INSPIRE Taster Day Brochure 2018-2019

INSPIRE is a scheme supported by the Academy of Medical Sciences and the Wellcome Trust aimed at getting medical, dental and veterinary students involved in academic research. The Universities of Bristol, Cardiff, Exeter and Plymouth are proud to have been awarded grants from this body to fund research Taster Days within prestigious research groups at the Universities. The relationships developed during these Taster Days will ideally lead to a funded INSPIRE vacation studentship (to be advertised later in the term) - and perhaps much more.

How to apply

This brochure contains details of the Taster Days being offered during 2018. Travel bursaries will be available to students wishing to travel to a Taster Day in a different university to their own. To apply for a 2018 Taster Day, please apply online via this link –

https://goo.gl/forms/kOUk1gVNsmFKno3f1

The closing date for applications is November 12th 2018 at 5pm

You will be notified if you application for a taster day was successful by the 19th November 2018.

We wish you the best of luck with your application and all future research endeavours.

The INSPIRE Scheme; a student's FAQs and guide.

1. What's the INSPIRE Scheme?

The INSPIRE scheme is a programme run by the Academy of Medical Sciences, and supported by the Wellcome Trust, that aims to encourage and promote medical, dental and veterinary students to learn about and get involved in research at their own schools and elsewhere, both in the UK and abroad.

http://www.acmedsci.ac.uk/careers/mentoring-and-careers/INSPIRE/

The current programme will run for the next two years and is organised and co-ordinated between Cardiff, Bristol, Exeter and Plymouth schools to give students as much choice as possible for research placements and summer project opportunities. The timetable and deadlines for the scheme are at the bottom of the page.

2. How do I get involved?

The major parts of the scheme are research 'Taster days' and summer project bursaries for students, but there are other events and programmes, such as showcase days, research conferences, a new student-led e-magazine and an intercalators' conference. Check out your medical school's INSPIRE website for details of events.

3. What are Taster Days?

These are single day visits to a research provider's lab or group to see research first-hand. The research taster days are advertised in October in a research booklet, students apply and then visit the labs for a day in November or December. Applications are made through a web-based system and you can apply and do more than one Taster day if you wish. Once allocated, both you and the provider will be contacted. **You** should then make direct contact with the provider to get more information and any background reading or arrangements for the day.

As with any professional placement, if you cannot make the day, you **MUST** notify your provider. Student 'no-shows' discourage research providers from getting involved in future years!

Taster Days are a great opportunity for professional development, but it is important to recognise that attendance should not compromise your engagement in your degree programme.

Please ensure that you check your timetable when considering Taster Days; it is important that permission for absence is sought and granted for any sessions you might want to miss.

5. What happens at the Taster day?

These days are an opportunity for you to get to have find out about the research of the person you are visiting, also to consider whether you would like to apply for a summer project. Do some reading before you go and talk about the research with your provider and possible ideas and projects that would be suitable for a summer studentship. Ask them about the context of their research and why they do it!

6. What if I then want to apply for a summer studentship?

Keep in contact with your provider and discuss what would make a good and do-able project within the 4-6 weeks of the project. The research proposal should be written by you; you will be sent the application forms. Bursaries are available from all 4 schools (£1000 for the successful students.) You do not have to apply for a project in the same place you have done your taster. See the deadlines below; no late applications will be accepted and the proposals are judged by a student/academic panel. After you finish your project you will be asked to write a short report; maybe even present your results at the research conference/showcase.

7. Can I apply elsewhere for funding?

Yes and it makes good sense to apply to more than one place. See the attached list of potential funders, but do note they will have different deadlines and conditions for their schemes.

Research Taster Booklet Released	23rd October 2018
Closing Date for Applications	November 12th 2018
Students Notified of Taster Day Allocations	November 19th 2018
Taster Day Dates	November 28th, December 5th and 12th 2018

University of Bristol Taster Days

MEDICAL SCIENCE-FOCUSSED RESEARCH TASTERS

1)

Research Group Name	**Anaesthesia, Critical Care and Pain Science**
Contact	Prof Tony Pickering
Location	Biomedical Sciences Building, University of Bristol
Area of Research	Our group uses both cellular and systems neuroscience approaches (patch clamp recording, viral vectors, optogenetics, in vivo/in situ electrophysiology and behavioural testing) along with complementary clinical investigations (involving quantitative sensory testing and human imaging) to answer research questions important for anaesthesia, pain and critical care. (For more details see http://www.bristol.ac.uk/phys-pharm/)
Number of students and dates available	6 students on 28th Nov

2)

Research Group Name	**Bristol Renal** (Includes: Prof Richard Coward; Prof Moin Saleem; Dr Gavin Welsh, Dr Seb Oltean; Dr Simon Satchell; Dr Becky Foster; Dr Natalie Finch)
Contact	Prof Richard Coward
Location	Bristol Medical School, Dorothy Hodgkin Building, University of Bristol
Area of Research	Molecular biology underpinning kidney disease. We have developed and use a number of unique human kidney cell lines and also transgenic mice and drosophila models to do this.
Number of students and dates available	Up to 20 students on 5th Dec

3)

Research Group Name	**Clinical Neuroscience @ Southmead** (Includes: Dr Liz Coulthard; Dr Claire Rice; Dr Ali Bieneman)
Contact	Dr Liz Coultard
Location	School of Clinical Sciences, Learning and Research Centre, Southmead Hospital, University of Bristol
Area of Research	Clinical neuroscience is based at Southmead Hospital where there is a flourishing research community spanning laboratory work in the Learning and Research building and more clinical research in the Bristol BRAIN centre. Laboratory science mainly focusses on neural mechanisms and therapeutic advances in Parkinson's disease, multiple sclerosis, brain tumours and dementia. Working closely with the laboratory scientists are the clinical academics. Clinical research include therapeutic trials in people with neurological disease and experimental work to better understand systems underpinning memory using tools such as Magnetic Resonance Imaging (MRI) and Electroencephalography (EEG).
Number of students and dates available	Up to 6 students on 5th Dec

4)

Research Group Name	**CRIC Bristol**
Contact	**Dr Jade Thai**
Location	CRIC Bristol, 60 St Michael's Hill, Bristol
Area of Research	Clinical Applications of Neuroimaging Functional brain mapping studies of healthy volunteers and clinical populations including Chronic Fatigue Syndrome and Multiple Sclerosis to investigate the impact of fatigue on brain function.
Number of students and dates available	Up to 3 students. Date to be arranged with Dr Thai

5)

Research Group Name	**Colorectal Tumour Biology Group**
Contact	Dr Tracey Collard; Prof Ann Willliams
Location	School of Cellular and Molecular Medicine, Biomedical Sciences Building, University of Bristol
Area of Research	A half day 'lab-based' introduction to cell culture and western blotting. Colorectal (bowel) cancer remains the second most common cause of cancer deaths in the UK. Survival rates for bowel cancer have been improving over the past 20 years thanks to increased early screening and advancements in research. However, with changing lifestyles and increasing levels of obesity, there is likely to be a global increase in the number of people developing bowel cancer. Both prevention and treatment are therefore at the heart of our research. We offer an opportunity to experience growing human cancer cells lines and protein analysis.
Number of students and dates available	3-4 students on 12th December

6)

Research Group Name	**Cytoskeleton Lab**
Contact	Dr Binyam Mogessie
Location	School of Biochemistry, Biomedical Sciences Building, University of Bristol
Area of Research	In order to clinically prevent embryo deaths and spontaneous abortions as well as to treat infertility, it is vital to understand the basic processes that produce heathy eggs inside the body. Recently, we found that actin, one of the dynamic structures that form the skeleton of cells (cytoskeleton), can ensure that eggs contain the correct number of chromosomes before fertilisation. The goal of our research is to reveal how actin prevents the production of eggs that have incorrect number of chromosomes. In particular, we aim to understand how different parts of the cytoskeleton interact with each other during the formation of eggs.
Number of students and dates available	2 students after Christmas (date to be arranged with Dr Mogessie)

7)

Research Group Name	**Fly Lab**
Contact	Dr James Hodge
Location	School of Physiology and Pharmacology, Biomedical Sciences Building, University of Bristol
Area of Research	Lab based research. We are interested in the molecular mechanisms and neural circuit changes that underlie behaviour. We are taking advantage of the fantastic genetic toolbox available in *Drosophila* to tackle this problem. We are studying age related memory decline and sleep disruption in Alzheimer and Parkinson's models including the effect on neurodegeneration and movement. For more details see: http://www.bristol.ac.uk/phys-pharm/people/james-j-hodge/index.html
Number of students and dates available	2 students on 28th Nov and 12th Dec

8)

Research Group Name	**IGFs and Metabolic Endocrinology Group (IMEG)**
Contact	Dr Claire Perks
Location	School of Clinical Sciences, Learning and Research Centre, Southmead Hospital, University of Bristol
Area of Research	Laboratory based research. IMEG is focused on how nutrition and metabolism contribute to the development of major chronic disorders, such as cancer with a specific interest in the role of insulin-like growth factors. We particularly focus on breast and prostate cancer.
Number of students and dates available	1 student on each of 28th Nov, 5th Dec and 12th Dec

9)

Research Group Name	**Learning and Memory**
Contact	Dr Zuner Bortolotto
Location	School of Physiology, Pharmacology and Neuroscience, Biomedical Sciences Building, University of Bristol
Area of Research	Our research is focused on understanding the basic mechanisms underlying learning, memory and neurological disorders. We also work on development of new pharmacological tools to explore synaptic plasticity in health and disease. For ex. We are investigating the mechanism by which NMDA receptors signalling pathway mediates the interaction between Abeta peptide and long-term depression of synaptic strength in the hippocampal region of the brain.
Number of students and dates available	2 students on 28th Nov

10)

Research Group Name	**Opthalmology**
Contact	Oliver Bell
Location	Translational Health Sciences, Bristol Medical School / School of Cellular and Molecular Medicine, Biomedical Sciences Building, University of Bristol
Area of Research	My work involves investigating models of uveitis; a group of autoimmune diseases of the eye – it's the leading cause of blindness in working-age people. The research is lab-based, using cutting-edge techniques including RNA-Seq, Flow cytometry, and Confocal laser scanning microscopy. My PhD project involves characterising the transcriptional changes occurring in microglia (a tissue-resident immune cell of the brain/retina) during models of uveitis. On the 28th November, I have a flow cytometry experiment planned; the student will be able to observe this protocol from start to finish including data analysis, as well as see previously-collected data from other techniques.
Number of students and dates available	1 student on 28th Nov; Willing to host students on other days to be arranged (subject to the plans for experiments).

11)

Research Group Name	**Paediatric Infection and Immunity**
Contact	Prof Adam Finn and Dr Begonia Morales-Aza
Location	School of Cellular and Molecular Medicine / School of Clinical Sciences, Biomedical Sciences Building, University of Bristol
Area of Research	The Bristol Children's Vaccine Centre (BCVC) is a group of doctors, nurses and scientists working together to develop new, better ways to prevent and treat infectious diseases. The main focus of the BCVC is on translational research related to mucosal vaccine development and specifically the mucosal immune response to pneumococcus. We conduct clinical trials to evaluate novel drugs and vaccines, from small early-phase safety studies through to larger efficacy trials. We also carry out other clinical research studies to find out more about the naturally occurring carriage of bacteria (e.g. *Streptococcus pneumoniae* and *Neisseria meningitidis*) and/or viruses (such as influenza) in healthy individuals, and how this changes in illness. This work can take the shape of large epidemiology-type studies or smaller lab-based research projects that use human tissue samples (blood, adenoids, nasal swabs, throat swabs and saliva).
Number of students and dates available	2 students on 28thNov, 5th Dec and 12th Dec

12)

Research Group Name	**Regenerative Medicine Laboratories** (including Prof James Uney, Dr Liang-Fong Wong, Dr Allison Blair, Dr Wael Kafienah, Dr Lucia Marucci and Dr Oscar Cordero Llana)
Contact	Dr Oscar Cordero Llana
Location	School of Clinical Sciences / School of Cellular and Molecular Medicine, Biomedical Sciences Building, University of Bristol
Area of Research	Lab based / Clinical Lab based / Clinical The Bristol Regenerative Medicine laboratory (BRML) is a multidisciplinary research laboratory, encompassing world-class experts in biomaterials, gene therapy and tissue regeneration. We study a broad range of chronic diseases, such Parkinson's disease, Huntington's Disease, traumatic spinal cord injury and childhood leukaemia. The methodologies used in our laboratory include stem cells (iPSCs, ESCs, MSCs, NSCs), viral vectors, microfluidics, molecular biology, tissue engineering, animal models, bioinformatics, etc.
Number of students and dates available	6 students on 28th Nov

13)

Research Group Name	**Synaptic Plasticity Lab**
Contact	Prof Jack Mellor
Location	School of Physiology, Pharmacology & Neuroscience, Biomedical Sciences Building, University of Bristol
Area of Research	The group investigates the mechanisms underlying learning and memory. We use electrophysiological techniques to probe how synaptic plasticity leads to changes in neuronal network properties that may form the substrate for encoding and storing information. We are also interested in how emotional state determines which memories are kept and which discarded.
Number of students and dates available	Up to 4 students on either 28th Nov, 5th Dec or 12th Dec (one date only)

14)

Research Group Name	**Wound Healing Lab**
Contact	Dr Helen Weavers
Location	School of Biochemistry, Biomedical Sciences Building, University of Bristol
Area of Research	Our ability to regenerate or 'heal' ourselves after injury is crucial. However, unlike superheroes like Spider-Man, humans can't heal themselves perfectly. We suffer problems, such as scar tissue, and for many people some wounds never heal. We want to understand more about the healing process – what cell types are required and which genes are involved - to help find ways we can improve recovery for real patients in the clinic. My lab combines experimental lab studies with computer analysis of human genetics data. In the lab, we use live-imaging of translucent fruitflies to watch these dynamics processes as they happen.
Number of students and dates available	2 students on Nov 28th and Dec 5th. Could do other dates if required, but no more than 2 afternoons in total.

VETERINARY SCIENCE-FOCUSSED RESEARCH TASTERS

15)

Research Group Name	**AMR Force** (Includes: Dr Kristen Reyher; Prof David Barrett; Dr Maria Escobar; Dr Fernando Sanchez-Vizcaino)
Contact	Dr Kristen Reyher
Location	School of Veterinary Sciences, Dolberry Building, Langford, University of Bristol
Area of Research	We are a group of veterinarians and researchers interested in decreasing antimicrobial use while improving animal health through a plurality of approaches. We have strong links and collaborations with social scientists along with a track record of influencing behaviour change in animal health and welfare on farms. We currently are involved at a high level in influencing the use of medicines on farms in the UK and have for the past five years been conducting medicines audits within our practice and reducing the use of higher level medicines on our farms. More info here: http://www.bristol.ac.uk/vetscience/research/infection-immunity/main/
Number of students and dates available	No limit – they will attend our monthly update meetings on the following dates: 6th Nov 2-4pm; Dec meeting date TBC. Please contact Dr Kristen Reyher

16)

Research Group Name	Companion Animal Population Health
Contact	Emily Blackwell
Location	School of Veterinary Sciences, Dolberry Building, Langford, University of Bristol
Area of Research	The 'Bristol Cats' study is a pioneering study of cat health, welfare and behaviour run by vets, behaviourists and epidemiologists at the University of Bristol. The aim is to improve knowledge of common diseases and behaviour problems of cats, for example (but not exclusively), unwanted elimination, obesity and hyperthyroidism. Findings from the study may be used by veterinary practitioners, cat breeders, owners and the cat community to improve the health and welfare of cats in the future. Research would be desk based. http://www.bristol.ac.uk/vetscience/research/projects/cats/
Number of students and dates available	1 student on Dec 5th; 1 student on Dec 12th. Alternative dates could be arranged.

17)

Research Group Name	**Sustainable Livestock Systems and Food Security**
Contact	Prof Michael Lee
Location	Rothamsted Research, North Wyke, Okehampton, Devon, EX20 2SB
Area of Research	Sustainability of grazing livestock systems. The use of the BBSRC North Wyke Farm Platform National Capability (www.rothamstedresearch/farmplatform) to measure the true impact (emissions, animal health) and value (product quality, economic, social) of different ruminant livestock production systems.
Number of students and dates available	A mini bus full of students on 23rdJan, 30th Jan or 6th Feb

18)

Research Group Name	**T-cell Immunology Lab**
Contact	Prof Linda Wooldridge
Location	Biomedical Sciences Building, University of Bristol
Area of Research	Role of T-cells in diseases such as autoimmunity, transplant rejection and leukaemia. In addition, a strong interest in the development of cancer immunotherapy.
Number of students and dates available	2 students on 5th Dec and 12th Dec

University of Cardiff Taster Days

MEDICAL SCIENCE-FOCUSSED RESEARCH TASTERS

19)

Research Group Name	**Martin Research Group, CCMRC**
Contact	Dr Tracey Martin
Location	DCG, Medicine, Henry Wellcome Building, Cardiff University
Area of Research	Tight Junctions in cancer metastasis with a focus on distant metastasis to the brain.
Number of students and dates available	2 students on Dec 5th 2018

20)

Research Group Name	**Diabetes/Autoimmunity**
Contact	Professor Colin Dayan
Location	I&I, MEDIC, C2 Link corridor, UHW Main Building
Area of Research	We are interested in the immunotherapy of type 1 diabetes, aiming to slow or reverse the disease and preserve beta cell function. We conduct clinical trials and related studies in this area and coordinate trials across the UK. In this day you will see how clinical trials operate and the lab studies associated with them as well as talk to patients involved in trials and join our team in the Clinical Research Facility.
Number of students and dates available	4 students on Dec 12th 2018

21)

Research Group Name	**Epidemiology and Medical Statistics**
Contact	Rhian Daniel
Location	Division of Population Medicine, School of Medicine, Neuadd Meirionnydd, Heath Park
Area of Research	We use large-scale record-linked healthcare datasets, e.g. the SAIL databank and CPRD, to answer a wide range of population health questions. This includes epidemiological analyses of alcohol-related harm, adverse childhood experiences, and clinical outcomes in specific diseases such as type I diabetes and Down's syndrome. This taster day will focus on a recently-completed analysis of some population health data in one of the disease areas listed above. The students will first meet a member of the team that led this research, before being taken to a lunchtime seminar at which the results will be discussed. In the afternoon, the students will be shown how some of the data analysis was performed, before being introduced to some data visualization tools, and given a chance to contribute to the design of a poster based on the research discussed.
Number of students and dates available	2 students on Dec 12th 2018 **11:30am-4pm**

22)

Research Group Name	**Marie Curie Palliative Care Research Centre**
Contact	Prof Annmarie Nelson
Location	Division of Population Medicine, School of Medicine, Neuadd Meirionnydd, Heath Park
Area of Research	Population based research into the palliative and supportive care needs of people living with terminal disease, and their families. Research includes cancer/non cancer disease at all stages of the patient pathway from diagnosis to death, or post curative treatment (late effects).Clinical trials, qualitative research, and implementation of results to practice. Main themes: Rehabilitation, Patient and Carer experience, PPI, venous thromboembolism in advanced cancer.
Number of students and dates available	2 students on Dec 5th, Dec 12th 2018

23)

Research Group Name	**Patient Safety (PISA) Research Group**
Contact	Dr Andrew Carson-Stevens
Location	Division of Population Medicine, School of Medicine, Neuadd Meirionnydd, Heath Park
Area of Research	Healthcare is dangerous. Around 1 in 10 patients experience unsafe care when they are acutely admitted to hospital, and 1 in 33 patients experience unsafe care in community settings. Little to no research has been done to understand how to keep the most vulnerable groups in society, like patients with dementia and older adults in the community, safe from healthcare-associated harm. Our research aims to investigate unsafe care experienced by patients (and their carers / families) and create and test solutions with healthcare teams (doctors, nurses, pharmacists, physiotherapists, managers, etc.) to improve the safety of future care.
Number of students and dates available	5 students on Dec 5th 2018 9am – 12.30pm.

24)

Research Group Name	**Dementia Research Institute; Morgan Group**
Contact	Prof Paul Morgan
Location	DRI, MEDIC, Cardiff University. DRI, Hadyn Ellis Building, Maindy Road
Area of Research	Inflammation in dementias.
Number of students and dates available	3 students on Dec 5th 2018

25)

Research Group Name	**Schizophrenia Genetics**
Contact	Catherine Cleves
Location	MRC Centre for Neuropsychiatric Genetics and Genomics, Hadyn Ellis Building
Area of Research	This group is researching the genetic basis of schizophrenia. We use a combination of molecular genetics, biostatistics and bioinformatics, psychology and clinical psychiatry in large samples of patients recruited across the UK.
Number of students and dates available	3 students on 28th Nov, Dec 5th Dec 12th 2018

26)

Research Group Name	**Huntington's disease group**
Contact	Lesley Jones
Location	DPMCN, Medicine, Hadyn Ellis Building, Maindy Road
Area of Research	We are taking a multidisciplinary approach to Huntington's disease, an autosomal dominantly inherited neurodegeneration. We have been examining genetic modification of the disease by genotyping and sequencing HD subjects and looking for association with the phenotype of the disease. We are using the genetic variation we have found to generate new models of the disease and to uncover biological pathways that alter disease course, to identify novel therapeutic targets. In our taster day we will demonstrate the pathway from genes to therapeutic targets including lab-based cell culture.
Number of students and dates available	4 Dec 12th 2018

27)

Research Group Name	**Prof Jeremy Hall**
Contact	Prof Jeremy Hall
Location	NMHRI, Hadyn Ellis Building
Area of Research	My overarching interest is in the role of genetic and environmental risk factors in the development of neurodevelopmental disorders such as schizophrenia, autism and related personality disorders. I am particularly interested in how identified genetic risk factors affect learning processes in the brain; abnormalities in which underlie the key symptoms seen in a range of mental health problems. Current Research Projects 1.Role of psychiatric risk genes in learning and memory 2.Expression and regulation of autism and schizophrenia associated genes 3.Modulatory effects of early life experience on gene expression and psychiatric risk 4.Genetic effects on brain function and structure
Number of students and dates available	5 Dec 12th 2018

28)

Research Group Name	**Prof Berhard Moser**
Contact	Rebecca Adams
Location	Department of I&I, Henry Wellcome Building
Area of Research	We are currently looking at CCR8+ T reg cells as potential targets for immunotherapy. We are characterising these populations in blood skin and tumour, culturing these cells and hope to perform functional assays. The work is lab based and we could demonstrate to students the principles of extracting cells from blood, cell culture and staining cells for flow cytometry.
Number of students and dates available	2 Dec 5th or Dec 12th 2018

29)

Research Group Name	**Neuropsychiatric Immunology / Behavioural Genetics Group**
Contact	Dr Laura Westacott
Location	Neuroscience and Mental Health Research Institute, School of Medicine
Area of Research	**Research type:** Lab based Increasing evidence suggests the immune system may play a causative role in the pathogenesis of psychiatric disorders such as schizophrenia and depression. However, there is still a poor understanding of the actions of the immune system in the brain outside of the classical immune duties. Our group uses genetically engineered mice deficient in key proteins of the innate immune system to determine their role in behaviours relevant to psychiatric disorders including learning and memory, anxiety and fear.
Number of students and dates available	3 Dec 12th 2018

30)

Research Group Name	**Viral Pathogenesis**
Contact	Professor Ian Humphreys
Location	Infection & Immunity, School of Medicine
Area of Research	Understanding the mechanisms that regulate immune responses to viruses and determining the influence that such cellular processes have on determining the outcome of infection in terms of immune pathogenesis, control of virus replication and chronicity.
Number of students and dates available	4 Dec 5th 2018

31)

Research Group Name	**Prof. Cheadle's Group**
Contact	Matthew Summers
Location	School of Medicine, IMG Building
Area of Research	Analysis of germline and somatic mutations of patients with advanced colorectal cancer (aCRC) through survival analyses and genome-wide association studies (GWAS) Bioinformatics/coding of genetic data, in silico analyses
Number of students and dates available	Any number Nov 28th, Dec 5th, Dec12th 2018

32)

Research Group Name	**Prof. Cheadle's Group, Cancer of Genetics**
Contact	Victoria Gray
Location	School of Medicine, IMG Building
Area of Research	Bioinformatics and biostatistical analysis of colorectal cancer patient data with the hope of discovering biomarkers which indicates a response to cancer therapies (Computer / Bioinformatics)
Number of students and dates available	2 Dec 5th, Dec12th 2018

University of Exeter Taster Days

MEDICAL SCIENCE-FOCUSSED RESEARCH TASTERS

33)

Research Group Name	**Patient-clinician interaction in mental health**
Contact	Penny Xanthopoulou
Location	IHR
Area of Research	First part: introduction to our current projects in dementia, suicide and psychosis and methods we use Second part: participate in our data analysis group meeting where we analyse real-life patient-clinician interactions
Number of students and dates available	28th Nov 2018

34)

Research Group Name	**Patient-clinician interaction in mental health**
Contact	Joseph Ford
Location	IHR
Area of Research	Medical communication/interaction.
Number of students and dates available	4 28th Nov, 5th Dec or 12th Dec 2018

35)

Research Group Name	**Health Economics Group**
Contact	Claire Hulme
Location	IHR
Area of Research	Headlines such as 'Diabetes threatens to bankrupt the NHS in within a generation' or 'Half of all women predicted to develop dementia' typically portray the NHS in crisis. Against this backdrop, health economics research appraises economic evidence to inform health policy and health care decision making and to help make choices in an environment of ever increasing pressure on health budgets - to improve patient outcomes within constrained budgets. Our research at the Health Economics Group within UEMS includes economic evaluation of new interventions; use of routine data to measure the costs of care and measurement of outcomes in disease specific populations to provide robust evidence for health providers nationally and globally. The taster day will showcase on-going and recently completed research using a wide variety of methods such as health technology assessment, decision modelling, analysis of large datasets or efficiency analysis. The content of the day will be tailored to the interests and specialities of the students consisting of a group session led by senior academics in the Health Economics Group and one-to-one sessions with practical tasks. The aim of the day is to provide an overview of health economics research which will facilitate discussion of potential research projects allied to students own practice and interests. We can accommodate up to four students. The taster day is suitable for medical and dental students.
Number of students and dates available	4 5th Dec or 12th Dec 2018

36)

Research Group Name	**Genetics of Fetal Growth**
Contact	Rachel Freathy
Location	IBCS, RILD Building Exeter
Area of Research	The work focuses on using maternal and fetal genetics to understand the role of the intrauterine environment in fetal growth.
Number of students and dates available	4 28th Nov, 5th Dec or 12th Dec 2018

37)

Research Group Name	**Diabetes Research**
Contact	Pia Leete
Location	IBCS, RILD Building Exeter
Area of Research	Diabetes research in the Pancreas and model systems. The group focuses on Islet cell biology and type 1 diabetes. https://www.isletbiologyexeter.co.uk/our-research
Number of students and dates available	4 5th Dec or 12th Dec 2018

38)

Research Group Name	**Human genetics, specifically monogenic diabetes and hyperinsulinism**
Contact	Tom Laver
Location	IBCS, RILD Building Exeter
Area of Research	We identify the genetic changes that cause monogenic diabetes and hyperinsulinism using cutting edge DNA sequencing and clinical phenotyping. This helps personalise treatments for the patients and provides insights into the genetic regulation of insulin secretion. We can now give a genetic diagnosis to 90% of babies with neonatal diabetes ensuring they get the best treatment.
Number of students and dates available	4 5th Dec

39)

Research Group Name	**Cancer biology**
Contact	David Allard
Location	IBCS, St Luke's Campus, Exeter
Area of Research	Tumour microenvironment
Number of students and dates available	4 28th Nov, 5th Dec

40)

Research Group Name	**Child Mental Health**
Contact	Tamsin Ford
Location	IHR, St Luke's Campus, Exeter
Area of Research	Factors influencing childhood psychiatric disorder, mental health and well-being, including interventions. We are currently running one randomised controlled trial, a systematic review and a number of observational studies
Number of students and dates available	6 , 5th Dec

41)

Research Group Name	**Primary Care Research Group**
Contact	Jo Butterworth
Location	IHR, St Luke's Campus, Exeter
Area of Research	This research group focusses on clinically relevant applied and translational research focussing on the organisation, delivery, and quality assurance of general practice based primary care.
Number of students and dates available	4, 5th Dec

University of Plymouth Taster Days

MEDICAL SCIENCE-FOCUSSED RESEARCH TASTERS

42)

Research Group Name	**Derriford Hospital Summer spine research school**
Contact	Himanshu Sharma, Consultant Orthopaedic Spinal Surgeon
Location	Plymouth Spinal Services, Derriford Hospital/Plymouth University
Area of Research	The spine research school would provide a plenty of opportunities to do a variety of clinical studies relating all the aspects of spinal disorders and Spinal Surgery. The specific topics of clinical interest include the management of cervical degenerative spinal disease, the management of lumbar degenerative spinal disease (disc prolapse, spinal stenosis, spondylolisthesis, adult deformity), patient reported outcomes, spinal tumours, spinal infections and spinal trauma with and without spinal cord injuries. Studies related to the allied branches to spinal surgery could also be undertaken as per students' interests. The research student is expected to do a detail literature search on the chosen topic, collect & analyse relevant data, prepare an abstract for scientific presentation, write-up a full paper and submit it for anticipated publication in a peer reviewed journal by the end of SSU period.
Number of students and dates available	28/11/18 for 2-4 students. 5/12/18 for 2-4 students.

43)

Research Group Name	**Genetic Toxicology and Ecotoxicology Research Group**
Contact	Prof. Awadhesh Jha; Dr Will Vevers
Location	Plymouth University; Biological and Marine Sciences
Area of Research	Our group works on different aspects of mutagenesis and carcinogenesis, with particular reference to elucidation of molecular mechanisms of DNA damage/ repair in a range of normal (e.g. cells of nervous origin) or tumor cells (viz. ovarian and lung cancer cells) following exposure to pharmaceuticals including anti-tumor drugs or environmental agents (e.g. engineered nanoparticles).
Number of students and dates available	4 5th Dec

44)

Research Group Name	**Improving mental health care for disadvantaged groups**
Contact	Cath Quinn/Lynne Callaghan/Richard Byng
Location	Primary Care Group, Plymouth Science Park, Derriford, Plymouth
Area of Research	This programme of work focuses on how best to provide care for patients who have complex social, emotional and medical needs. For those in contact with the criminal justice system and homeless individuals, this means improving access as well as coordinating care across sectors and also rethinking diagnostic classification. We are also evaluating a general practice based coaching intervention for individuals with psychosis. The research is community and office based using quantitative (epidemiological, data base, questionnaire, trial) and qualitative (interviews, observation) methods, involving NIHR funded trials with collaboration across the UK
Number of students and dates available	4 28th Nov, 5th Dec or 12th Dec 2018

45)

Research Group Name	**Person Centered Coordinated Care for frail elderly and multimorbidity**
Contact	James Close/Richard Byng
Location	Plymouth Science Park, Derriford, Plymouth
Area of Research	This programme of work focuses on how new models of care and clinical encounters for individuals with frailty or multiple long term conditions can be developed and evaluated. We are developing ways of sharing decisions and delivering care with patients who have complex social, emotional and medical needs. The research is community and office based using quantitative (epidemiological, data base, questionnaire, trial) and qualitative (interviews, observation) methods, working with services across the south west.
Number of students and dates available	4 28th Nov, 5th Dec or 12th Dec 2018

46)

Research Group Name	**Primary Care – Behaviour Change**
Contact	Dr Tom Thompson/ Professor Adrian Taylor
Location	Plymouth Science Park, Derriford, Plymouth
Area of Research	We currently lead three multisite randomized controlled trials funded by the NIHR involving the design and evaluation of a complex intervention to support health behaviour change. Each involves Public and Patient Involvement, translation of psychological theory into practice, a logic model, and detailed process evaluation. Each study involves the Peninsula Clinical Trials Unit. Students will gain an insight into the respective challenges faced by conducting such research, including recruitment of patients in disadvantaged community settings, study retention, and taking studies from development and pilot phases into definitive trials.
Number of students and dates available	4 28th Nov, 5th Dec or 12th Dec 2018

47)

Research Group Name	**Neuropathology Research Group** **Understanding basic pathology of disorders of human nervous system.**
Contact	Dr Aditya Shivane, Consultant Neuropathologist.
Location	Plymouth Science Park, Derriford, Plymouth
Area of Research	Neuropathology is a highly specialized branch of histopathology which deals with the gross and microscopic analysis of tissues of the nervous system. Neuropathologists therefore aid clinicians in arriving at a diagnosis. We are a small team of two neuropathologists and four biomedical scientists incorporated in a larger histopathology department. We collaborate with the neurosciences team in the Peninsula School of Medicine and Dentistry on various research projects (eg. tumours of the CNS, Parkinson disease). The aim of this taster session is to give you an insight into the pathology of some of the common neurological disorders such as stroke, multiple sclerosis, Alzheimer's disease, Parkinson disease, tumours and neuromuscular disorders.
Number of students and dates available	1 or 2 students 28th Nov or 5th Dec or 12th Dec 2018

48)

Research Group Name	**Hepatology Research Group**
Contact	Dan Felmlee
Location	John Bull Building Plymouth
Area of Research	Hepatitis C virus (HCV) infects 3% of the global population and transmitted through contaminated blood products. The majority of those infected carry a chronic infection that leads to liver disease and hepatic cancer. Our group previously studied of a cohort of individuals that were exposed to HCV, but amazingly cleared the virus without showing antibody evidence of exposure. Genetic studies of this population reveal unique alleles in a region of anti-viral genes that may enable these individuals to escape infection. We will pursue this investigation by identifying other differences in sequence and testing our findings functionally in cell culture models.
Number of students and dates available	2 students 28th Nov or 5th Dec or 12th Dec 2018

49)

Research Group Name	**Parkinson Group** **Understanding tumours of the nervous system**.
Contact	Professor David Parkinson
Location	John Bull Building Plymouth
Area of Research	Schwann cells are the glial cells of the peripheral nervous system and provide the myelin that allows the rapid propagation of action potentials. The loss of the tumour suppressor protein Merlin leads to the formation of schwannomas in patients. My lab studies the biology of these tumours using both primary human schwannoma cells and transgenic mouse models to understand the changes in cell signaling that underlie the uncontrolled proliferation of Schwann cells lacking Merlin. Please see Mindos et al J. Cell Biol (2017) 216: 495-510 and Roberts et al Development (2017) 144: 3114-25 for the approaches and techniques we use in the lab. Research type: Lab based project.
Number of students and dates available	2 students on each of 28th Nov and 5th Dec

50)

Research Group Name	**Human movement and sensorimotor control group**
Contact	Dr Lisa Bunn
Location	Institute of Health and Community, School of Health Professions
Area of Research	Accurately guided movement relies on the successful integration of sensory contributions (for balance, involuntary postural responses and volitional control). Past research has explored a range of sensory and motor contributions to balance and human movement at a basic mechanisms level (the gait laboratory 'bench') through to the development of clinical interventions ('bedside' or 'life in the community' if adopting a rehabilitation-focus). In collaboration with vision scientists (Dr Gunnar Schmidtmann and Prof Paul Artes), this lab has the potential to explore multi-sensory contributions to balance and gait as well as explore associations between quantified measures of dysfunction and underlying pathophysiology. Research type: 3D motion analysis lab based project.
Number of students and dates available	2 students on one day in Dec

51)

Research Group Name	**Vikram Sharma, Proteomics Core Laboratory**
Contact	Dr. Vikram Sharma,
Location	School of Biomedical Sciences, Institute of Translational and Stratified Medicine
Area of Research	Research type: Lab based Area of Research: Proteomics based Drug Discovery. Our research aims to explore the mode of action of novel and existing Epigenetic modifiers such as Histone Deacetylase inhibitors (HDACi). In partnership with our collaborators in University of Naples, Italy, we employ classical biochemical approaches in combination with label free quantitative mass spectrometry (Proteomics) to explore the substrates of New Chemical Entities (NCEs) in a panel of established cell lines (HAL-01 and NCI-H1299 etc). The outcomes of our research projects will be hugely beneficial to industry and academia and further help in development of newer and more effective drugs for treatment of various types of malignancies.
Number of students and dates available	2 students on one day

52)

Research Group Name	**Genomics and Genetics** **https://www.plymouth.ac.uk/research/genomics-and-genetics-group**
Contact	Matthias Futschik, Robert Belshaw, Xinzhong Li
Location	Derriford Research Facility (DRF)
Area of Research	The knowledge of the patient's genome promises to revolutionize modern medicine. In our group, we use genomics and computer algorithms to find new means for improved diagnosis and treatment of cancer. Students will have the opportunity to learn about the potential of genomics in medical research and to contribute to current research projects. For the Taster day, the student will see how a DNA sequencer smaller than a mobile phone can in a few hours determine the presence or absence of so-called driver mutations in a cancer patient, and so guide drug therapy. The students will firstly help set up and run the device (a minION) and then use a computer program to 'call the targeted DNA, as healthy or mutant.
Number of students and dates available	Three on one day. Date to be arranged with Robert Belshaw.

53)

Research Group Name	**Community and Primary Care research group**
Contact	Dr Felix Gradinger
Location	ITTC Building, Davy Road, Plymouth Science Park, Derriford, Plymouth, PL6 8BX
Area of Research	Person-Centred Coordinated Care (PCCC) 'Care that is guided by and organised effectively around the needs and preferences of the individual' This programme combines the following activities in order to ensure learning contributes both to local service improvement and international knowledge: • reviews of literature • support for bottom up service redesign and implementation • evaluation of innovation and whole systems synthesis of evidence to build practical theory about how to provide and implement PCCC.
Number of students and dates available	Two on one day.

54)

Research Group Name	**Torbay Paediatrics Research/Audit Forum**
Contact	Siba Paul
Location	Vowden Hall, Torbay Hospital, Torquay, TQ2 7AA
Area of Research	General paediatrics; Neonatology; Paediatric gastroenterology I am mainly involved in clinical research and have supervised a large number of medical students from different universities in their projects which has led to national and international presentations and publications I have successfully supervised students to publish 90 papers in PubMed indexed journals, including research studies, audits, case studies, review articles, etc. – list available upon request Previous publications co-authored with medical students: Paul SP et al. J. Hosp. Infect. (2018) 98: 425-428. Paul SP et al Arch. Dis. Child (2017) 102: 942-946. Paul SP et al J. Hosp. Infect. (2017) 96: 360-365.
Number of students and dates available	2 students each on 2 days [i.e. a total of 4 students]

55)

Research Group Name	**Pharmacokinetics & Toxicokinetics Research Group**
Contact	Ann Rigby-Jones, Melanie Priston
Location	Derriford Research Facility
Area of Research	We will offer opportunities to become involved in either pharmacokinetic studies (dose optimization of drugs for vulnerable patient groups) or toxicokinetic studies (quantification of naturally occurring toxins in foods e.g. mycotoxins in apples). The projects will be laboratory based and will involve the development and validation of analytical assays (high performance liquid chromatography and mass spectrometry) for drugs or toxins in biological matrices or food samples.
Number of students and dates available	2 students for one day in December (date to be arranged, preferably not a Wednesday, if possible)

56)

Research Group Name	**Xin-peng Dun** **Peripheral nerve regeneration group**
Contact	Dr Xin-peng Dun
Location	Peninsula School of Medicine and Dentistry, John Bull building, Tamar Science Park, Research Way, Plymouth, UK, PL6 8BU
Area of Research	The peripheral nervous system differs from the central nervous system in that it is capable of remarkable regeneration after injury, but this astonishing regenerative capability is limited after transection injury due to the loss of the integrity of the original axonal paths necessary for highly efficient and accurate regeneration. In order to understand the molecular mechanisms contributing this regenerative failure, our group is currently using global and conditional gene knockout mouse as our research models to study the role of several transcription factors, canonical MAPK signalling pathways and axonal guidance molecules in peripheral nerve repair. Research type: Lab based project.
Number of students and dates available	2 students for one day

DENTAL SCIENCE-FOCUSSED RESEARCH TASTERS

57)

Research Group Name	**Dr Bing Hu**
Contact	Dr Bing Hu
Location	Peninsula Dental School
Area of Research	Lab based. Dr Bing Hu's group is working on two major directions: (1) Craniofacial researches using tooth and salivary gland as models to understand the stem cell fate determination mechanisms and tissue regeneration such as tooth pulp and periodontal ligament, using technologies including 3D printing; and (2) Skin cancer initiation mechanisms and stem cells, as well as UV protection and DNA damage prevention including developing a new skin testing platform.
Number of students and dates available	2-4 students on a 2 days course

58)

Research Group Name	**Vehid Salih – (Oral Health & Dental Research Group)**
Contact	Dr. Vehid Salih
Location	Peninsula Dental School
Area of Research	This research is laboratory-based and involves a variety of research methods including 2D and 3D cell culture, a variety of microscopy, basic molecular biology, ELISA, Histology, Flow Cytometry, Materials Testing and Biochemical assays. My current research utilises cell culture methods to develop in vitro models and assays for development of in vitro models, in particular the oral mucosa. I am also interested in standardizing in vitro assays for tissue engineered scaffolds.
Number of students and dates available	2 students on Friday 30th Nov or to be arranged for another date.

59)

Research Group Name	**Dental and Oral research group**
Contact	Dr Louise Belfield
Location	Peninsula Dental School
Area of Research	Macrophages play a vital role in the orchestration of immune responses to pathogenic stimuli. My research interests lie in how normal macrophage differentiation and function may be altered in oral diseases, particularly periodontal disease and oral cancer. Current research projects include: - *Porphyromonas gingivalis* induced macrophage effector functions and their influence on osteoclast activity in periodontal disease - Development of an *in vitro*, 3-D model of the oral mucosa to study oral cancer and stromal cell interactions - Development of an *in vitro*, 3-D model of the oral mucosa to study host-pathogen (biofilm) interactions. Research type: Lab based project.
Number of students and dates available	2 students on one day