

Donald Dabdub

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Education:	Ph. D., Chemical Engineering California Institute of Technology	September 1995
	M. S., Chemical Engineering California Institute of Technology	June 1992
	B. S., Chemical Engineering Lehigh University	June 1990

Professional Interests: **Atmospheric Sciences:** Mathematical modeling of air pollution dynamics. Dynamics of atmospheric aerosols. Chemical reactions at gas-liquid interfaces. Impact of energy generation on air quality.

Computational Sciences: Applied mathematics. Numerical algorithms on massively parallel computers. Grid-based computations.

Academic Positions:	Assistant Professor Mechanical and Environmental Engineering. University of California, Irvine.	Oct 1995-present
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Awards and Honors:	Gaspar de Portola International Fellowship	2002
	UCI Project Prometheus Teaching Award	2001
	National Science Foundation CAREER Award	2000
	W. E. Schiesser Distinguished Lecture, Lehigh University	1999
	William Corcoran Fellowship	1990-1995
	Tau Beta Pi National Engineering Honor Society	1987
	Phi Eta Sigma National Honor Society	1986

Professional Affiliations: Member American Association for Aerosol Research
Member American Geophysical Union
Member American Meteorological Society

Professional Activities:	Advisory Role	
	Member of the U. S. Department of Defense panel: Military Simulations on SPPs	2002
	Member of the Air Resources Board panel: The Weekend Ozone Effect	2002
	Member of the U. S. Department of Energy panel: Tropospheric Aerosol Program	2001

Professional Offices

Atmospheric Chemistry Committee, American Meteorological Society. (1999–2003). American Association for Aerosol Research, Internet Committee. (2002–2003)

- Related Publications:**
- “Impact of chlorine emissions from sea-salt aerosol on coastal urban ozone,” Knipping E. M. and Dabdub D. *Environmental Science and Technology*. In press.
 - “Modeling surface-mediated renoxification of the atmosphere via reaction of gaseous nitric oxide with deposited nitric acid,” Knipping E. M. and Dabdub D. *Atmospheric Environment*. In press.
 - “Modeling study of Cl₂ formation by interfacial reactions of OH and Cl⁻ on deliquesced NaCl particles,” Knipping E. M. and Dabdub D. *Journal of Geophysical Research*. **107**, (2002) 4360–4390.
 - “Experiments and theoretical simulations of the chemistry of sea-salt microbrine aerosols: ion-enhanced interactions at interfaces in the atmosphere,” Knipping E. M., Lakin M. J., Foster K. L., Jungwirth P., Tobias D. J., Gerber R. B., Dabdub D. and Finlayson-Pitts B. J. *Science* **288**, (2000) 301–306.
 - “Chemical coupling between atmospheric ozone and particulate matter,” Meng Z., Dabdub D. and Seinfeld J. H. *Science* **277**, No 5322, (1997) 116–119.
 - “Numerical advective schemes used in air quality models—Sequential and parallel implementation,” Dabdub D. and Seinfeld J. H. *Atmospheric Environment* **28**, (1994) 3369–3385.

- Other Publications:**
- “A coupled hydrophobic-hydrophilic model for predicting secondary organic aerosol formation,” Griffin R. J., Nguyen K., Dabdub D. and Seinfeld J. H. *Journal of Chemistry*. In press.
 - “Development and analysis of a non-splitting solution for three-dimensional air quality models,” Nguyen K. and Dabdub D. *Atmospheric Environment*. In press.
 - “Performance and portability of an air quality model,” Dabdub D. and Manohar R. *Parallel Computing* **23**, (1997) 2187–2200.
 - “Size-resolved and chemically resolved model of atmospheric aerosol dynamics,” Meng Z., Dabdub D. and Seinfeld J. H. *J. Geophys. Res.* **103**, (1998) 3419–3436.
 - “Parallel computation in atmospheric chemical modeling,” Dabdub D. and Seinfeld J. H. *Parallel Computing* **22**, (1996) 111–130.

Professional Affiliations: American Association for Aerosol Research
American Geophysical Union
American Meteorological Society

Graduate Students & Postdoctoral Fellows: Marc Carreras
Paul Nissenson
Siarhei Piatrovich
Marco Rodriguez

Past Students: Eladio Miguel Knipping, Khoi Nguyen, Amy Schmieder and Tzvetan Emilov Sariyski

Collaborators: K. Mani Chandhi (Caltech), Barbara Finlayson-Pitts (UCI), Robert Benny Gerber (Hebrew University Jerusalem) Robert Griffin (Duke), John C. Hemminger (UCI) Anthony Haymet (UH), Jiwen He (UH), Pavel Jungwirth (Academy of Sciences of the Czech Republic), Rajit Manohar (Cornell), Leon Phillips (University of Canterbury, New Zealand), Ted Russell (Georgia Tech), Scott Samuelson (UCI), and Douglas J. Tobias (UCI)

Thesis Advisor: John H. Seinfeld