

**Summer Projects List**

One of the principle ways CUReS hopes to improve research opportunities for Cardiff medical students is to compile a list of academic and clinical staff each year who are enthusiastic and keen to supervise medical student projects during the summer vacation period.

**Eligibility**

All Cardiff University medical students who are interested in undertaking a research project during the 2014 summer vacation period.

**Application process**

Interested students should complete an interest declaration which will be directed to their chosen supervisors. Supervisors or CUReS will then contact students of availability and arrange a meeting to refine mutual project preferences. It is at the discretion of the supervisor as to how they select the appropriate student and design the project.

**Project design**

The list provides the supervisors area of interest in which the project will be based and does not indicate the exact title of the research project. It is anticipated that the specific design of projects will be a collaborative process between the supervisor and student, such that each is bespoke to the students’ skill level and interests.

**Project organisation process**

The process of organising a project in the summer for students can be somewhat confusing. We have constructed a timeline of the dates and deadlines so it will be made clearer to you.

➥[CUReS timeline [dates to be announced]](http://drive.google.com/open?id=1Q7p3MwkWx5I-Tw1LZUFFkzxcWfy_izcRxoYFODC0jbM)

**Internal funding for students**

Projects on the list will be put forward to the Cardiff Undergraduate Research Opportunities Programme (CUROP) by supervisors for funding. However we will not know whether the projects will be allocated CUROP funding until April 2014. The CUReS projects which have been allocated CUROP funding can be found then at: [<http://learning.cf.ac.uk/curop/>]

There are also funds administered by the NHS Liaison Unit which may be appropriate for your project. Please download the document provided and browse through if they are suitable for you.
**Contact us via email if you wish to apply for these funds.**

➥ [NHS Liaison Unit funds - July 2013](http://drive.google.com/open?id=0B9Unmh_FGPUeczV0alAyOUFVdFk)

**External funding for students**

Students and supervisors are encouraged to apply for funding from external sources. We have compiled some but the list is by no means exhaustive. Another useful resource for project funding on Money 4 Med Students: [h[ttp://www.money4medstudents.org/competitions-and-awards-](http://www.money4medstudents.org/competitions-and-awards-)]

➥ [External Funding Sources - updated 06/12/13](http://drive.google.com/open?id=1YMQe_ZUJGaHl9LRARyOrJ9ktMmsXmkTzuaz6JoQw2CI)

**Cardiff and Vale University Health Board Protocol**

The clinical audit department at CAVUHB has taken steps to ensure that every clinical audit project is beneficial to both the students and UHB.

Once supervisors have contacted you of an audit project availability in CAV, please follow the UHB guidance and project proposal forms below. Please consult with your supervisor when filling in the forms. Forms can be printed out and a scanned copy submitted to the relevant personnel as listed in the guidance notes.

**1. The issued guidance for project proposals in C&V hospitals:**

➥ [CAVUHB Medical Student Guidance - AUG 12](http://drive.google.com/open?id=0B9Unmh_FGPUeSnhRaTBjNWVPMms)

**2. The UHB project proposal forms:**

➥[Med Student Proposal Form UHB - Jan 2013](http://drive.google.com/open?id=0B9Unmh_FGPUeSmhUSklHVkxtZmc)

The forms are a legal requirement to obtain approval by the UHB audit department should you wish to use confidential patient data. Please note that data collection in retrospective projects may be delayed as archived documents will need to be retrieved by department staff.

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* For interested students \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**INSTRUCTIONS**

**1. Please complete our online student** [**interest declaration**](https://docs.google.com/forms/d/1oKStYQ8ypJFVu2w_2yzfY3-0t9tDgA4eUubqnzfKlQQ/viewform)**:**

**➥**<https://docs.google.com/forms/d/1oKStYQ8ypJFVu2w_2yzfY3-0t9tDgA4eUubqnzfKlQQ/viewform>

**2. Students can submit declarations for as many projects as they wish.**

**3. Submit separate form per project.**

**4. We will send the forms to your chosen supervisors and they will contact you shortly.**

**5. Submission deadline for forms are 5pm, Friday, 17th Jan 2014.**

**6. Further enquires on projects or if you would prefer a field not listed, please direct to** **CUReS@cardiff.ac.uk**

The Projects listed below are in their respective Institutes/Departments.

Happy hunting!

*The CUReS Committee.*

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**Institute of Medical Education**

**Supervisor: Dr Lynn Monrouxe**

Project focus: Medical Education research. This is very broad and includes areas outside the formal curriculum such as doctor-student-patient interactions during bedside teaching, professionalism learning in clinical placements, postgraduate education in clinical settings, medical graduates preparedness for practice, patient-centredness, etc.

Type of project: Medical Education research project(s)

Suitable for: Year 2 or above / Intercalated BSc or additional degree

Research group

interests: We are presently running a GMC funded project (with 4 countries participating, led by Dr Monrouxe at Cardiff) which has involved a Rapid Review of the literature, narrative individual and group interviews and audio diaries of F1 doctors. We are also conducting studies investigating the learning of professionalism in clinical placements, work-based learning of undergraduates and foundation doctors, doctor-student-patient interactions during bedside teaching, medical students’ alcohol-related provocation, hygiene practices of doctors and students (these have all included medical students from Year 2 – intercalated level and are presently being written for publication with students as authors. (<http://medicine.cf.ac.uk/medical-education/medical-education-research/bedside-teaching-encounters-research-study/>)

 **Institute of Psychological Medicine and Clinical Neurosciences**

**Supervisor: Dr Rhys Bevan Jones**

Project focus: Mental health difficulties, particularly depression, in adolescence/young people

 Multimedia & graphic technologies in healthcare & research (E-health)

Type of project: Clinical/Audit

Suitable for: Year 1 or above

Research group

interests: Engaging young people in prevention and early intervention programmes is a major challenge for services, and there has been increasing interest in the use of multimedia to help engage and inform. Our research group has led studies into the prevention/prediction of adolescent depression and online packages for bipolar disorder. We aim to develop and evaluate an online psychoeducation package for young people with (or at high risk of) depression, and their families/carers. The research will be informed by interviews and focus groups with young people, parents/guardians and professionals, and we will collaborate with a multimedia company.

**Supervisor: Prof George Kirov**

Project focus: Analysis of various types of mutations found in patients with schizophrenia. We are interested in the age of mutations, their frequencies in various ethnic groups, their parental origin, their selection coefficients

Type of project: Laboratory

Suitable for: Year 3 or above

Research group

interests: Analysis of copy number variations in schizophrenia and other neuropsychiatric disorders; Analysis of de novo occurring mutations; Whole exome sequencing in schizophrenia.

 **Supervisor: Prof George Kirov**

Project focus: Electroconvulsive treatment and cognitive problems

Type of project: Clinical/Audit

Suitable for: Year 3 or above

Research group

interests: We have been conducting long-term monitoring of the cognitive function of patients receiving ECT. So far the evidence shows lack of long-term cumulative effect from ECT, but we intend to repeat some of the tests on patients on maintenance ECT, to confirm this trend.

**Supervisor: Prof David Linden**

Project focus: Behavioural genetics

Type of project: Laboratory

Suitable for: Year 3 or above

Research group

interests: We have set up a database of several hundred healthy participants for whom we have detailed behavioural and psychometric data and genome-wide information about common variability (single nucleotide polymorphisms). This project will apply statistical techniques (e.g. regression analysis) to look at the relationship between these sets of data, for example to investigate whether particular sets of genetic variants that are associated with mental disorders influence decision making strategies.

**Supervisor(s): Prof Anita Thapar, Dr Olga Eyre & Dr Joanna Martin**

Project focus: Academic child and adolescent psychiatry, ADHD research

Type of project: Clinical/ Audit

Suitable for: Year 3 or above/Intercalated BSc or additional degree

Research group

interests: Identifying genetic risk factors that contribute to childhood ADHD.

 Examining genetic links between childhood ADHD and other neuropsychiatric and developmental disorders

**Institute of Cancer and Genetics**

**Supervisor: Dr Alwyn Dart**

Project focus: Testosterone signalling in prostate and breast cancer

Type of project: Laboratory

Suitable for: Year 2 or above / Intercalated BSc or additional degree

Research group

interests: Cancers which originate from tissues such as breast and prostate maintain their steroid signalling pathways and are often reliant on them for tumour growth. Therapies targeted as anti-estrogen or anti-androgen are initially successful but patients often relapse with endocrine-therapy resistant disease. We are examining the role of testosterone receptor in both of these diseases, especially the prostate and would like to expand this to include breast cancer, specifically to analyse the cell specific origins of the diseases and the role of testosterone.

**Supervisor: Dr Tracey Martin**

Project focus: Metastasis and angiogenesis in human cancer metastasis.

Type of project: Laboratory

Suitable for: Year 1 or above

Research group

interests: Research in cancer metastasis has been ongoing at CUPUCI (formally the Metastasis & Angiogenesis research Group) for over 20 years. Previous and ongoing work looks at all aspects of the metastatic process such as the molecular and cellular mechanisms of cancer invasion and metastasis and the clinical implication thereof. The current research theme includes: tumour induced angiogenesis and lymphangiogenesis and intervention, targeting invasion and metastasis inducing molecules, molecular screening and profiling of tumour metastasis related genes, development of new anti-angiogenesis and anti-metastasis agents. Further research interests include molecular and cellular events in tissue repair and wound healing, protein kinases and phosphotases in tissue repair and cancer metastasis.

**Supervisor: Dr Lin Ye**

Project focus: Bone metastasis of prostate cancer

Type of project: Laboratory

Suitable for: Year 2 or above/Intercalated BSc or additional degree

Research group

interests: Bone morphogenetic proteins (BMPs) are members of the transforming growth factor-beta (TGF-beta) superfamily. There are five research objectives: BMP signalling and the predisposition to metastasise to bone; BMPs and colonisation of metastatic cancer cells in the bone; BMP signalling events in cancer cells; BMPs and epithelial-mesenchymal transition (EMT); Therapeutic potential of targeting BMP signalling for the treatment of bone metastasis.

**Institute of Translation, Innovation, Methodology & Engagement**

**Haematology Clinical Trials Unit**

**Supervisor: Dr Robert Hills**

Project focus: The group has a 25-year database from the National AML trials. Normally there are two trials of intensive treatment, one for older (age 60+) and one for younger (age <60) patients. The project will consider the situation when the older patient trial is unavailable, and if patients aged around 60 can reasonably enter the younger trial.

Type of project: Clinical/Audit

Suitable for: Year 3 or above

Research group

interests: Cardiff is the coordinating centre for the National NCRI trials in AML, which have run for over 50 years. It has access to a >25 year database of patients and outcomes, as well as laboratory data, giving a unique resource. Currently about 80% of younger adults with AML in the UK enter the National trial, meaning that the database can be used to look at wider public health issues within the disease, as opposed to just testing treatments.

**Institute of Medical Engineering and Medical Physics**

**Cedar Research Group**

**Supervisor: Dr Grace Carolan-Rees**

Project focus: We evaluate medical technologies for NICE. The medical technologies can be in any clinical discipline. For recent work see our website www.cedar.wales.nhs.uk

Type of project: Clinical Audit

Suitable for: Year 4 or above

Research group

interests: We review clinical and economic evidence, facilitate clinical trials, set up patient registries, data linkage projects and technical evaluation. The student will have an opportunity to learn how NICE develops guidance and contribute to projects in progress at the time.

**CAV UHB Surgical Services Division**

**Department of Urology, UHW**

 **Supervisor: Mr Hrishi Joshi & Mr Aditya Raja**

Project focus: Urolithiasis (stone surgery)

Type of project: Clinical/Audit

Suitable for: Year 2 or above

Research group

interests: I am an MD Student (Aditya Raja) am currently undertaking a project investigating the Health Related Quality of Life issues associated with urolithiasis and interventions. This will consist of interviews and focus groups as primary data gathering and using the Nvivo suite to analyse the data.

 A student will be able to take part in the interview process (supervised), learn about data analysis and presentation.

 A second project is going to start in Early 2014 measuring stent related symptoms and relating them to stent encrustation levels (using a scanning electron microscope) and biochemical markers. A student would be able to collate primary data via questionnaires and by using the electron microscope (under supervision). A student would be able to help with data analysis using SPSS.

 For a particularly enthusiastic student, longer term association with the group could lead to presentations at national or international conferences and even possibly peer reviewed publication within the context of either project.

**CAV UHB Medicine Division**

**Accident and Emergency Unit, UHW**

**Supervisor: Dr Rupert Evans**

Project focus: Audit on College of Emergency Medicine Clinical standards (see website http://www.collemergencymed.ac.uk/

Type of project: Clinical Audit

Suitable for: Year 1 or above

Research group

interests: Current Audit is conducted regarding College of Emergency Medicine Clinical Standards

**CAV UHB Clinical Diagnostics and Therapeutics Division**

**Department of Medical Biochemistry & Department of Cardiology, UHW**

 **Supervisor: Dr Dev Datta, Dr Helen Wilson, Dr Zaheer Yousef**

Project focus: Brain Naturetic Peptide testing for Heart Failure in Cardiff and Vale UHB

Type of project: Clinical audit

Suitable for: Year 3 or above

Research group

interests: BNP testing to evaluate patients for possible heart failure in primary care, was introduced in C&V UHB in October 2012. We wish to carry out an evaluation of our current patient pathway (attached) and assess if the introduction of testing has reduced the requirement for echocardiography and improved clinical care for this patient group. This will be a service evaluation project, rather than hypothesis-based research. We have experience in audit/ service evaluation, and clinical research in heart failure (Dr Yousef). Further details available on enquiry at cures@cardiff.ac.uk.

**Department of Microbiology & Infectious Diseases, UHW**

 **Supervisor: Dr Brendan Healy**

Project focus: Microbiology or ID. Specifically HIV, hepatitis or bacteriology

Type of project: Laboratory and Clinical/Audit

Suitable for: Year 1 or above

Research group

interests: Previous student research has included projects on data protection for HIV patients within primary care, labelling of high risk samples, follow up of children born to mothers with hepatitis B. Recent F2 laboratory projects include the antibacterial activity of cycloserine, antibacterial activity of antipsychotics.

**Department of Medical Physics & Clinical Engineering, UHW**

**Supervisor: Dr Rhys Morris**

Project focus: Seeking routine clinical applications for new technologies available to vascular ultrasound, such as 3D/4D, FlyThru and ASQ.

Type of project: Clinical/Audit

Suitable for: Year 1 or above

Research group

interests: The group currently co-supervises several PhDs with Medical Engineering (CU) looking at new approaches to classifying tissue with ultrasound, and developing ultrasound angiography. We also have personal research interests in the areas of DVT prevention, pressure therapies, carotid ultrasound reporting criteria, and DVT assessment.

**CAV UHB Specialist Services Division**

**Department of Neurology, RGH, Newport**

 **Supervisor: Dr Joseph Anderson, Dr Charlotte Lawthom**

Project focus: Epilepsy, first seizure and transient loss of consciousness management

Type of project: Clinical/Audit

Suitable for: Year 3 or above

Research group

interests: The UK chapter of the international league against epilepsy (ILAE-UK) has developed a clinical audit examining the quality of services for patients presenting with suspected seizures (click ‘Shared Audits’ at http://www.ilae-uk.org.uk/audit.html). We would like to use this audit tool to look at the management of first seizures within the Aneurin Bevan Health Board, and to compare performance before and after the introduction / increased capacity of dedicated first seizure clinics. We would also like to carry out an analysis of the volume of referrals and try to quantify the remaining unmet need for first seizure patients.

The student would have the opportunity to:

- attend first seizure clinics and gain considerable experience in the management of seizures / epilepsy - gain experience of carrying out high quality tried and tested clinical audit

- learn about service development in the NHS

- present findings of the project at local, regional and national meetings