Claire Lepault

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Research Fields

Environmental Economics, Applied Econometrics, Health, Development Economics

Education

Paris School of Economics, ENPC, CIRED **2020 – Present**
Thesis title: Health effects of water pollution and heat stress in India *Paris, France*
Expected date of completion: July 2024

Referees

Hélène Ollivier
Professor at Paris School of Economics
48 Boulevard Jourdan, 75014 Paris, France
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Philippe Quirion
Research Director at CIRED
45bis Av. de la Belle Gabrielle, 94130 Nogent, France
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Liam Wren-Lewis
Professor at Paris School of Economics
48 Boulevard Jourdan, 75014 Paris, France
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Edward Rubin
Professor at University of Oregon
1585 E 13th Ave, Eugene, OR 97403, USA
edwardr@uoregon.edu

University of Oregon **Spring 2023**
Visiting student in the Economics Department, Host: Edward Rubin *Eugene, USA*

Paris School of Economics (PSE) **2019 – 2020**
Master 2 Analysis and Policy in Economics *Paris, France*

Ecole Nationale des Ponts et Chaussées (ENPC) **2016 – 2020**
Engineering cycle, Master in Economics *Champs sur Marne, France*

Lycee Blaise Pascal **2014 – 2016**
Two years of intensive preparatory courses in Mathematics and Physics (MPSI-MP)* *Orsay, France*

Job Market Paper (*Link to the latest version*)

Is urban wastewater treatment effective in India? Evidence from water quality and infant mortality

Abstract: In developing countries, untreated sewage exposes people to alarming water pollution levels, yet there is limited knowledge about the effectiveness of wastewater treatment investments. I leverage the national inventory of sewage treatment plants in India and various granular datasets on river water quality measures, as well as geo-localized information on child births and deaths, to identify robust effects of wastewater treatment installations. To do so, I use estimators robust to staggered adoption within a difference-in-differences design and compare urban areas that started wastewater treatment from 2010 onwards and urban areas where such treatment was planned or under construction in 2020. I show that after starting wastewater treatment, levels of fecal coliforms decreased by 50%, and downstream mortality under the age of six months declined by 20%. A back-of the-envelope calculation suggests that starting wastewater treatment earlier – from 2010 onwards – in urban areas later selected into treatment – after 2020 – would have prevented over 40,000 child deaths in downstream sub-basins.

Working Paper

A hidden health impact of heat: exacerbated anemia in India with Philippe Quirion and Pierre Uginet
Abstract: Heat waves, exacerbated by global warming, have increasingly negative health effects, particularly in relatively poor and hot countries such as India. These impacts are partly direct, caused by hyperthermia, and partly due to reduced food availability. While numerous harmful health effects of hot temperatures have been established, little is known about the links between heat waves and anemia, a medical condition affecting one-quarter of people worldwide and 43% of India's population. Using health, nutritional and climate data, we analyze the relationship between heat stress and anemia in India over the past decade. We examine both dry heat waves (high temperatures) and humid heat waves (combination of high temperatures and humidity). We find preliminary suggestive evidence indicating that heat waves worsen anemia in children and women. Moreover, the mechanism responsible does not seem to be related to reduced food availability.

Work in progress

Fertilizers, water quality and perinatal health in India with Eléonore Rouault

Publication

Lepault, C. and Lecocq, F. **Mapping forward-looking mitigation studies at country level**, *Environmental Research Letters* (2021) link

Relevant Experience

Contributing Author of Chapter 4 of the 6^{th} IPCC Assessment Report (AR6, WG III) **2018-2020**
Link to Chapter 4 : Mitigation and development pathways in the near- to mid-term

Research Assistant at CIRED **2018-2020**
Work with Franck Lecocq, CLA of Chapter 4 of the IPCC AR6 (WG III) *Nogent-sur-Marne, France*
Participation in the creation of the AR6 Scenarios Database link

Research Assistant at the Energy Research Centre **Spring 2019**
Work with Harald Winkler, CLA of Chapter 4 of the IPCC AR6 (WG III) *Cape Town, South Africa*

Teaching Experience

ATER (teaching fellow) at EMS University Paris I Panthéon-Sorbonne **2023-2024**
Economics of Uncertainty and Information (L3 taught in French, Pr. F. Pratlong) *Fall 2023*

Teaching Assistant at SciencesPo Paris |PSIA **Fall 2020, 2021, 2022**
Natural Resources Economics (M1, taught in English), Pr. L.-G. Giraudet

Teaching Assistant at University Paris I Panthéon-Sorbonne
Introduction to Econometrics (L3, taught in French), Pr. C. Doz and T. Broer **Spring 2022**
Statistics : Probabilities (L2, taught in French), Pr. D. Brochard and E. Defebvre **Fall 2021**

Skills

Computing: R/Rstudio, Python, Jupyter, Stata
Languages: French (native), English (fluent), German (elementary)

Grants & Fellowships

Mobility grant, PSE **2023**

Research grant, PSE-EUR **2022**
Two weeks field work in Bhilwara district (Rajasthan, India). August 2022.

Doctoral fellowship, ENPC **2020 – 2023**

Presentations

2023 AERE summer conference (Portland, Maine), UO Micro applied seminar (Eugene, Oregon), IPWSD at Columbia University (New York), International Conference on Development Economics (Paris), Journées doctorales du développement (Orléans)

2022 EAERE annual conference (Rimini), Nordic Conference in Development Economics (Helsinki), EENR international conference (Orléans), FAERE annual conference (Rouen), Journées LAGV (Marseille), TSE Workshop (Toulouse), CIRED PhD student seminar (Paris), PSE REM seminar (Paris)

2021 PSE CFD seminar (Paris)

2019 CIRED Bricol'R (Paris)

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