

## Newsletter July 2020

Welcome to the July 2020 newsletter from the Environmental Physics Group (EPG). In this edition we set out our proposed programme for 2020, introduce our committee members, invite you to contribute to our activities over the coming 12 months and summarise our activities for last year, 2019.

### 1 PROGRAMME FOR 2020

#### EPG Day 2020

Every year IOP funds each of its groups to hold events, talks, conferences and prizes. We are now planning our programme for 2020, which is necessarily somewhat different to recent years because of coronavirus related issues.

Our key annual event is the EPG day and this year we have decided to base it on the theme of ***“The Impact of COVID19 on the Environment: Observations and Insights”***, which follows on from last year’s theme of *“Oceans”*.

The EPG day is being organised by Professor Helen Rogers, who was recently elected to the EPG committee. It will consist of three sessions, each having a keynote speaker who will be followed by early career speakers describing their current research in related areas and open floor questions. We hope that this will provide a forum for as many members of the group to contribute as possible.

The three sessions will look at:

1. Changes to Atmospheric Composition
2. Radiative Forcing and the Atmosphere’s Response
3. Climate Change Implications

Please note the date for your diary: the event will be held on **4 November 2020**. Because of the uncertainty of being able to have a physical meeting we will hold the day as an online event. IOP have successfully held a number of recent online seminars and the format has been shown to work well. Having an online event will also enable many more of the group to attend than if it were held at the IOP building in King’s Cross.

We will ask for feedback from the group members after the event to gauge how popular the format is.

When the details for the event are finalised we will send out an email to all members with a specific link to the IOP events website. We are always looking for suggestions for new events, which would be very welcome: please contact Hugh Deighton, EPG chair, on [env@physics.org](mailto:env@physics.org)

#### Essay Competition 2020

The annual Institute of Physics Environmental Physics Group essay competition is now open. Entries can cover any aspect of environmental physics, but we particularly encourage essays aligned with this year’s focus on ***“The Impact of COVID19 on the Environment”***.

In addition we suggest an alternative topic: ***“Agriculture and Climate Change”***. For example what are the climate change comparisons between different types of environment (eg maritime vs semi-arid) - can physics help agriculture provide solutions or educate to help mitigate risks?

The competition is open to all (IOP members or non-members, individuals or groups) with prizes in two categories: entrants in secondary education; and entrants studying for, or with, a degree. Entries should

be accompanied by a short biography of the author(s). Prizes: Cash prizes of up to £200 plus a certificate, an invitation to present at the group's annual meeting (see previous section) and consideration for publication. All entrants will receive free IOP membership for three months. Entries must be original and will be judged on writing quality and content. Entries and enquiries should be e-mailed to [env.essay@physics.org](mailto:env.essay@physics.org). Further details can be found at:

[http://www.iop.org/activity/groups/subject/env/prize/page\\_40693.html](http://www.iop.org/activity/groups/subject/env/prize/page_40693.html)

Closing date: **30 September 2020**

## Other events for 2020

Although we already have a theme for 2020 we always welcome suggestions from members of EPG for events which would be of interest to all members, not necessarily related to the year's theme. If you have an idea for a talk or for a seminar within the overall subject of Environmental Physics (see [http://www.iop.org/activity/groups/subject/env/environmental/page\\_73135.html](http://www.iop.org/activity/groups/subject/env/environmental/page_73135.html) for a statement of purpose for EPG) then the committee would be very pleased to hear from you and to help you organise the event. Contact details for the committee are given in the next section.

## 2 EPG COMMITTEE

As with all IOP groups the Environmental Physics Group committee has three officers (chair, secretary and treasurer) along with a number of ordinary members, some of whom are co-opted because of their other affiliations or specialist skills. There is a list below of the current committee members and their roles. We can be contacted either through the general IOP Groups email address ([groups@iop.org](mailto:groups@iop.org)) or through our dedicated physics.org address ([env@physics.org](mailto:env@physics.org)). We welcome enquiries from our members and we encourage all members to participate in the activities of the group.

Current committee members:

- Chair: Dr Hugh Deighton
- Honorary Treasurer: Dr Paul Green
- Ordinary Members: Dr Stefán Smith, Dr Natalie Harvey, Ms Ally Williams, Professor Helen Rogers and Dr Martin Goodchild.
- Co-opted members: Dr Matt Wright and Mr Gui Wright.

(Further details for the group and its committee can be seen at <https://beta.iop.org/get-involved/special-interest-groups/environmental-physics-group>)

## 3 EVENTS HELD IN 2019

**Green Infrastructure** – two evening lectures discussing current research aimed at understanding what role different green infrastructure plays on local and micro-scale environmental conditions in a built environment context. Tuesday 21 May 2019, at IOP building King's Cross. More details at the IOP events website:

<https://events.iop.org/physics-green-infrastructure>

**City Pollution** – an event organised by the Combustion Group, co-sponsored by the Environmental Physics Group and the Tribology Group, together with the Aerosol Society. Wednesday 5 June 2019, IOP building King's Cross. More details at:

<https://www.iopconferences.org/iop/frontend/reg/thome.csp?pageID=854115&eventID=1369>

**Instrumentation for Combustion and Environmental Sensing** – an event organised by the Instrument Science and Technology Group, co-sponsored by the Environmental Physics Group and the Combustion Physics Group. Tuesday 25 June 2019, University of Manchester. More details at:

<https://www.iopconferences.org/iop/frontend/reg/thome.csp?pageID=858227&eventID=1375>

**Indoor Air Quality.** A joint one-day event with the Environmental Chemistry Group of the Royal Society of Chemistry. **Tuesday 17 September 2019**, 10:00 – 18:00 at IOP building King's Cross. More details at:

<https://www.iopconferences.org/iop/frontend/reg/thome.csp?pageID=862460&eventID=1381&traceRedir=2>

**Oceans** – the Environmental Physics Group annual event. Wednesday 23 October 2019, at IOP building King's Cross. The day began with our Chair, Dr Hugh Deighton, providing some interesting statistics on the membership of the EPG. It was pleasing to be able to report that women are particularly well represented in our group.

Then followed a series of four talks from Dr Richard Wood, Dr Jon Robson, Dr Paul Halloran and Dr David Thornalley. These talks explored the role of the oceans in the climate system. How they act as the world's largest heat sink, and how heat transfer drives global ocean currents which in turn effect local climates. Dr Wood talked about how the current level of emissions and heating means we are already committed to continuing sea level rise. Dr Robson focused on the large-scale ocean currents and how these have been changed by global warming. Dr Halloran looked at the interactions of physical and biological systems in the oceans, for example how ocean gyres create biological deserts, and thus the effects that climate change can have on ocean life. Finally Dr Thornalley spoke about the possibility of an abrupt, and potentially irreversible, shift in the AMOC (Atlantic meridional overturning circulation), and the consequences of this.

It was sobering to hear directly from the scientists about the large-scale and potentially disastrous effects human induced climate change is having on our oceans, both now and in the future. For me it served to re-emphasise the urgency with which humans must act to reduce emissions. Let us hope we can work together to achieve this, whilst also ensuring a just transition for all members of our global community.

More details on the IOP events website at:

<https://www.iopconferences.org/iop/frontend/reg/titem.csp?pageID=903603&eventID=1422>

## 4 OTHER NOTICES

Gui Wright, our committee member who is responsible for environmental science at IOP Publishing, has reminded us that **IOP Publishing offer two titles which will be of interest to members of EPG** and there is a description of them on the last page of this newsletter [below](#).

IOP have asked groups to remind members that travel bursaries are available to help with costs associated with attending conferences. These are called the Research Student Conference Fund and the Early Career Researchers Fund and details can be found at:

[http://www.iop.org/about/grants/travel-bursaries/page\\_69141.html](http://www.iop.org/about/grants/travel-bursaries/page_69141.html)

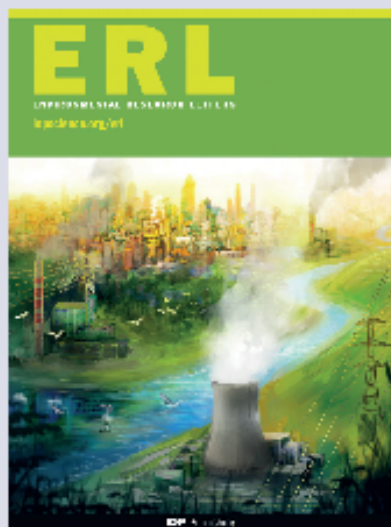
The committee look forward to meeting as many of the group's members as possible in the coming year and we cordially invite members to contact us with suggestions for events. As planning is completed for each event we will announce details via emails to members.

With best wishes

Hugh Deighton



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