GRADnet Induction Day for 1st Year Students

Wednesday, 24 October 2018

International Students House,
1 Park Crescent, International Students House, London W1W 5PN

Programme

10:15	Arrival and registration: *students to select 2 workshops to attend, 1 in the morning and 1 in the afternoon*	The Theatre Foyer
10:45	Introduction to GRADnet – Professor Sean Ryan, University of Hertfordshire	The Theatre
11:15	4 parallel workshops to run once in the morning and once in the afternoon	
	Getting your research published Sarah Whitehouse and Tom Sharp, Institute of Physics	The Theatre
	Python Dr Tim Kinnear, University of Kent	Club Room
	Introduction to research data management Dr Alice Motes, University of Surrey and Dr Juan Bicarregui, STFC	Portland
	Science communication skills Dr Martin Archer, Queen Mary, University of London, Cordi Scott, University of Portsmouth	Fitzrovia
13:00	Lunch	The Theatre Foyer
13:45	4 parallel workshops afternoon session	
	Getting your research published Sarah Whitehouse and Tom Sharp, Institute of Physics	The Theatre
	Python Dr Tim Kinnear, University of Kent	Club Room
	Introduction to research data management Dr Alice Motes, University of Surrey and Dr Juan Bicarregui, STFC	Portland
	Science communication skills Dr Martin Archer, Queen Mary, University of London and Cordi Scott, University of Portsmouth	Fitzrovia
15:30	Tea, coffee & biscuits	The Theatre Foyer
16:00	Close	

Workshops

Getting your research published

This workshop walks you through the entire publication process, from writing and submitting a good paper to seeing it published online and in a print journal. We will give you tips and advice for each stage of the process, including:

- Selecting the right journal
- Preparing your paper
- Getting through the peer review process
- What to do after acceptance
- Open Access
- Publication ethics

Our presenters are experts in physics publishing, with years of experience working on journals and lots of insider knowledge to share!

Workshop leaders: Sarah Whitehouse, Editor of Journal of Physics A: Mathematical and Theoretical, Inverse Problems, and Nonlinearity and Tom Sharp, Executive Editor of Journal of Physics: Condensed Matter.

Sarah is Editor of Journal of Physics A: Mathematical and Theoretical, Inverse Problems, and Nonlinearity, overseeing the peer review process. She joined IOP Publishing in March 2014 as a Publishing Editor for Journal of Physics: Condensed Matter. She studied Biochemistry at Bath, and completed a PhD at Bristol looking at protein translocation across bacterial membranes.

Tom is Executive Editor of Journal of Physics: Condensed Matter, where he oversees journal strategy, the editorial board, and content commissioning. He joined IOP Publishing as an Associate Editor in January 2016, and has also worked on Nanotechnology and Smart Materials and Structures. He studied Natural Sciences at Bath, focusing on genomics and epigenetics.

Introduction to research data management

Research data management and principles of Open Science are increasingly important in all fields of research. Presented by Research Council and University experts, this workshop asks what does good research data management look like and why is it important? What does Open Science mean for your research, publications, and career? We'll dive into the motivating forces behind policies about research data management, provide some practical tips for managing research data from planning to publication to preservation, and discuss ways you can make your research more open.

Workshop Leader: Dr Alice Motes, Research Data and Preservation Manager Library and Learning Support Services, University of Surrey and Dr Juan Bicarregui, Head of the Data Services Division, Scientific Computing Department, Science & Technology Facilities Council

Alice received her PhD in sociology from the University of California, Irvine in 2014. Embedded within the Open Research team at the University of Surrey's Library, she works on the open data side of things, providing advice and training to researchers on how to better manage, share, and preserve research data.

Juan is Head of the Data Division in the Scientific Computing Department at STFC. Juan's division has responsibility for research and development of the data systems that handle much of the huge volume of scientific data that is produced by the STFC research facilities. Juan has played a key role in formulating UK policy on opening up access to research outputs and was UK representative on the GSO Data Working Group. Juan holds a BSc on Mathematics from Imperial College London and a PhD in Computer Science from Manchester University. He has over 100 publications in Software Engineering and Data Management.

Python

Python is a widely used and highly versatile scripting language. It can be used in many capacities within science, especially data analysis/processing, plotting, statistics and even simulation. As well as extensive use of the language itself throughout science and industry, the skills and processes picked up through learning any programming language are highly applicable to further languages, making subsequent transitions easier. Python acts as an ideal starting point, effectively balancing difficulty, utility and wider applicability of concepts.

Two parallel sessions are available, one for those with little to no knowledge of any programming languages (starter), and one for those who have some programming/scripting background (further knowledge).

The starter knowledge session aims to furnish those with a little programming experience or background (either in Python itself or any other language), with a grasp of how Python works, what it can be used for, how one can go about using it, and how best to progress further and develop your own abilities with coding.

The further knowledge session looks straight at how best to use Python for some of the key tasks in science; calculation, data analysis, plotting and fitting and other helpful functionality.

In both sessions the use and utility of Python modules will be illustrated, including numpy (numerical Python), scipy (scientific python) and matplotlib (a popular plotting package).

The workshop will include a substantial practical element, in which data or a problem will be provided, and guidance will be given to code a solution on your own laptops, along with examples and code fragments to assist with the task.

> *PYTHON: Laptops (or equivalent platform) will be required. Any Python distribution including the standard modules along with numpy, scipy and matplotlib is suitable; however, the recommended combined package is `Anaconda' (https://www.anaconda.com/download/) at version 5.2. This provides Windows, Linux and Mac distributions. For linux, a default install using whichever package manager is run by the particular OS may be preferred. Assumed software versions (based on Anaconda) are: Python 3.6 and the following packages at least at these version numbers numpy 1.14.3, scipy 1.1.0. Lower version numbers should be mostly fine, but these represent the up-to-date versions which will work as expected.*

Workshop leader: Dr Tim M. Kinnear, University of Kent

Tim undertook his BSc in Physics at Warwick University between 2005- 2008. This was followed by an MSc by research, also at Warwick, involving simulation of the spectral appearance of tidally disrupted planetessimal debris discs. Following this, he began his PhD at the University of Kent using and developing computational simulations of the environments for triggered star formation by radiative driven implosion. Since then, he has worked as a member of staff at the University of Kent, teaching on several undergraduate courses and maintaining one of the school's High Performance Computing (HPC) systems.

Science communications skills

Want to explore ways of sharing your research with many different audiences? It is now more important than ever to be able to communicate with non-specialist groups. Whether it's a public talk in a pub, writing in your department blog, doing some stand-up comedy, writing a popular science article or simply standing on a box in a street corner, this session will get you started. Outside research the ability to clearly communicate technical details to all sorts of partners will be an asset on any CV. The skills you learn on the day can be put in practice through the many science communication opportunities offered in your department and across the region.

Workshop leaders: Dr Martin Archer, Queen Mary University of London and Cordi Scott, University of Portsmouth

Dr Martin Archer is an award winning physicist, science writer and one of the UK's leading science presenters. Martin is well-known both nationally and internationally, having presented national radio shows on Kiss FM for six years and regularly appearing on television (BBC, ITV, Sky) to discuss the latest science stories. He also writes and consults for the vSauce YouTube channels and has regularly written and presented for various BBC online videos including James May's HeadSqueeze and The Story of Now. Martin gained his PhD in Space Plasma Physics at Imperial College London studying the dynamic interaction of the solar wind with Earth's magnetic field and, following postdoctoral research, joined Queen Mary University of London. Passionate about Physics and engaging audiences with the subject, Martin's unique approach to outreach has included inventing the gestural DJ performance dubbed "WiiJing", the "DJ Physics" stage show as well as citizen science projects and award-winning festival films on listening to the sounds of space.

Cordi studied at the University of Kent for her BSc in 'Astronomy, Space Science and Astrophysics' graduating in 2015. She has since then been employed by both the University of Kent and the University of Portsmouth as an Outreach Officer. Cordi's roles require her to present science in an accessible and interesting way to many different audience types, including both in and outside of the classroom. Her particular favourite are the SEPnet 'Connect Physics' workshops that have the presenter thinking on their feet to connect two objects together using physics. As well as presenting to audiences in person Cordi also regularly writes material for online blogs etc.