

# ISEE CAPACITY BUILDING AND EDUCATION COMMITTEE (CAPE)

## COVID-19 and the Environment

This course aims to provide an **overview of COVID-19** and the multiple ways in which it **relates to global environmental change and proximal environmental exposures**, as well as the environmental health implications of the COVID-19 response. The course reviews relevant frameworks, concepts, and available evidence as it relates to COVID-19 and environment. Where evidence is not available directly related to COVID-19, it draws from broader evidence from similar infections.

The short course will run **over 4 days (16 hours) in total, two days per week, for two weeks**, with 4 hours of material per day. The course will involve a mix of lectures, live discussion sessions, continuous chat between students and lecturers, and assignments. If students complete a minimum set of activities they will receive a **certificate of completion**.

**Target audience:** Researchers in environmental epidemiology and similar fields with at least a master's degree in a relevant topic. Material will be prepared with a global audience in mind. **Course is open to ISEE members and non-members.**

### Learning objectives

1. To understand the basic features and **epidemiology of SARS-COV-2 infection and COVID-19**.
2. To understand the **contributions of global environmental change to the emergence of SARS-COV-2** and other novel pathogens
3. To understand the role of proximal **environmental factors, outcomes and inequalities** in COVID-19.
4. To understand the **environmental health implications of the COVID response** and recovery.

Organizers:



**ISEE course on Covid-19 and the environment**

**April 13, 15 & April 20, 22, 2021**

**16:00-20:00 CET,  
10:00 -14:00 EST**

**[Register here](#)**

**Deadline: March 30th**

**INTERNATIONAL SOCIETY  
FOR ENVIRONMENTAL  
EPIDEMIOLOGY**

[www.iseepi.org](http://www.iseepi.org)

[Secretariat@iseepi.org](mailto:Secretariat@iseepi.org)

## Course details

### April 13 - Day1. COVID-19 basics

This first session sets the stage for the rest of the short course. Participants require a basic understanding of the descriptive epidemiology and how cases have been defined over the course of the pandemic.

- **Introduction to the course** – Manolis Kogevinas and Cathryn Tonne (ISGlobal)
- **COVID-19: Measuring disease and avoiding bias** – Neil Pearce (LSHTM)
- **Introduction to susceptible-infected-removed (SIR) and pandemic prediction models** – Joacim Rocklöv (Umeå University)
- **The global epidemiology of SARS-COV-2 infection and COVID-19** – Manolis Kogevinas (ISGlobal)
- **Learning activity**

### April 15 - Day 2. Global environmental change, pathogen emergence and dispersion, and host susceptibility

This session focuses on the upstream drivers of the emergence and spread of SARS-COV-2 and similar coronaviruses.

- **Framework for environmental determinants of COVID** – Joseph Eisenberg, (University of Michigan)
- **The role of food systems, land use change, loss of biodiversity and ecosystem function in zoonotic spillover events** – Kris Murray (LSHTM/Imperial College London)
- **Trade and travel as drivers of pandemic risk** – Jan Semenza (European Centre for Disease Prevention and Control)
- **Environmental pollution and resilience to infections** – Tara Sabo-Attwood (University of Florida)
- **Learning activity**

### April 20 - Day 3. Proximal environmental factors and COVID-19

This session focuses on the more proximal environmental factors that influence risk of infection, severity of COVID-19, and inequalities in COVID-19 burden.

- **The influence of meteorology on COVID-19 outcomes** – Rachel Lowe (LSHTM)
- **Ambient and household air pollution** – Cathryn Tonne (ISGlobal)
- **Transport systems and public spaces** – Alistair Woodward (University of Auckland)
- **The role of buildings and the indoor environment** – Joseph Allen (Harvard University)
- **Learning activity**

### April 22 - Day 4. Environmental health implications of COVID-19 response and recovery

This section focuses on the impacts of the COVID-19 response and recovery on environmental health of current and future generations.

- **Impacts of pandemic on climate action and development** – Kris Ebi (University of Washington)
- **Environmental health implications from health care response** – Ruth Stringer (Healthcare without Harm)
- **Environmental and health impacts of COVID-19 related plastic waste** – Tony Walker (Dalhousie University)
- **Opportunities to build back better in LMIC context** – Kofi Amegah (University of Cape Coast Ghana)
- **Learning activity**

Organizers:



**ISGlobal** Instituto de  
Salud Global  
Barcelona