

TG: Ah, that age-old campus problem! So the 'shall I just jump onto that shopping trolley and see what happens when it rolls down the hill' kind of thing?

AS: It's more than just risk assessment; it's really about executive, behavioural control, about being able to evaluate consequences and what they mean to you. That, for instance, may well influence decisions around drinking.

TG: How are you finding marrying the two worlds of university and the NHS?

AS: It was a steep learning curve, but I've had great tuition from the team. It's another very interesting challenge as there are different priorities that somehow need to be brought together. The change in the funding model for health education brings, in my opinion, a lot of opportunities and we now have a lot more freedom to explore these. The Oxford School of Nursing and Midwifery is all about developing the best way forward, about creating that space in which we can sit down and figure out what we can do. It is a win-win situation really if we can get it right, and there is a lot of good will on all sides. But we must not forget that the Faculty is, of course, much broader than that, even if the new school gets a lot of the press at the moment.

TG: And today is incidentally day one of the new structure! Given how far we've travelled over the past year, where do you think we will be in five years?

AS: Maybe I could rephrase that question slightly to where would I like us to be in five years time? I would like to have more stability, a strong research base that is nationally and internationally recognized and attracts funding in all areas of the Faculty, and, of course, a consistently strong student experience. We already have a lot of strengths in these areas, which is the ideal starting point to make this strength consistent across the Faculty.

TG: You did mention exercise a few times during our conversation. Did you participate in Brookes Active too?

AS: Yes, we entered a team from the faculty executive. We had a lot of fun and got quite ambitious about it too. I personally like to run and I ride, which is actually quite hard exercise, even though when you do it well, it doesn't look like it. And given that hobby, I really enjoyed a visit out to Abingdon and Witney College one of our College partners, to see the stud. I think if I had another life I might well do equine science as a degree. It's a very interesting programme and the job opportunities are just fabulous - for someone who loves horses. But then again, there are so many interesting things around, and the nice thing about that particular train of thought is that one never has to make an actual decision.

TG: Thanks again for your time Astrid, much appreciated!

RESEARCH AWARDS

April-September 2017

Department	Project Name	Funder	Principal Investigator	Award Date	Award Value
BMS	A language and reading intervention programme for Chile, piloted in the Robinson Crusoe population	Economic & Social Research Council (ESRC)	Newbury, D	05/07/2017	£28,267
CHC	Knowledge, attitudes and current practice of GPs, Surgical Oncologists and Medical Oncologists	Cancer Research UK	Brett, J	05/07/2017	£44,582
BMS	StaphyloMet	University of East Anglia	Poolman, M	30/06/2017	£17,500
CfR	Elizabeth Casson Trust Program of Occupational Therapy Research	Elizabeth Casson Trust	Dawes, H	30/06/2017	£249,811
CHC	Role of the assistant practitioner in the clinical setting 2	Oxford University Hospitals NHS Trust	Henshall, C	18/05/2017	£3,000
BMS	Structure - Function Relationships in Protozoan Parasites Utilising High Resolution 3D (additional budget)	MRC	Vaughan, S	12/04/2017	£169,411
CfR	The First Steps pathway for taking control after a diagnosis of Parkinson's	Parkinson's UK	Dawes, H	12/04/2017	£29,973
Nursing	Development of the Oxford Centre for Spirituality and Wellbeing	Sir Halley Stewart Trust	Jackson, D	12/04/2017	£57,588
Nursing	OxINMAHR Workforce Retention Intervention	Oxford University Hospitals NHS Trust	Jackson, D	07/04/2017	£98,460
BMS	European Researchers' Night 2017	European Commission	Osterrieder, A	03/04/2017	£500
				TOTAL	£699,092

CENTRES & CONSULTANCY UPDATE

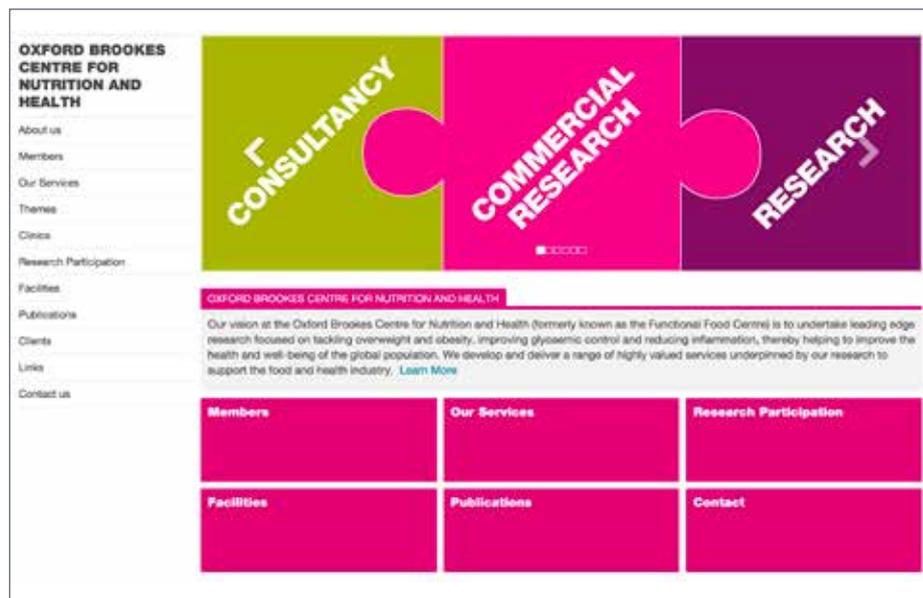
News from Environment Information Exchange and the Oxford Brookes Centre for Nutrition and Health

Lis Ahlström, Sangeetha Thondre & Alaaddine El-Chab

OXFORD BROOKES CENTRE FOR NUTRITION AND HEALTH (OXBCNH)

As of the 1 August in line the launch of the new Department websites, we have now officially changed name from the Functional Food Centre to the Oxford Brookes Centre for Nutrition and Health. Our new name is representative of the research and consultancy that we conduct within OxBCNH and future areas we wish to explore.

I would like to thank everyone involved with working on the new website which looks fantastic. To note, we have already had some great external comments.



www.brookes.ac.uk/shssw/nutrition/research/oxbcnh/

STAFF CHANGES AT THE OXBCNH

Patricia Shaw has left her position as one of our Post Graduate Research Assistant's after four years to pursue a career in dietetics. We wish her all the very best on the next stage of her career.

We welcomed Hanna Brennan to her new role as Post Graduate Research Assistant. She has a background in molecular and cellular biochemistry and worked for six years as a Medical Information Specialist and Medical Science Liaison within the pharmaceutical industry, specialising in a number of disease areas prior to taking up her role with us early September.



NUTRITION SOCIETY CONFERENCE

Dr Miriam Clegg, Dr Sangeetha Thondre and four PhD students (Ameerah Almaski, Majd Jan, Nasim Soleymani Majd, and Kimberley Harcourt) attended the Nutrition Society Summer Conference at King's College, London from 10 July to 12 July 2017.

Dr Thondre and the four PhD students presented posters on their research as given below (presenting authors are underlined>):

- Determination of the antioxidant activity and polyphenol content of different types of *Rhus coriaria* Linn (sumac) from different regions. N Soleymani Majd, S Coe, S Thondre and H Lightowler.
- 'I don't need supporting, me, I just do it.' A qualitative study of the social influences in male weight loss behaviours. K A Harcourt, M E Clegg, J V Appleton, L Hunter.
- The effect of dietary phosphatidylcholine supplementation on lipid profile in mild hyperlipidaemic individuals. M Jan, PS Thondre, A El-Chab and HJ Lightowler.
- Preferences for salt, sugar and fat in selected foods as determined by 6-n-propylthiouracil taster status in young adults. C Gouillaud, T Renault, E Flipon, A Dixon and S Thondre.
- Sensory evaluation of polyphenol-rich millet-based muffins and their effect on in vitro starch digestion. A Almaski, S Coe, H Lightowler and S Thondre

SUMMER PLACEMENT STUDENTS

The centre has again hosted some placement students over the summer months:

- Célia Heduin from Toulouse, France working with Sangeetha Thondre and Miriam Clegg on:

'The effect of beta glucan on glycaemic and insulin response'

- Henri Saniez from Lille, France working with Helen Lightowler and Lis Ahlström on:

'The impact of freshness on the glycaemic response to bread.'

SPORTS NUTRITION WORKSHOP

With help from a grant from the HLS 'Jump Start' Award, Dr Alaaddine El-Chab delivered two Sports Nutrition Workshops to athletes at the Human performance lab. The workshops aimed to engage athletes in research, help them better understand and value scientific research by informing, educating and hopefully inspiring them. The workshops were structured to take athletes through the different stages of research process. Athletes also had the opportunity to conduct a mock experiment in the lab. Judging by the feedback, the workshops have certainly made an impact.

'This workshop increased my understanding of sports nutrition. Now I know why research is important and what it involves'

'The workshop was interesting, enjoyable, and the speaker was very good'



EXPERIMENTAL FLOWER MEADOW

James Watkins

During the spring the Centre for Ecology, Environment and Conservation (CEEC) worked with the University's EFM Grounds Maintenance Team and the Sustainability Team to create an experimental flower meadow for Headington Hill, between the Helena Kennedy Building and the Willow

Classrooms. This is part of a wider project to provide more wild spaces and to update the University's Biodiversity Strategy.

The test meadow includes a carefully selected mixture of plants including poppies, cowslips, forget-me-nots, self-heal, red campion and yarrow to provide colourful flowers throughout the summer. These species also provide food and

shelter for the insects that support the bird and mammal species found across Brookes' sites.

The work has involved several stages, including:

- removing landscaped turf
- seeding in early April
- ongoing management through the summer
- late summer mowing to reseed the site

The project has been very successful with an excellent display of wildflowers blooming in time for graduations and monitoring showing a large number of insect, mammal and bird species already making use of the new habitat. In future we hope to find permanent homes for meadows at other locations.



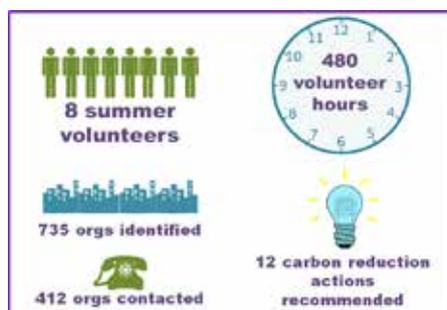
ENVIRONMENT INFORMATION EXCHANGE (EIE) UPDATE

Michael Esvelt

Summer has brought with it 8 new student volunteers to support EIE's projects, quite a few more than the usual 2 or 3. EIE's volunteer programme helps provide experience and skills development for those interested in working at environmental consultancies. The programme requires 60 hours, usually over 4 to 8 weeks, covering skills in data accuracy and client communications. Additionally, each volunteer completes a field assessment at a client's premises. EIE provides training and guidance; those completing the programme are provided with a letter of recommendation as well as other support in finding employment.

Volunteers allow EIE to offer free energy, water, or waste assessments to organisations in the community. By finding recommendations to reduce environmental impacts and help clients save money, the field work is an invaluable addition to a volunteer's experience.

EIE plans to work with more volunteers in Autumn, 2017.



AN AMAZING WEEK WITH THE BRITISH ECOLOGICAL SOCIETY

Dalefort Field Studies Centre, Pembrokeshire

The British Ecological Society Summer School for Undergraduates is a week-long experience dedicated to ecology, research, and careers. The summer school is open to undergraduates who are either in their first or second year, and offers a wide range of lectures, workshops, field work, and post-university advice. Over 100 students applied for a place in 2017 however, only 49 undergraduates from 37 universities were fortunate enough to spend a week in the Dalefort Field Studies Centre, Pembrokeshire. The application process is very straightforward, and requires a short paragraph on why you want to attend the summer school and a reference from your Academic Advisor.

William G H Millard, (3rd Year Biology Student)

To say the summer school was full-on is an understatement! Early morning sessions started at 6am, which included; an intertidal bioblitz, Moth ID workshop, and a bird watching walk. The bulk of the day was then split between two lecture/workshop sessions, one running before lunch and the other after. I greatly enjoyed the mammalian ecology session; which included examining a wide range of mammal skulls, and riffling through otter spraint in search of caudal and thoracic vertebrae of various fish species.



Such opportunities, like the BES Summer School, are only available to undergraduates with a passion for their subject and a thirst for knowledge. Being a Biology student isn't just about attending lectures and sitting exams. It's about connecting with a subject by seeking to ascertain a deeper and more critical understanding of both how natural processes occur, and why they occur in the first place. The Summer School provides students with such an opportunity, and it is incredibly good fun.



But without a doubt, the highlight of the week was the day-long visit to Skomer Island. Situated less than a mile off the Pembrokeshire coast, this tiny island is famous for its large Puffin population. However, the island also has a critically important population of Manx Shearwaters, where almost half the world's population reside. Additionally, sightings of the endemic Skomer Vole and Choughs truly provided a unique opportunity to engage with some of our more vulnerable UK species.



I also really engaged with the Plant/Soil interactions session, where we examined White Clover mycorrhizae. There were also extremely useful career and networking sessions, with advice given about interviews and CV writing, and connecting with employers and researchers through Twitter. Information was also presented about post-graduate opportunities and careers in ecology, and about planning and conducting a final year research project.



STUDENT SUCCESSES

at the European Academy of Childhood Disability Conference, Amsterdam

Julian Rudisch, PhD student, has defended his thesis, 'Time scales in motor learning - influences on rehabilitation', and had the opportunity to present this at the European Academy of Childhood Disability (EACD) in Amsterdam in May.

Our Rehabilitation student, Manar Jaber, has been awarded an EACD travel grant to attend this prestigious conference in Amsterdam to present work from her thesis: Barriers and facilitators to physical activity participation and engagement in Wii-Fit home-therapy programmes for children with Cerebral Palsy. She also had an oral presentation (I believe the only MSc student to present an oral - her first conference and her first presentation!). She did extraordinarily well and managed to get a good question from one of the leading professors on participation and physical activity in children with CP which she answered superbly.



Julian Rudisch, Manar Jaber, and Dr Dido Green

BROOKES EXOSOMES AT THE OXFORD SCIENCE FESTIVAL

Ryan Pink

Back in June this year, PhD student Bianca Paris rallied up the Dave Carter and Ryan Pink groups to present their work to the public at the Oxford Science Festival. As part of the Explorazone at the Oxford Town Hall, they ran hands-on activities like finding the exosomes in slimy blood, using barcode scanners to diagnose patients in order to enthuse adults, and for the smaller children making an exosome

monster magnet. This was to convey their research on components of body fluids, called exosomes, that communicate messages from cell to cell, and how they can be used in improving healthcare in the future.



The Sunday morning team ready and set up: Claire Hill, Katie Barnes, Findlay Bewicke-Copley and Lia Pantazi,



PHDS AWARDED IN HLS:

Confirmed in Semester 2, May-August 2017

Name	Director of Studies	Department	Awarded
Dr Adele Timbs	Professor Susan Brooks	Biological and Medical Sciences	March 2017
Mr Liam McWhirter	Dr Martyn Morris	Sport and Health Sciences	MSc by Research May 2017
Dr Mine Aksular	Professor Linda King	Biological and Medical Sciences	June 2017
Dr Ellie-May Beaman	Professor Susan Brooks	Biological and Medical Sciences	July 2017
Dr Nicola Dewland	Dr David Carter	Biological and Medical Sciences	June 2017
Dr Sarah Kennedy	Dr Miriam Clegg	Sport and Health Sciences	June 2017
Dr Julian Rudisch	Dr Dido Green	Sport and Health Sciences	May 2017
Dr Andre Schuiteman	Dr Andrew Lack	Biological and Medical Sciences	August 2017

LAB IN FOCUS

A great technical support is something that every good lab needs. But it does take a lot more to become a technician than a simple use of scientific knowledge. It takes creativity, determination, desire to succeed, and an ability to perform every task to almost perfection.

Ludmila Bozenhok

When I started my postdoctoral career, I could not imagine myself becoming a laboratory manager. To me this job was a little bit of art with a splash of magic, and a lot of hard work.

After successfully defending my PhD thesis and getting a PhD in Biochemistry from the Novosibirsk Institute of Bioorganic Chemistry in November 1999, I have been invited to study chromatin remodelling factors in the laboratory of Patrick Varga-Weisz in Surrey, UK, which was funded by the Marie Curie Cancer Care. We discovered a novel chromatin remodelling factor that we called WSTF (William Syndrome Transcription Factor) and published a number of papers, including one in Nature Cell Biology. After spending 4 years at the Marie Curie, together with Patrick's lab, I moved to the Babraham Institute in Cambridge where I continued working on the function of WSTF. I also had a bit of time for polishing my cloning skills and perfecting my knowledge of recombinant protein expression and purification using different cell systems.

I was always interested in practical applications of scientific discoveries. One of our collaborators in Harvard was working on T cells activation, which made me very curious about signalling pathways in the cell of the immune system. I moved to Oxford and joined a laboratory led by Prof. Oreste Acuto who was based at the William Dunn School of Pathology. I learned a lot about signalling pathways, particular in T lymphocytes, and the proteomics of the immune cell membrane.

Membrane proteomics and a practical hands-on knowledge of biochemistry allowed me to take up the position of Senior Biochemist at Oxford Biotherapeutics. The way research was done in industry differed drastically from research in academia. While it was more regimented and restricted to the company's commercial interests, there were a number of very good points that, I

thought, academic research could benefit from. One of these points was keeping laboratories in a well organised order that is easy to manage.

Management systems, such as Six Sigma and 5S, devise the rules of the most effective work place; these rules can be summed up as: "A place for everything, and everything in its place." Indeed, fully-operational industrial laboratories can look almost empty and unused, as only the necessary equipment and reagents are out on a bench. Waste is taken care of, storage is well organised and samples are recorded electronically as well as on paper. Every reagent bottle is properly labelled with printed labels.

That can be seen as a drastic contrast to some laboratories in academia that have shelves full of bottles with old buffers and solutions, where storage is taken up by half-broken equipment that "might get fixed soon", and where benches are struggling under piles of paperwork – old and new, not to mention freezer storage. I am not even mentioning the messy freezer storage with unrecognisable handwritten notes on the tubes and bottles! Let's be truthful, we all have experienced it, at least to some extent.



Ludmila Bozenhok

With a view to make a positive change to the way academic laboratories are managed, I joined Oxford Brookes University as a laboratory manager almost four years ago. During this time, I believe our technical team have made a real difference to the way our laboratories and practical sessions are run. We have built a strong team of dedicated technicians. They might not be as visible as lecturers, or look as important as professors, but it is our technicians, who make sure that the waste gets disposed off, the glassware gets washed, the orders are placed, the equipment gets fixed, and that the practicals are thought through and well prepared.

Our BMS technicians: Karan Allday, Michelle Rawlings, Dayna Gabell-Jopson, Oliver Murphy, Tom Denning, Debbie Lord, Richard Smith, and Christine Ashton are making all the difference in supporting the labs. Thank you!



Tech team at Christmas party, left to right: standing up - Richard Smith, Tom Denning, Ludmila Bozenhok, Karan Allday, Dayna Gabell-Jopson, Joanne Smith and Richard Varnham; sitting down - Oliver Murphy, Elizabeth Mitchell and Michelle Rawlings

EVENTS 2017

The following events can be booked online here, unless otherwise stated

www.brookes.ac.uk/events

www.brookes.ac.uk/openday



CHANGING UNHEALTHY BEHAVIOUR: THE INFORMATION PARADOX

Annual Research Lecture,

Professor Dame Theresa Marteau

Wednesday 15 November, 18:00-19:00

JHB Lecture Theatre, John Henry Brookes Building,
Headington Campus

Our unhealthy behaviour is the major cause of disease and premature death worldwide. Informing people of the risks from their behaviour has little or no impact. More promising interventions involve altering cues in physical, digital, economic and social environments that shape our behaviour, often without awareness. Changing these cues requires public support.



Professor Dame Theresa Marteau will explore how to persuade people improve their health through changing their behaviour, and argue that while informing people of the risks may not directly change their behaviour - giving them this information is still beneficial.



THE INTRIGUING WORLD OF BUTTERFLY BIOLOGY – NOVEL APPROACHES AND MANY SURPRISES

Professor Tim Shreeve

Wednesday 29 November, 18:00-19:00

JHB Lecture Theatre, John Henry Brookes Building,
Headington Campus

Butterflies are important indicators of environmental change and their status

in the UK and Europe is changing rapidly. Professor Tim Shreeve's research encompasses thermoregulation, behaviour, wing colouration, microhabitat use and phylogenetics. This has led to new ways of understanding butterflies responses to land use and climate changes. Whilst this aids their conservation - the more is learnt, the more unanswered questions emerge.



Tim will explore why different species of butterflies have alternative responses to environmental change, and will also address intriguing questions about the identity of the species populations we are trying to conserve.

MOVING BEYOND THE RHETORIC: A MOMENT OF OPPORTUNITY FOR MIDWIFERY AND CHILDBEARING WOMEN

Saturday 18 November, 8:45-16:30

Chakrabarti Lecture Theatre,
John Henry Brookes Building,
Headington Campus



OPEN DAYS

Saturday 4 November

9:00-16:00

All Campuses (except Swindon):
Headington Campus, Harcourt Hill
Campus, Wheatley Campus

SWINDON OPEN DAY

Saturday 11 November

9:00-13:30

Joel Joffe Building, Swindon Campus

SINCLAIR LAUNCH

Thursday 9 November 2017

Staff from BMS and collaborators will have the opportunity to look at the new labs and listen to talks from BMS 'New Fellows'.

INSIDE TRACK LAUNCH EVENT

Monday 20 November

From 18:00

Chakrabarti Lecture Theatre

The Inside Track is a mentoring scheme for 3rd year students on the Sport, Coaching and Physical Education and Sport and Exercise Science courses at Brookes. The scheme introduces and pairs up students with industry partners who provide valuable career advice to the students during the last year of their degree.

A SNAPSHOT OF WHAT'S INSIDE

