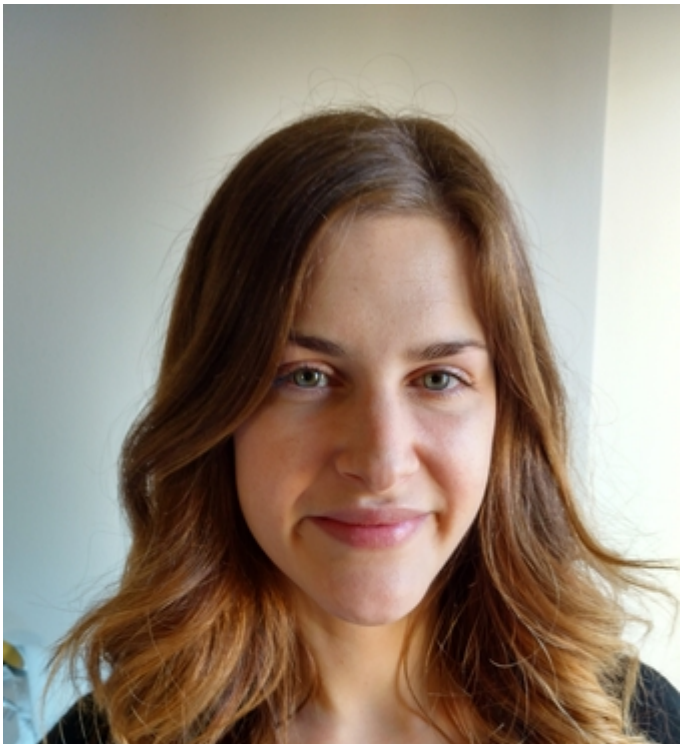
Virtual BSC Life Session/BioInfo4Women Seminar: Strenthening global health resilience to climate change

Objectives

Title: Strengthening global health resilience to climate change

Abstract: Global heating, extreme climatic events, environmental degradation, and socio-economic inequalities exacerbate the risk of infectious disease emergence, spread and transmission. Mosquito-borne diseases, such as dengue and malaria, are highly sensitive to climate variability and climate change. A warming climate can lengthen the transmission season and alter the geographical range, potentially bringing diseases to regions which lack either population immunity or strong public health infrastructure. More frequent extreme weather events, such as storms, floods, and droughts, also affect the timing and intensity of outbreaks. Mosquitoes thrive in warm and humid conditions with rainfall increasing the number of outdoor breeding sites. However, drought conditions can also promote breeding, due to an increase in water storage containers around the home. Despite the health threats of rapid environmental change, we lack the evidence-base to understand and predict the impacts of extreme events and landscape changes on disease risk, leaving communities vulnerable to increasing health threats. This talk will focus on the present and future risks of mosquito-borne diseases and touch on the partnerships I have built over years with a wide range of scientists and practitioners to link climate science via impact-based forecasting to disease risk management. I will showcase climate-integrated decision support frameworks, which have been co-created with stakeholders in the Americas and Southeast Asia, to improve preparedness and response to emerging infectious disease threats and assist public health services adapt to climate change.



Professor, who recently joined the Barcelona Supercomputing Center to lead the Global Health Resilience Team in the Earth Sciences Department. Rachel obtained a PhD in Statistical Modelling at the University of Exeter in 2011. Her thesis focused on spatiotemporal modelling of dengue epidemics in Brazil. She held postdoctoral positions at the International Centre for Theoretical Physics in Italy and the Catalan Institute for Climate Sciences, working at the interface of climate prediction science and public health decision-making. Between 2016-2021, she was a Royal Society Dorothy Hodgkin Fellow and Associate Professor at the London School of Hygiene & Tropical Medicine, where she served on the management committee of the Centre on Climate Change & Planetary Health and led the vector-borne disease theme of the Centre for Mathematical Modelling of Infectious Diseases. Rachel is Executive Director of the Lancet Countdown in Europe, a transdisciplinary collaboration tracking progress on health and climate change. She is a member of the World Meteorological Organization task team for COVID-19 Research.

Speakers

Prof. Rachel Lowe, Barcelona Supercomputing Center and London School of Hygiene & Tropical Medicine
Host: Alfonso Valencia. BSC Life Sciences Department Director

Barcelona Supercomputing Center - Centro Nacional de Supercomputación

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