Subhasis Biswas

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EDUCATION

Doctorate of Philosophy in Environmental Engineering –
University of Southern California, Los Angeles, USA
Thesis: Investigation of Physico-Chemical Properties of Atmospheric Particulate Matter in the Los Angeles Basin
GPA: 3.77
Master of Technology in Environmental Science and Engineering – 2003
Indian Institute of Technology (IIT), Bombay, INDIA
Thesis: Sorbent Interaction and Microbial uptake of oil.
CPI: 9.46/10
Bachelor of Engineering in Environmental Engineering – 2000
Gujarat University, Ahmedabad, INDIA
Thesis: Determination of Oxygen Transfer for Surface Aerators under Field Conditions
: First Class

WORK EXPERIENCE

Graduate Researcher, Aerosol Research Lab, USC. (Jan 2004–Present)

1. **Aerosols: Measurements, Physicochemical Processes and Health Effects**

A. Southern California Particulate Matter Center and Supersite

- Evaluated extensively particle volatility, fractal dimension, the physicochemical processes leading to fine and ultrafine aerosol formation and their diurnal and seasonal variations in Los Angeles Basin.
- Currently assessing the physico-chemical and toxicological behavior of volatile and non-volatile fraction of particulate emissions from diesel trucks in light of the new stringent emission standards with a Dynamometer set-up and also establishing the emission factors with different control technologies.

B. Chamber studies: Animal and Human subjects

- Utilized VACES (Versatile Aerosol Concentration Enrichment System) to conduct in vitro and in vivo studies to evaluate toxic effects of fine, ultrafine and coarse ambient particles

2. **Instrumentation**

- Validated Mini-VACES
- Evaluated water based condensation particle counters.

Teaching Assistant, Department of Civil and Environmental Engineering, USC (January 2004–August 2005; August 2006-Dec' 2006) for courses:

- Environmental Pollutants: Monitoring and Risk Assessment.
- Applied Air Quality Management.
- Air Pollution Fundamentals

Trainee Environmental Engineer, Ahmedabad Textile Industry's Research Association (ATIRA), Ahmedabad, India. (Aug 2000–Dec 2002):
Environmental auditing for large scale industries. Involved in an inter-governmental (Indo-Chinese-Australian) project on "Wool scouring effluents".

Research Assistant, Center for Environmental Science and Engineering, IIT, Bombay, India**,** (2003-2004).

- Research area: Oil bioremediation.

PUBLICATIONS

1. **Biswas, S.;** Fine, P.M. Geller, M.D., Hering, S.V. and Sioutas, C. "Performance Evaluation of a recently developed water based condensation particles counter." *Aerosol Science and Technology*, 39 (5): 419-427, 2005.
2. Kuhn, T., **Biswas, S**., Fine, P.M., Geller, M.D and Sioutas, C., "Physical and chemical characteristics and volatility of PM in the proximity of a light-duty vehicle freeway". *Aerosol Science and Technology*, 39(4):3147-357, 2005.
3. Geller, M.D., **Biswas, S**., Fine, P.M., Geller, M.D and Sioutas, C., "A Compact Aerosol Concentrator for Use in Conjunction with Low Flow-Rate Continuous Aerosol Instrumentation" *Journal of Aerosol Science*, 36(8):1006-1022, 2005.
4. Kuhn, T., **Biswas, S**., and Sioutas, C., "Diurnal and Seasonal Characteristics of Particle Volatility and Chemical Composition Near a Light-duty Vehicle Freeway" *Atmospheric Environment*, 39(37): 7154-7166, 2005.
5. **Biswas, S.**, S.K. Chaudhari and S. Mukherji, "Microbial Uptake of Diesel Oil Sorbed on Soil and Oil Spill Clean-up Sorbents ",*Journal of Chemical Technology and Biotechnology*, 80:587-59, 2005.
6. Geller M.D., **Biswas, S.** and Sioutas, C. "Determination of Particle Effective Density in Urban Environments with an Aerosol Particle Mass Analyzer and Scanning Mobility Particle Sizer." *Aerosol Science and Technology*, 40:709-723, 2006
7. **Biswas, S**., Leonidas Ntziachristos, Katharine F. Moore, and Constantinos Sioutas "Particle volatility in the Vicinity of a Freeway with Heavy-Duty Diesel Traffic. *Atmospheric Environment*, 41: 3479-3493, 2007.

CONFERENCE PRESENTATION

"Performance Evaluation of a Recently Developed Water Based Condensation Particles Counter", AAAR International Specialty Conference, Atlanta, GA, Feb 2005 and AAAR Annual Conference, Austin, TX, Oct 2005.

CONFERENCE POSTERS

1. "Volatility and Chemical Characteristics of PM close to a light duty vehicle freeway". AAAR Annual Conference, Austin, TX, Oct 2005.
2. "Holistic Perspectives on Oil Spill Clean-up Sorbents", EnviroVision 2003--6th Annual Conference of the Indian Environmental Association, Mumbai, India,(1 January,2003).

PROFESSIONAL AFFILIATIONS

- American Association of Aerosol Research (AAAR)
- Air and Waste Management Association (AWMA)

HONORS AND AWARDS

- Recipient of second best poster award at 6thAnnual Conference of the Indian Environmental Association, Mumbai, India, (1 January, 2003).

TECHNICAL AND SOFTWARE and LANGUAGE SKILLS

- Development, design, laboratory and field evaluation of particulate monitoring technologies.
- Operation of instruments such as Micro-Orifice Uniform Deposit Impactor (MOUDI), Aerosol particle Mass Analyzer, Electrical Low-Pressure Impactor, SMPS, APS, BAM-1020 for $PM_{2.5}$ and sub 150 nm PM, VACES, TEOM, Aethalometer, DataRAM, CPC, Microbalance and UV-VIS Spectrometer.
- MS-Windows, MS-Office
- Proficiency in English, Bengali and Hindi.

REFERENCE

Prof. Constantinos Sioutas (Thesis Adviser)
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