

9:30am – 5:00pm Sept. 22 (Sat), 2018

Tsukuba International Congress Center, Tsukuba, Japan

–The Mitsubishi UFJ Environment Foundation Lectures–  
**Air Pollution and its Biological Effects**

**Keywords** : Air pollution, Biological effect, Black carbon, Particulate pollutant, SDGs 3, 11 & 12

Session Organizers:

I. Suzuki (UT), A. Furuyama (NIES) and M. Shiraiwa (UCI)



**Air UCI**

**Atmospheric Integrated Research  
at University of California, Irvine**

# Invited Speech

## Part 1: Aerosol Chemistry



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# Role of photochemistry in controlling composition of organic aerosols



Dr. Sergey Nizkorodov

Co-Director, AirUCI Institute. Professor, Department of Chemistry.

**Research Area:** Chemistry, Processes, and Measurements

<http://airuci.uci.edu/faculty/nizkorodov>

Invited Speech  
Part 1: Aerosol Chemistry



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Atmospheric new particle formation:  
Causes and impacts



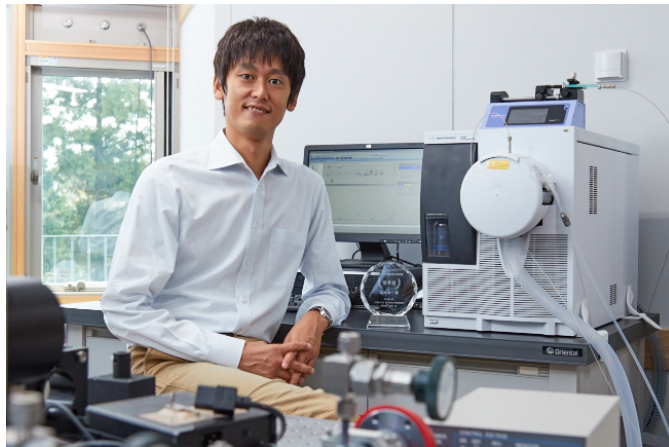
Dr. James N. Smith

Professor, Department of Chemistry.

**Research Area:** Chemistry, Processes, and Measurements

<http://airuci.uci.edu/faculty/smith>

## Lung surface chemistry: Why air pollutants are "toxic" ?



### Dr. Shinichi Enami

Senior Researcher , Center for Environmental Measurement and Analysis  
(Environmental Reaction Chemistry Section)

**Research Subject :** Elucidating the mechanism of reactions at the air-water interface

**Keywords:** Aerosol, Interface, Biosurface

(JP) <http://www.nies.go.jp/researchers/300899.html>

(EN) <http://www.nies.go.jp/researchers-e/300899.html>

## Air pollution and climate change: Impact on human health



### Dr. Yasushi Honda

Professor, Faculty of Health and Sport Sciences

**Research fields:** Epidemiology and preventive medicine

**Research keywords:** climate change, air pollution, electro-magnetic field

(JP) <http://www.taiiku.tsukuba.ac.jp/common-data/prof.php?ug&view=87>

(EN) <http://www.trios.tsukuba.ac.jp/en/researcher/0000001962>,

[https://www.researchgate.net/profile/Yasushi\\_Honda3](https://www.researchgate.net/profile/Yasushi_Honda3)

Invited Speech  
Part 3: Air pollution & plants



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Plant volatiles interactions with air pollution  
and other stressors



Dr. Alex Guenther

Professor, Department of Earth System Science.

**Research Area:** Simulations of Air / Water Pollution and Climate,  
Chemistry, Processes, and Measurements

<http://airuci.uci.edu/faculty/guenther>

Molecular genetic studies on  
plant response to ozone



Dr. Hikaru Saji

Senior Research Associate, Center for Environmental Biology and Ecosystem Studies  
(Environmental Stress Mechanisms Section)

**Research Subject:** Clarification of effects of ozone and other environmental stress factors  
on plants and their underlying mechanisms

**Keyword(s):** genetic analyses, experimental exposure to air pollutants

(JP) <http://www.nies.go.jp/researchers/100140.html>

(EN) <http://www.nies.go.jp/researchers-e/100140.html>

A variety of adaptive responses to  
atmospheric electrophiles



Dr. Yoshito Kumagai

Professor, Environmental Biology Laboratory, Faculty of Medicine, University of Tsukuba

**Title of Project:** : Modulation of signal transduction pathways mediated by environmental electrophiles through chemical modification

**Laboratory Website:**

(JP)[http://www.md.tsukuba.ac.jp/environmental\\_medicine/](http://www.md.tsukuba.ac.jp/environmental_medicine/)

(EN)[http://www.md.tsukuba.ac.jp/environmental\\_medicine/index-en.html](http://www.md.tsukuba.ac.jp/environmental_medicine/index-en.html)



Invited Speech  
Part 4: Mechanisms & phenomena



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## Multiphase Chemistry at the Atmosphere-Biosphere Interface



Dr. Manabu Shiraiwa

Associate Professor, Department of Chemistry.

**Research Area:** Simulations of Air / Water Pollution and Climate,  
Chemistry, Processes, and Measurements

<http://airuci.uci.edu/faculty/shiraiwa>

Laboratory and field studies of oxidants  
existing in fine particles



Dr. Kei Sato

Senior Researcher, Center for Regional Environmental Research (Regional Atmospheric Environment Section)

**Research Subject:** Study on reaction processes relevant to trace reactive gas and aerosol species in the atmosphere

**Keywords:** Fine Particulate Matter (PM<sub>2.5</sub>), Secondary Organic Aerosol, Environmental Chamber, Photochemical Oxidant

(JP) <http://www.nies.go.jp/researchers/100110.html>

(EN) <http://www.nies.go.jp/researchers-e/100110.html>