

**The Joint 3<sup>rd</sup> Street-in-Grid and Urban Air Quality Modeling Symposium and  
the 4<sup>th</sup> Street-in-Grid Model Training Workshop  
(First Announcement and call for abstract, November 8, 2022)**

Champs-sur-Marne, France  
March 6 – 10, 2023

Air pollution causes 7 million death per year globally (1/8 of total global deaths) and is now the single largest environmental health risk, particularly in megacities and other urban areas where more than half of the world's total population lives. Rapid population growth and urbanization worldwide accelerate eco-environmental/socio-economic stress as well as adverse climatic and health impacts on urban dwellers. Atmospheric modeling research has largely been performed on a horizontal grid spacing of 4-km or larger due to a lack of understanding of the local-scale phenomena, appropriate parameterizations, and adequate modeling tools and computer resources. Urban/local street level air pollution, climate change, and their impacts on population exposure and human health have increasingly received attentions by both researchers and policy makers around the world.

Recognizing the urgent need for scientific advancement, pollution/exposure assessment, policy-making, and public health protection at urban/local scales, we are pleased to announce that the Joint 3<sup>rd</sup> Street-in-Grid (SinG) and Urban Air Quality Modeling Symposium and the 4<sup>th</sup> SinG Model Training Workshop will be held in Champs-sur-Marne, a suburb region of Paris, France during March 6-10, 2023.

The symposium and training workshop aim at

- advancing scientific understanding of local and hyper-local scale atmospheric phenomena;
- promoting state-of-the-science urban-street level modeling tools for complex interactions among urban air pollution, climate, and health;
- and building a high-level platform for scientists, engineers, managers, and government officials worldwide to review recent science and modeling advancement, identify research priority and direction, tackle technological and computational challenges, and provide scientific foundation for air pollution control policies and actions towards environment and human health protection.

The SinG model training workshop will also provide hands-on training for a state-of-the-science SinG modeling system to students, postdoctoral researchers, and professionals.

### **Themes**

- Hyper-local scale air quality modeling
- Urban scale air quality and climate modeling
- Human exposure to urban air pollution
- Urban traffic emissions and impact on air quality and human health
- Urban canopy, heat island, and boundary layer modeling
- Urban climate extreme: heat waves, stagnation, and compound extreme events

### **Important Dates**

- Deadline for abstract submission: December 16, 2022
- Acceptance notice to be sent by January 6, 2023

- Registration: November 8, 2022-March 6, 2023

### Abstract Submission and Registration

We will accept abstracts during November 8, 2022-December 16, 2023. The registration will be open during November 8, 2022-March 6, 2023. The registration fees for the 2-day symposium and the 3-day SinG model training are shown below. Please register at <https://enquetes2.enpc.fr/index.php/129136?lang=en>. For questions regarding the registration, symposium/workshop, and a letter of invitation for visa application, please contact Dr. Youngseob Kim at [youngseob.kim@enpc.fr](mailto:youngseob.kim@enpc.fr)

Date	Regular registration <sup>1</sup>	Student registration <sup>2</sup>
Symposium (March 9 - 10, 2023)	€200	€100
Training workshop (March 6 - 8, 2023)	€100	

<sup>1</sup>Including federal/state/local governments and industry

<sup>2</sup>A copy of the student ID is required during the registration.

### Location and Direction

- Address: Ecole des Ponts ParisTech (Symposium: Navier amphitheater, Workshop: P402), 12 Boulevard Copernic - 77420 Champs-sur-Marne, France
- By train:  
RER (High speed train) **Line B** (blue line) from CDG airport to Chatelet-les-Halles  
Then RER **Line A** (red line) from Chatelet-les-Halles to Noisy-Champs  
(exit 3 – Cité Descartes)
- By taxi: ABC taxis (+33 1 43 83 64 00)  
<http://www.parisaeroport.fr/en/passengers/access/paris-charles-de-gaulle/taxi/paris-cdg-taxi>
- Getting to the school Ecole des Ponts ParisTech  
<http://www.enpc.fr/en/getting-school>

### Hotel Accommodation

- Hotel IBIS Marne-La-Vallée Champs
  - Address: 8, boulevard Newton - 77420 Champs-sur-Marne
- Hotel IBIS Marne-La-Vallée Noisy-le-Grand
  - Address: 4, allée Bienvenue – 93160 Noisy-le-Grand
- Hotel IBIS budget Marne-La-Vallée Noisy-le-Grand
  - Address: 9 rue de l'Université – 93160 Noisy-le-Grand

### Organizers

- Dr. Karine Sartelet, Research Scientist, Centre d'Enseignement et de Recherche en Environnement Atmosphérique (CEREA), joint laboratory of Ecole des Ponts ParisTech and EDF R&D, Marne-la-Vallée, France
- Dr. Yelva Roustan, Research Scientist, Centre d'Enseignement et de Recherche en Environnement Atmosphérique (CEREA), joint laboratory of Ecole des Ponts

ParisTech and EDF R&D, Marne-la-Vallée, France

- Dr. Youngseob Kim, Research Engineer, Centre d'Enseignement et de Recherche en Environnement Atmosphérique (CEREA), joint laboratory of Ecole des Ponts ParisTech and EDF R&D, Marne-la-Vallée, France
- Dr. Yang Zhang, Professor, Department of Civil and Environmental Engineering, Northeastern University, Boston, MA, U.S.A.
- Dr. Rafael Borge García, Departement of Industrial and Environmental Chemical Engineering, Universidad Politécnica de Madrid, Madrid, Spain

### **Sponsors**

- EELISA European University / Ecole des Ponts ParisTech, France
- EELISA European University / Universidad Politécnica de Madrid, Spain
- Northeastern University, U.S.A.

### **SinG Model Training Instructors**

- Yelva Roustan, research scientist, CEREA, yelva.roustan@enpc.fr
- Youngseob Kim, research engineer, CEREA, youngseob.kim@enpc.fr
- Lya Lugon, research engineer, CEREA, lya.lugon@enpc.fr

### **Program Background and Agenda**

Street-in-Grid model (SinG) is a new multi-scale model of urban air pollution (Kim et al., 2018, Lugon et al., 2020, and Lugon et al., 2021a). SinG dynamically combines a three-dimensional (3D) Eulerian chemical-transport model, e.g. Polair3D with a street-network model, e.g. the Model of Urban Network of Intersecting Canyons and Highways (MUNICH). Polair3D of the Polyphemus air quality modeling platform (Mallet et al., 2007, <http://cereaa.enpc.fr/polyphemus/>) has been widely applied in Europe, North America, South America, Asia, and Africa (e.g., Sartelet et al., 2012; Zhang et al., 2013a, b). MUNICH is a street-network model which consists of the street-canyon component, which represents the atmospheric processes in the volume of the urban canopy, and the street-intersection component, which represents the processes in the volume of the intersection (Kim et al., 2022). These components are connected to the Polair3D model at roof level and are also interconnected. The combined model system, SinG, aims at improving urban street-level pollutant concentrations by modeling both background and street-level concentrations at the same time. The model development has been conducted at CEREA, France. Its first application has been realized over the Paris region. The model is being applied over other urban areas in France, China, Brazil, and U.S (Gavidia-Calderón et al., 2021, Lugon et al., 2021b, Wang et al., 2022).

The training workshops have been organized in France and China. The training covered a number of topics including the SinG concept, the Polair3D model, the MUNICH model, as well as how to prepare input data and set up the configurations for application using SinG. More information regarding the last SinG model training workshops can be found at <https://www.cereaa-lab.fr/enseignements/sing-workshop>.

The Street-in-Grid Modeling Symposium have been organized during the previous SinG training workshops. A new Joint Street-in-Grid and Urban Air Quality Modeling Symposium is organized to cover more topics which are related to the urban scale air quality modeling.

We have engaged with two journals for publication of a special issue on “Air Quality Research at Street Level” jointly organized between Atmospheric Chemistry and Physics

(ACP) and Geoscientific Model Development (GMD), see [https://www.geosci-model-dev.net/special\\_issue10\\_994.html](https://www.geosci-model-dev.net/special_issue10_994.html) and [https://www.atmos-chem-phys.net/special\\_issue994.html](https://www.atmos-chem-phys.net/special_issue994.html). All symposium/training workshop participants are highly encouraged to submit your papers to this special issue on GMD or ACP. Your paper will be subjected to the journal's formal review and will be published in this special issue once it is accepted.

## References

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