

The MPE CDT - PhD Phase

Handbook 2017/18

Cohort 2016

Mathematics of Planet Earth



Welcome to the EPSRC Centre for Doctoral Training (CDT) in the Mathematics of Planet Earth (MPE). You are now registered as PhD student at the Imperial College London within the MPE CDT. Most of you, who have just completed their MRes year, will already be familiar with many of the centre's procedures and activities. Even though you already know your way round, this booklet should act as a valuable resource giving you an overview of what to expect in the coming year and beyond.

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1. 2017 Cohort: 1st Year of the PhD phase

Students based at Imperial College London: Imogen Dell, Christodoulos Savva, Peter Shatwell Ben Snowball, Birgit Sützl, Joseph Wallwork, Golo Wimmer, Erwin Luesink

Students based at University of Reading: Giulia Carigi, Marco Gorelli, Maria Jacob, Ioannis Katharopoulos, Ivis Kerama, Tsz Yan (Adrian) Leung, Laura Mansfield, Kevin Synnott

2. Important Dates for 2017/18

- **Classic and Stochastic Approaches to Mathematical Fluid Dynamics:**
Venue: Imperial College London, ICSM Building, EPSRC Centres for Doctoral Training hub, Room 402, Level 4 North
Date: Monday 2nd Oct 2017 – Friday 6th Oct 2017
- **Maths of Planet Earth Exhibition**
Venue: Main entrance of Imperial’s South Kensington Campus,
Date: Saturday 21 October– Sunday 29 October 2017
- **MPE CDT Partners Reception:**
Venue: Main entrance of Imperial’s South Kensington Campus,
Date: 26 October 2017
- **The Jamboree:** TBC

Please make sure that you regularly check the MPE CDT Calendar for additional events and amendments: www.mpecdt.org

3. The MPE CDT Specific Content

Bespoke the MPE CDT Training and Events for Years 2-4

The main activity in years 2-4 is of course research on the PhD project. There are also a number of extra training events and activities to develop students as research mathematicians in the climate/oceans/weather area.

The MPE CDT training events and activities

Year 2	Year 3	Year 4
<ul style="list-style-type: none">•The Jamboree•Cross-CDT Dragon’s Den•Outreach activities•MPE CDT Teaching	<ul style="list-style-type: none">•Management Skills Course•The Jamboree•Met Office Training and Research (MOTR)•Outreach activities•Internships and international placements•MPE CDT Teaching•Career planning residential course•Cross-CDT Dragon’s Den	<ul style="list-style-type: none">•The Jamboree•Outreach activities•Internships and international placements•MPE CDT Teaching•Cross-CDT Dragon’s Den

MPE CDT teaching

Students will be encouraged to assist with teaching on the MPE MRes, particularly leading tutorials on MPE Wednesdays, and assisting with computer laboratories in the core courses.

Met Office Training and Research (MOTR)

This is a 10-week programme, hosted by the Met Office in Exeter. Two weeks of lectures given by world-leading scientists (including from the Met Office) are followed by research internships, where students work in teams of 2 or 3 with Met Office staff, along with presentations and seminars through the period. The programme exposes the students to an applied research project outside their PhD topic and further supports peer-to-peer learning, sharing of expertise, tackling problems by team work, and critical assessment and communication of scientific findings.

Management Training Course

1. Maximising Management Skills: Becoming an Effective Researcher

This workshop is suited for anyone in the first stages of a research degree. The session will discuss the effect of moving into research whether straight from an undergraduate degree, master's degree, the work place, and/or from overseas. We will explore what is expected of you as a researcher and how to manage a programme of research, including how to get the most from research meetings.

On completion of this workshop you will be able to:

- Identify and understand your and your supervisors' expectations.
- Recognise culture shock for you and others entering into research.
- Employ effective techniques for research meetings.
- Develop a planning strategy for your research.
- Evaluate your sources of feedback and support mechanisms.

2. Maximising Management Skills: Time Management Strategies for your PhD

Effectively managing your time during your Doctorate is essential to submit the thesis on time. However this is not just about your own time you will need to understand and respond to those around you to. Time management skills are useful in future careers and all parts of your life as well. This course was previously called 'Time Management'.

On completion of this workshop you will be able to:

- Identify the key obstacles to effective time management.
- Recognise your own behaviours and those of others around you.
- Use effective techniques to improve your time management and address barriers.
- Organise your time by effective prioritising and planning.
- Evaluate your progress using appropriate management techniques.

3. Maximising Management Skills: Put Project Management into Action

Typical project management techniques apply constraints in the form of milestones, duration, deadlines, resource allocation and cost. If these are rigid they can be limiting when working in research and innovation. This workshop examines how project management techniques can be used flexibly allowing for different outcomes and opportunities. This course was previously called 'Project Management for Researchers'.

On completion of this workshop you will be able to:

- Identify the key components of project management.
- Recognise which areas need to be flexible to encourage and allow for innovation.
- Use fuzzy/agile management techniques to guide your research work.
- Organise a plan for your research.

- Evaluate project management techniques, progress and plans.

Career planning residential course

Career Planning Course for CDT students is held at Cumberland Lodge (www.cumberlandlodge.ac.uk) in Windsor Great Park. The aim of this workshop is to provide individuals with the space to reflect on their career goals within the context of future expectations, and to support preparation for developing their careers.

Delegates will be able to:

- reflect on their career journey and generate an understanding of individual strengths
- create a vision that reflects individual career aspirations
- clarify their next steps and commit to realistic actions

CDT outreach

Our CDT outreach and associated cohort-building activities include:

- hosting the recently created open source Mathematics of Planet Earth Exhibition (imaginary.org);
- the creation of virtual MPE exhibits on the mpecdt.org website through an annual competition for teams of year 2--4 PhD students;
- co-organising the CDTs Festival of Science and Engineering;
- supporting of the MPE CDT outreach and awareness activities such as school competitions and placements, etc.

Internships and international placements

To promote international networking and expose students to industrial and commercial research challenges, students are encouraged to undertake during years 2-4 either:

- a 3-week international placement with our academic partners; or
- an industrial internship with our commercial partners.

Cross CDTs Dragon's Den

This Dragon's Den style competition offers seed funding to the winning team that will allow them to begin the commercial development of a scientific idea/invention unrelated to their PhD projects. The competition includes bespoke training and mentorship by the Imperial College Business School and external entrepreneurship experts.

The MPE CDT Transferable Skills Courses Programme

The MPE CDT Transferable Skills Courses Programme has been specifically designed to:

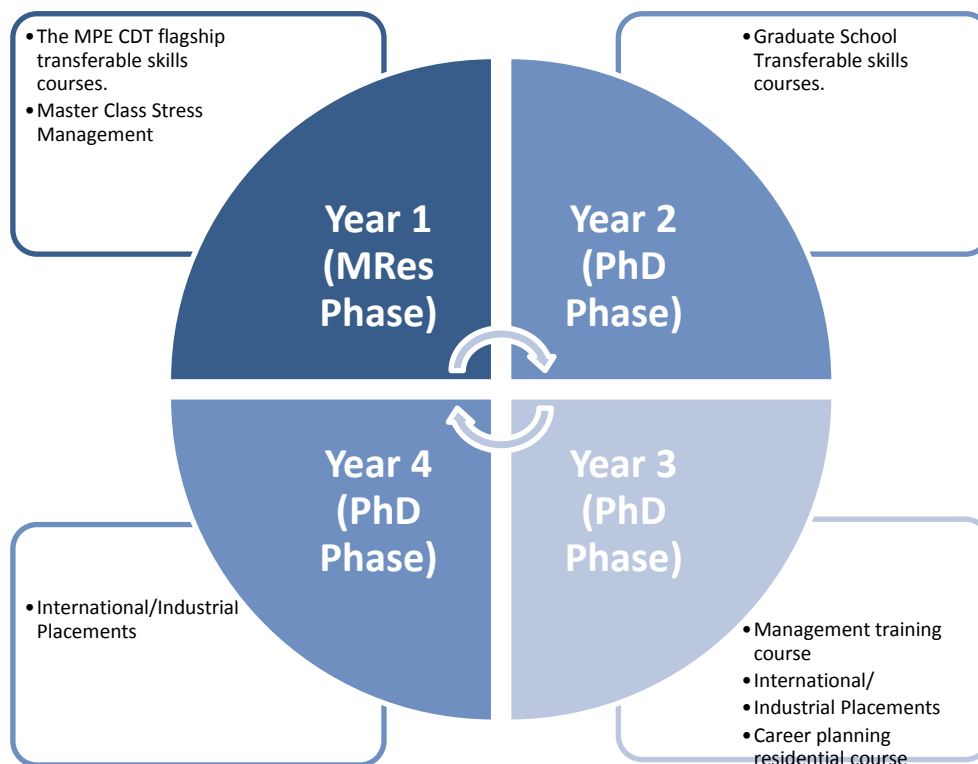
- Meet the diverse needs of the MPE CDT students, providing them with a range of opportunities throughout the duration of their research to continue their personal, professional and career management skills development.
- Facilitate cohort formation, networking opportunities and provide training to underpin multidisciplinary research.
- Recognise all career paths.
- Aim to enhance students' skills and competencies for current and future roles within academia and other employment sectors.

The Programme is coupled with a choice of transferable skills pathways that build upon Science Communication or Entrepreneurship skills. This will be complemented by the student selection of International/Industrial Placements.

Detailed the MPE CDT transferable skills schedule.

Year 2	Graduate School Transferable skills courses for Imperial-based students (in first 9 months).	<p>This is coupled with a choice of two transferable skill pathways:</p> <ul style="list-style-type: none"> • Research Skills & Development course (covering planning, project management, creativity in research, communication skills, group dynamics, networking and developing self-awareness). • Academic Writing course. • Stress Management: The PhD and Beyond <p>or:</p> <ul style="list-style-type: none"> • Academic Writing, • Becoming an Affective Researcher, • Science in Context: Science Communication, • Time Management. • Stress Management: The PhD and Beyond
Year 3	The MPE CDT flagship transferable skills courses	<ul style="list-style-type: none"> • Management training course (1-day course Imperial). • Career planning residential course. • International/Industrial Placements.
Year 4	The MPE CDT flagship transferable skills courses	<ul style="list-style-type: none"> • International/Industrial Placements.

General overview the MPE CDT transferable skills schedule



Please note: All Imperial PhD students are expected to complete a programme of professional skills development training as prescribed by the Graduate School. Failure to complete the requisite training may result in a student's registration being transferred from PhD to MPhil or in a student being barred from entering the PhD (or MPhil) examination. See 4.2 of the Regulations for the award of PhD and MPhil. For students registered on or after 29th September 2012, the Early Stage Assessment (at 9 months) must ask whether a student has completed the professional skills development training. See the Graduate School Professional Development Skills website for details:

<https://www.imperial.ac.uk/study/pg/graduate-school/professional-skills/research/>

The MPE CDT Students' Budget

The MPE CDT PhD Students will be provided with £1,000 Research Training Support Funds per annum for three years. It may be spent on conference travel and accommodation, conference fees, summer schools etc. Good record keeping is essential; please keep a spreadsheet with your expenses claimed.

The budget is held by Anna and if you want to claim for your travel, please fill in an expense claim form and hand it to Anna with receipts (not older than 3 month).

The MPE CDT Website

www.mpecdt.org

Every MPE CDT student has a profile on this website. See www.mpecdt.org/students. By default the project abstract, supervisor information and Technologies will be displayed if you navigate to your profile. If you would like your biography, publications, a new mug-shot or any other changes displayed, just email Anna Radomska Botelho Moniz.

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