GRADnet Induction

Wednesday, 26 October 2016

Park Crescent Conference Centre, 229 Great Portland Street,
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 Peter McDonald, University of Surrey  The Theatre

11:15  5 Parallel Workshops to run once in the morning and once in the afternoon

Getting your research published
Simon Harris and Jennifer Sanders, Institute of Physics  The Club Room

LaTeX
Dr Paul Stevenson, University of Surrey  The Theatre

MATLAB
Dr Detlef Muller, University of Hertfordshire  Gulbenkian

Organising Meetings and Conferences
Kay Pearson, University of Surrey  The Nash

Python
Dr Tim Kinnear, University of Kent  The Fitzrovia

13:00  Lunch  The Theatre Foyer

13:45  5 Parallel Workshops afternoon session

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15:30  Tea, coffee & biscuits  The Theatre Foyer

16:00  Close
Workshops
Students to select 2 from 5

Getting your research published workshop

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
- Copyright and permissions

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

**Workshop leaders:** Jennifer Sanders, Editor and Simon Harris, Managing Editor, IOP Publishing

Jennifer manages the peer review process for a range of measurement and instrumentation journals, and joined IOP in 2012 after completing her PhD in Photon Physics at The University of Manchester.

Simon oversees the peer review process and manages a team of 17 Editors and associated staff. He joined IOP back in 1996 after completing his PhD in Chemical Physics at The University of Liverpool.

LaTeX workshop

The LaTeX workshop is a hands-on workshop aimed at getting you comfortable with the LaTeX language, which is widely used in physics (and elsewhere) for the preparation of papers and theses.

LaTeX: *Students are required to bring laptops. It is not vital to install any software, as we will use the web-based LaTeX editor http://www.sharelatex.com/ but if you already have LaTeX installed, or are able to install it yourself then you may find it useful for future work.*

**Workshop leader:** Dr Paul Stevenson, University of Surrey

Dr Paul Stevenson is a Reader in the Physics Department of the University of Surrey. His research interest centres around theoretical nuclear physics where he uses time-dependent methods to calculate properties of nuclear processes such as fission and fusion. He started using LaTeX around the time of starting his PhD, 20 years ago.
**MATLAB workshop**

MATLAB is a high-level technical computing language and interactive environment for algorithm development, data visualization, data analysis, and numerical computation. Using MATLAB, you can solve technical computing problems faster than with traditional programming languages, such as C, C++, and FORTRAN. The aim of this workshop is to get you started using MATLAB successfully and quickly. During the workshop you will learn the basic commands that allow you to do simple mathematical computations and visualize the results. You will receive an overview of the most important features of MATLAB which will enable you to understand the concept of MATLAB, and why it is sometimes useful to use MATLAB rather than other programming languages.

**MATLAB: Students are required to bring laptops (or equivalent platform) with pre-loaded software. Contact your local computer support to install the software on your own computer or install a free trial version.**

**Workshop leader:** Prof Detlef Mueller, University of Hertfordshire

Detlef has currently established a research laboratory for laser spectroscopy which focusses on lidar applications. He holds a Royal Society Wolfson Research Merit award. Since 2012 Detlef has been Chief Research Science Advisor in support of the NASA Langley Research Science Directorate, USA. He is also Adjunct Professor in his laboratory in South Korea. Detlef has 20 years of work experience in lidar research which focusses on instrument and methodology development, air pollution monitoring, and studies of climate change. He has taught students in Germany, South Korea, and now teaches students in the UK in atmospheric research, climate change, and basic physics.

**Organising meetings and conferences workshop**

This workshop will guide you through the process of organising two types of meeting: a research meeting with your supervisor/funders/collaborators and a student-led conference. We will look at what needs to be done and when, who can help you to share the load and how you can save time so you don’t compromise your research.

The workshop will cover:
- Setting the agenda – what do I want to achieve?
- Research – who is my audience & what interests them?
- Design – length of session, what to include
- Planning – when do I need to start?
- Communications – keeping people informed & promoting your event
- Co-ordination – who can help me get things done?
- Delivery – making things run smoothly on the day
- Evaluation – what went well & what didn’t

There will be plenty of hints and tips during the session plus handy take-away resources to help you organise successful meetings and conferences.

**Workshop leader:** Kay Pearson, Employer Engagement lead, Department of Physics, University of Surrey.
Kay organises a varied programme of activities at Surrey that brings together students and employers for placements, mentoring, talks, workshops, visits and networking. She recently piloted an employer mentoring scheme for PGRs and has worked with the Researcher Development team at Surrey to deliver training on subjects such as Professional & Personal Impact, CVs & Interviews and Time Management. Kay has a background in Careers Consultancy and Employability within the HE sector (Universities of Cambridge, London & University of Law).

**Python workshop**

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.

This workshop will provide those with limited programming experience/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 workshop will cover some Python basics to get people up to speed, then how to apply that knowledge to some problem solving and data processing. 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.

**Workshop leader:** 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 planetesimal 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.

**PYTHON:** Students are required to bring laptops (or equivalent platform) with pre-loaded software. Any Python distribution including the standard modules along with numpy, scipy and matplotlib is suitable; however, the recommended combined package is ‘Anaconda’ (https://www.continuum.io/downloads). 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 2.7, numpy 1.11.1, scipy 0.17.1 and matplotlib 1.5.1