

Séminaire

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Tracking toxic air pollutants from emissions to impacts

Air pollution is a major sustainability challenge: toxic substances that travel through the atmosphere can pose risks to humans and the environment at locations both near and far from their emission. Examples of pollutants with toxic health and environmental impacts include particulate matter (PM), ozone, mercury (Hg), and persistent organic pollutants (POPs). Effective regulation of these pollutants requires a systems approach, linking regulatory policies, better understanding of environmental transport, and accounting for impacts and feedbacks, and needs to identify the uncertainties that are most relevant to policy-making. Any analysis also needs to take into account the effects of global change, including climate change and socioeconomic changes. This talk summarizes research linking atmospheric modeling of the transport and fate of pollutants (at regional to global scales) with health and economic impacts analysis and policy. I focus on two broad scientific questions: 1) How can we better understand the pathways by which past, present and future emissions of toxics travel through the environment?, and 2) What strategies can better evaluate the impacts of policies on air pollution and related health and economic damages? Examples will be given from recent research on PM, ozone, Hg, and POPs.