



The following resources are currently available:

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- Post Graduate Certificate In Higher Education(PG Cert HE)
- Research Project Opportunities
- Videos to support Doctoral Students
- Personal Development Plan(PDP)
- Information for Doctoral Supervisors
- The Postgraduate Students' Society
- Competitions
- Scholarships
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- Researcher Profiles & Posters
- Doctoral training Partnerships(DTPs)/ Knowledge Economy Skills Scholarships (KESS2)
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DOCTORAL SCHOOL – TRAINING AND DEVELOPMENT PROGRAMME 2019-2020

What is the Doctoral School?

The main purpose of the Doctoral School is to enhance your experience as a postgraduate research student at Bangor, and to ensure that you fulfil your full potential. We aim to develop and support an interdisciplinary and integrated research community with research students at its heart, while promoting equality of opportunities, and a healthy work-life balance. We wish to reward good practice and effort where it exists, and work towards providing the best student experience possible.

'The requirements of the doctoral student and doctoral degree are changing, and we are recognising this by building a distinct organisation unifying and promoting high quality graduate education and administration across the University to create an inspiring research environment to support the development of independent researchers'.



Professor John Turner, Dean of Postgraduate Research



DOCTORAL SCHOOL

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DOCTORAL SCHOOL -TRAINING AND DEVELOPMENT PROGRAMME- OCTOBER 2019

For enquires Email: pgr@bangor.ac.uk. To register online visit our Events page:
<https://www.bangor.ac.uk/doctoral-school/workshops/programme/>

Date	Time	Name of Course	Course Details.
02/10/2019	09.00 am-2.00 pm	Induction Event for New Postgraduate Researchers (*Repeating in January 2020 & May 2020)	All new Postgraduate Researchers are warmly invited to attend the induction event. It will be a perfect opportunity for new researchers to meet one another. The programme includes information from the Doctoral School, Student Services, Library Services and the Students' Union. You will have the opportunity to meet the faces behind the e-mails. We have also invited a supervisor and a postgraduate researcher to contribute to the day.
3/10/2019	11.00 am – 1.00 pm	Introduction to Bangor Research Computing. (Workshop for PGRs & Doctoral Supervisors by Bangor Research Computing, in association with Supercomputing Wales)	Computing is an essential part of much modern research. This session will introduce the services & support available at Bangor, ranging from desktop to supercomputer and from group training to in-person assistance. We will also highlight some typical example use-cases of the systems we can offer.
08/10/2019	09.30 am-11.00 am	Literature searching (* Repeating in November 2019, February & March, June 2020)	This session will cover: <ul style="list-style-type: none"> • Searching techniques • Using electronic databases • Advanced searching • Keeping up to date with new research – current awareness Saving and repeating search strategies
16/10/2019	09.30 am-11.00 am	How to use RefWorks (* Repeating in November 2019, February & March, July 2020)	This session will show you how to use RefWorks to: <ul style="list-style-type: none"> • Save references from internet and database searches • Import PDFs into your account • Organise your references into folders • Create an automatic reference list at the end of an essay

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Date	Time	Name of Course	Course Details.
16/10/2019	11.00 am-12.30 pm	How to use Mendeley (* Repeating in November 2019, February & March, July 2020)	This session will show you how to use Mendeley to: <ul style="list-style-type: none"> • Save references from internet and database searches • Import PDFs into your account • Organise your references into folders • Create an automatic reference list at the end of an essay
21/10/2019	10.00 am-11.00 am	Introduction to Intellectual Property (* Repeating in March 2020)	An introduction to help researchers understand the basics of intellectual property and the way the University manages this
24/10/2019	1.00 p m -2.30 pm	Introduction to Impact (* Repeating in March 2020)	Impact generated from your research is an increasingly important part of academia. Impact means the change, or benefits your research has in society – so in this Introduction to Impact training course we will focus on the basics of how to plan for and generate changes from your research for non-academic beneficiaries. You can effect changes within academia via your research outputs, collaborations and teaching but impact in this sense means making a difference in the wider world.
24/10/2019	10.00 am – 11.00 am	An Introduction to Open Access Publishing	This session will cover: <ul style="list-style-type: none"> • The principles of Open Access publishing • Funder requirements for OA publishing • Options for publishing journal articles Open Access • Process of adding your publications to the University's digital Repository Information on UKRI funding that is available for Open Access publishing
TBC	TBC	Royal Society Publishing workshop	The Publishing team at the Royal Society will run a publishing workshop aimed at Masters, PhD researchers and Post-docs. The session will cover all aspects on how to publish a scientific paper in high-quality international journals. The interactive session will included presentations and exercises, with a Q&A session. Information will also be provided on the Royal Society and its journals.

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Date	Time	Name of Course	Course Details.
29/10/2019	9.00 am- 4.30 pm	Introduction to R (* Repeating in April 2020)	This is a one day intensive course on R. This course will be a mixture of lectures and computer practicals. The main focus will be to introduce fundamental R concepts. No prior programming knowledge of any kind is assumed. This course is suitable for a wide range of applicants. Course outline: Introduction to R: A brief overview of the background and features of the R statistical programming system. Entering Data: A description of how to import and export data from R. Data types: A summary of R's data types. R environment: A description of the R environment including the R working directory, creating/using scripts, saving data and results. R Graphics: Creating, editing and storing graphics in R. Manipulating data in R: Describing how data can be manipulated in R using logical operators.
30/10/2019	9.00 am – 4.30 pm	Statistical Modelling in R (* Repeating in April 2020)	This is a one day intensive course on modelling in R. This course will be a mixture of lectures and computer practicals. Prior knowledge: it will be assumed that participants are familiar with R. For example, inputting data, basic visualisation and data frames. Attending the introduction to R course will provide a sufficient background. This course is suitable for a wide range of applicants. Course outline: Basic hypothesis testing: examples include one-sample t-test, one-sample Wilcoxon signed-rank test, independent two-sample t-test, Mann-Whitney test, two-sample t-test for paired samples, Wilcoxon signed-rank test. ANOVA tables: 1-way and 2-way tables. Simple and multiple linear regression: including model diagnostics. Clustering: hierarchical clustering, kmeans. Principal components analysis: plotting and scaling data

DOCTORAL SCHOOL -TRAINING AND DEVELOPMENT PROGRAMME- OCTOBER NOVEMBER 2019

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Date	Time	Name of Course	Course Details.
31/10/2019	9.00 am – 4.30 pm	Programming in R (* Repeating in April 2020)	This is a one day intensive course on R. The course will be a mixture of lectures and computer practicals. The main focus of the course is R programming techniques, such as functions, for loops and conditional expressions. The course follows on from the Introduction to R course. It is assumed that all students have attended this course (or have equivalent skills). This course is suitable for a wide range of applicants. Course outline: Vector operations: details of R's vectors operations. Conditionals: using "if" and "else" statements in R. Functions: what function is, how are they used, and how can we construct our own functions. Looping in R: an introduction to the concept of looping in R. In particular "for" and "while" loops. The apply functions: apply, tapply and other members of the apply family.
01/11/2019	9.00 am – 4.30 pm	Advanced Graphics in R (* Repeating in April 2020)	This is a one day intensive course on advanced graphics with R. The standard plotting commands in R are known as the Base graphics. In this course, we cover more advanced graphics packages - in particular, ggplot2. The ggplot2 package can create very advanced and informative graphics. A basic knowledge of R is assumed for this course. In particular, attendees should be familiar with the topics covered in the Introduction to R course. This course will be a mixture of lectures and computer practicals. The goal is to enable participants to apply the techniques covered to their own data. This course is suitable for a wide range of applicants. Course outline: The grammar of graphics; Mastering the grammar; Groups, geoms, stats and layers; Scales, axes and legends; Facets

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Date	Time	Name of Course	Course Details.
07/11/2019	10.00 am – 11.30 am	An introduction to Research Data Management (* Repeating in March 2020)	<p>This session will cover:</p> <ul style="list-style-type: none"> • Why research data management and planning is vital • Research Data storage options • Research Data preservation, reuse and archiving • Research Data curation: labelling and describing data sets • Funders expectations and Legal responsibilities
07/11/2019	1.00 pm – 2.30 pm	Reporting Outcomes from your Research: PURE & Researchfish (*Repeating in March 2020)	<p>As a post graduate researcher, you are required to report the outcomes of your research to both your funder and your own university. Come along to a session to understand more about this process and how to use our internal research information system – PURE – to do this. We will also look at the Researchfish database which is the system used by an increasing number of funders – including the Research Councils (UKRI) for reporting research outcomes. In this session we will cover the following topics:</p> <ul style="list-style-type: none"> • What do we mean by reporting research outcomes and examples of research outcomes e.g. outputs, public engagement, collaborations, impact • The PURE system <ul style="list-style-type: none"> ○ What is PURE and why do we use it ○ Making your research profile public ○ How to update your profile, institutional repository and research related activities (e.g. impact) • Reporting Research Outcomes using ResearchFish <ul style="list-style-type: none"> ○ Using Researchfish to report outcomes for RCUK and some other key funders ○ Data generated by the reporting outcomes process

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Date	Time	Name of Course	Course Details.
06/11/2019	2.00 pm –4.00 pm	Preparing to pass your Viva (* Repeating in March 2020)	The Viva Voce examination should be the final step in your doctorate. But should it be the most scary? Probably not... In this highly-participatory session we will scrutinise the purpose of the viva - which is to verify that you meet the assessment criteria and so can be awarded your doctorate - and will explore how it might be conducted. We will then use this as the basis of planning so that you can be fully prepared for your viva. With the aim that it becomes the final celebration of a successful doctorate, rather than something to fear.
07/11/2019	9.30 am - 4.00 pm	How to be an Effective Researcher for PGRs (*Repeating in March 2020)	A doctorate is about becoming an independent researcher. This is about mastery in your discipline, but it is also about developing other skills. This 1-day course will focus on two main areas: managing the research process as a project, and essential communication skills, including managing your Supervisors. It is a very interactive course, where you'll address things practically, and share ideas with a diverse group of fellow researchers. But the aim will be for you to gain practical, tangible ideas that you can begin to put into practice immediately to be a more effective doctoral researcher.
08/11/2019	9.30 am - 4.00 pm	Making Progress in the Second Year of Your PhD (*Repeating in March 2020)	The second year - or middle phase - of a doctorate can be the most challenging. This one day course will aim to help you overcome this challenge, and to maintain the momentum you will need to successfully complete your doctorate on time. Specifically, we will look at some critical success factors for the second year of PhD, as well as defining the required end products of a clear research argument, and how this will be expressed in your Thesis. We will also address the requirements of the doctoral assessment criteria. We will use all of this to help you set your own individual plan for the next phase of your doctorate.

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Date	Time	Name of Course	Course Details.
18/11/2019	9.00 am – 12.00 noon	Introduction to the Linux Shell (Workshops by Bangor Research Computing, in association with Supercomputing Wales) (* Repeating in February 2020)	Graphical User Interfaces are all very well, but the command-line offers powerful capabilities enabling complex actions for relatively small inputs. This course will introduce the shell and how to run tasks through it. We will then see the power of combining such actions in new ways. This course will enable you to understand the typical environment that a shell is used in, as it is often key to accessing a wide range of computing tools and resources, including supercomputers.
19/11/2019	9.00 am – 12.00 noon	Version Control Using Git (Workshops by Bangor Research Computing, in association with Supercomputing Wales) (*Repeating in February 2020)	Version control systems help us as teams & individuals to manage change to software source code as it evolves over time. Using version control means that all changes are recorded and can be compared to in the future, plus the reasons for their implementations can be logged. Git is one of the most popular version control systems in use today. It enables a collaborative & professional approach to software development. This course will teach you about version control using the Git system in a Linux shell environment, including the popular GitHub remote hosting infrastructure.
21/11/2019	10.00 am – 12.00 noon	GDPR for Researchers (*Repeating in January 2020)	This session will outline the requirements of the General Data Protection Regulation (GDPR) and the Data Protection Act 2018. There will then be an opportunity for researchers to gain further information on specific topics relevant to their research interests, and to talk through specific scenarios. These will include <ul style="list-style-type: none"> • What are the new rules for gathering consent for research? • How long should I be keeping my research data? • What does GDPR say about pseudoanonymisation / anonymisation? • What security measures should I be utilising for my research under GDPR? What about secondary data analysis?

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Date	Time	Name of Course	Course Details.
26/11/2019	10.00 am – 11.30 am	Systematic Reviews: how to plan, conduct and manage the literature searches (*Repeating in March 2020)	This session will cover tips for undertaking the literature searching required in “systematic reviews”, including: planning an appropriate search strategy, database searching tips including using MeSH and other indexes, using search filters, documenting the search process, managing references using a reference manager. This session may not be useful for you if you are not going to be carrying out a “systematic review” as part of your research. A “systematic review” attempts to identify, appraise and synthesize all the empirical evidence that meets pre-specified eligibility criteria to answer a given research question. “Systematic reviews” are common research elements in healthcare sciences, psychology, social sciences, and are becoming more important in the Natural Sciences.
27/11/2019	10.00 am – 12.00 noon	Sustainability workshops for postgraduate researchers (*Repeating in March 2020)	Bangor University is committed to becoming a ‘sustainable university’ and has recently joined other Universities in declaring a Climate Emergency. In response to this BU is committed to “Engaging in research, innovation and impact activities addressing global grand challenges (e.g. climate change) reflecting the University’s commitment to sustainable development and to wider sustainability goals (Wellbeing goals & UNSDGs).” There is general agreement that a substantial proportion (if not all) of our research relates to elements of sustainability, the well-being goals and/or the UN SDGs and we are in the process of collating evidence to back this claim. This workshop will challenge you to reflect on where your research fits in to the bigger picture and how it contributes to the Welsh and global goals. Please note that this workshop is relevant to all post-graduates across all Colleges. If you think that sustainability is only about climate change and single use plastic, but very little to do with your discipline and research, this is the workshop for you. Come along and engage in a lively session on this very current topic and communicate the relevance of your research more widely. For further details please contact Gwenith Elias: gwenith.elias@bangor.ac.uk .

DOCTORAL SCHOOL -TRAINING AND DEVELOPMENT PROGRAMME– DECEMBER 2019

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Date	Time	Name of Course	Course Details.
02/12/2019	9.30 am – 04.30 pm	Programming Principles and Practice using Python (Workshops by Bangor Research Computing, in association with Supercomputing Wales) <i>(*Repeating in May 2020)</i>	In this course, you will learn fundamental programming concepts and best practices using Python. The course will consist of both taught and practical elements. Python is a powerful and flexible programming language that is designed for ease of use and enhanced productivity. It is currently one of the world's fastest growing programming languages and is often used for machine learning and data analysis. The skills acquired in this course will enable you to write useful, correct, maintainable and efficient code. Many of the programming principles can be applied to other programming languages such as R and MATLAB.
03/12/2019	9.30 am – 04.30 pm	Advanced Python (Workshops by Bangor Research Computing, in association with Supercomputing Wales) <i>(*Repeating in May 2020)</i>	In this course, you will learn advanced Python language concepts. The course will consist of taught and practical elements. Python's capabilities extend into a wide and deep range of uses, through a variety of advanced Pythonic capabilities. Being able to make use of these capabilities enables more thorough testing and failure-tolerance as well as more concise and efficient computation.
04/12/2019	9.30 am – 4.30 pm	Parallel Processing in Python (Workshops by Bangor Research Computing, in association with Supercomputing Wales) <i>(*Repeating in May 2020)</i>	In this course, you will learn how to write, profile and run parallel Python programs. Most computers today have multiple processing units. By default, Python will only use a single processor for a given computation. However, Python provides a rich ecosystem of libraries to enable parallel programming. Programs that can access and utilise multiple processing units can often accelerate a given computation by a factor near to the total number of processors available - be they on a single machine or a supercomputer. The skills acquired in this course will enable you to profile and parallelise any python code and ensure it will run on a desktop machine or a supercomputing cluster.

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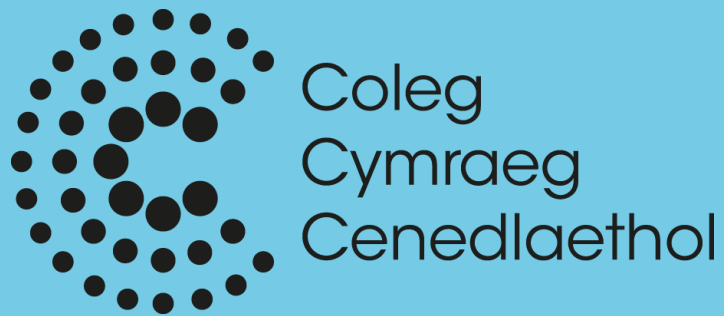
Date	Time	Name of Course	Course Details.
05/12/2019	10.00 am- 12 noon	PURE Training for Postgraduate Researchers (*Repeating in February 2020)	Session will cover: <ul style="list-style-type: none"> • General PURE overview and navigation • Your personal Profile, emails & messages, the PURE portal • Managing your outputs and the PURE repository • Managing your research Impacts and Activities • Opportunity for Question & Answers
09/12/2019	11.30 am – 12.30 pm	Copyright for your thesis (* Repeating in April, June 2020)	Your PhD thesis will be published open access on the University's digital Repository. Make sure that you are aware of copyright issues regarding the publication of your thesis.
10/12/2019	03.00 pm – 4.30 pm	Getting published and tracking your citations (* Repeating in April 2020)	This session will cover <ul style="list-style-type: none"> • Publication strategy and planning • Where to publish • Impact factors and tracking your citations
12/12/2019	9:00 am-4:30 pm	Project Management: Managing the PhD (*Repeating in March 2020)	The questions to ask and the least you need to know. Within your research career, you are likely to have to organise, analyse and present an enormous amount of information. You will also have to manage your time, set goals and review progress - and probably working with others to encourage them to do the same. This set of skills is often placed under the heading of "Project Management" and is highly sought by a wide variety of employers. By the end of the session participants should be able to: <ul style="list-style-type: none"> • Understand the criteria for successful project management and also consider why some projects fail. • Understand, evaluate and implement various tools to help research planning and communication of that plan • Appreciate the importance of stakeholder and risk analysis. Regardless of whether your PhD is based in a multinational team and collecting data, or you by yourself evolving an idea, this course will be a productive and valuable way to spend a day.

DOCTORAL SCHOOL -TRAINING AND DEVELOPMENT PROGRAMME–JANUARY- MARCH 2020

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Date	Time	Name of Course	Course Details.
29/01/2020	9.30 am - 10.30 am	Bangor University research support and internal procedures for grant applications- Seminar for PGRs	<p>This session focuses on the support you can receive from the preaward team in the Research, Innovation and Impact Office (RIIO). Staff in RIIO will explain the internal processes associated with developing your grant application and sign post you to helpful information. We will then consider the key points that you should consider at the development stage in relation to preparing your grant application.</p> <p>The session will cover:</p> <ul style="list-style-type: none"> o Preaward support for researchers for grant applications o Internal processes - Preparing your grant application o Funder calls, requirements and guidelines. o Identifying mentors o Working with partners
29/01/2020	11.00 am - 12.00 noon	Funding opportunities- Seminar for PGRs	<p>Depending on your specialism, research funding is available from a wide range of sources including UK Research Councils, the public and private sectors and charitable bodies. Staff in the Research, Innovation and Impact Office will provide an overview of some of the main types of research funding schemes.</p> <p>The session will cover:</p> <ul style="list-style-type: none"> o Types of funding scheme and career stage considerations o Identifying funders
Jan	3 sessions	Research Professional for Postgraduate Researchers	Session overview: Informal hands-on training to enable you to search for and identify the options available using Research Professional (a searchable database of funders).
31/01/2020	9.00 am – 4.00 pm	The doctoral examination-A workshop for examiners and candidates (*Repeating in July 2020)	<ul style="list-style-type: none"> • Amanda's Dilemmas: Amanda, who has a PhD but has never examined one before tells her story. Teams consider the issues she faced - <i>with reference to Bangor University regulations for examining doctorates</i>. Plenary discussion of reports from teams. • Presentation: the doctoral examination at Bangor. Showing of 'Good Viva Video'. Plenary discussion.

			<ul style="list-style-type: none"> Jonathan's Most Peculiar Practice: Jonathan's story of being examined, what went wrong and what happened afterwards. Teams consider the lessons for examiners, supervisors, candidates and institutions. Plenary discussion of reports from syndicates. Participants' agenda: issues, advice, experiences, suggestions. Action planning session: what to do now and recommendations to the University.
TBC	TBC	PhD Day – 'The Conversation'	<p>Having an article published about your research or expertise is a valuable tool in enhancing your PhD. The Conversation is an independent source of news and views, sourced from the academic and research community and delivered direct to the public. Its unique model enables research academics and students to write and publish opinion pieces and news-related stories based on their research, expertise or field of study.</p> <p>As a result of BU membership, we are able to offer you an opportunity to attend a day's writing workshop, with the aim of having an article, authored by you, published by The Conversation.</p>
March/ TBC	March/ TBC	Introductory NVivo session	<p>This session will provide a brief introduction to NVivo 10, a computer package assisting qualitative analysis. This computer package is a tool that supports a number of data analysis approaches. We will have a look at the main features and functions and you will be able to try out a few yourself. The aim of the session is to provide you with an overview of what NVivo could be used for and a number of resources.</p>
27/03/2020	9.30 a.m. - 4.00 p.m	Finish-up and Move On	<p>There are two challenges at the end of the doctorate - getting it finished, and being clear what comes next. During this 1-day course, we will explore the key elements of both. For completing the doctorate, we will explore in depth what you need to do to complete a thesis that will pass the viva, and what the viva itself will entail. This will include looking at the writing process and thesis structures. But in order to do this, you need to overcome the potential blockage of not knowing what you will do after you finish. So, we will consider career paths, and how to access them and how to market yourself and your skills successfully.</p>



Coleg Cymraeg Cenedlaethol Research Skills Training Programme

The purpose of the Research Skills Training Programme is to support Welsh medium research students. This is the only research training programme for postgraduate students and early career academics exclusively through the medium of Welsh.

<http://www.colegcymraeg.ac.uk/en/research/researchskillstraining/>

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