

## Arthur W. H. Chan

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### CONTACT INFORMATION

Department of Environmental Science, Policy, and Management  
University of California, Berkeley  
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Berkeley, CA 94720

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### EDUCATION

Ph.D., Chemical Engineering, California Institute of Technology, 2010  
M.Sc., Chemical Engineering, California Institute of Technology, 2007  
B.S., Chemical and Biomolecular Engineering, University of Pennsylvania, 2005

### RESEARCH EXPERIENCE

**University of California at Berkeley**, Berkeley, California  
*Postdoctoral Researcher*, August 2010 – present

- Research Topic: *Measurement of Ambient Aerosol Composition Using Thermal Desorption Gas-Chromatography/Mass Spectrometry*
- Advisor: Professor Allen H. Goldstein

**California Institute of Technology**, Pasadena, California  
*Ph.D. Student*, September 2005 – July 2010

- Thesis: *Chamber Studies and Modeling of Secondary Organic Aerosol Formation*
- Advisors: Professors John H. Seinfeld and Richard C. Flagan

**University of Pennsylvania**, Philadelphia, Pennsylvania  
*Undergraduate Research Assistant*, January 2004 – May 2004

- Topic: *Diffusional limitations of solid oxide fuel cells*
- Advisor: Dr. John Vohs

**University of Pennsylvania**, Philadelphia, Pennsylvania  
*Undergraduate Research Assistant*, May 2004 – May 2005

- Recipient of Research Experience for Undergraduates (REU) grant
- Topic: *Computer simulation of batch chemical processes*
- Advisor: Dr. Warren Seider

### PUBLICATIONS

Pye, H. O. T., **Chan, A. W. H.**, Barkley, M. P., and Seinfeld, J. H. Global modeling of organic aerosol: the importance of reactive nitrogen (NO<sub>x</sub> and NO<sub>3</sub>), *Atmos. Chem. Phys.*, 10, 11261-11276, 2010

**Chan, A. W. H.**; Chan, M. N.; Surratt, J. D.; Chhabra, P. S.; Loza, C. L.; Crounse, J. D.; Yee, L. D.; Flagan, R. C.; Wennberg, P. O.; Seinfeld, J. H. Role of aldehyde chemistry and NO<sub>x</sub> concentrations on secondary organic aerosol formation. *Atmos. Chem. Phys.* 10, 7169–7188, 2010

Loza, C. L.; **Chan, A. W. H.**; Galloway, M. M.; Keutsch, F. N.; Flagan, R. C.; Seinfeld, J. H. Characterization of vapor wall loss in laboratory chambers. *Environ. Sci. Technol.* 44, 5074–5078, 2010

Surratt, J. D.; **Chan, A. W. H.**; Eddingsaas, N. C.; Chan, M. N.; Loza, C. L.; Kwan, A. J.; Hersey, S. P.; Flagan, R. C.; Wennberg, P. O.; Seinfeld, J. H. Reactive intermediates revealed in secondary organic aerosol formation from isoprene. *Proc. Natl. Acad. Sci. USA* 107, 6640–6645, 2010

Kautzman, K. E.; Surratt, J. D.; Chan, M. N.; **Chan, A. W. H.**; Hersey, S. P.; Chhabra, P. S.; Dalleska, N. F.; Wennberg, P. O.; Flagan, R. C.; Seinfeld, J. H. Chemical composition of gas- and aerosol-phase products from the photooxidation of naphthalene. *J. Phys. Chem. A* 114, 913–934, 2010

Claeys, M.; Iinuma, Y.; Szmigielski, R.; Surratt, J. D.; Blockhuys, F.; Van Alsenoy, C.; Boge, O.; Sierau, B.; Gomez-Gonzalez, Y.; Vermeylen, R.; Van der Veken, P.; Shahgholi, M.; **Chan, A. W. H.**; Herrmann, H.; Seinfeld, J. H.; Maenhaut, M. Terpenylic acid and related compounds from the oxidation of alpha-pinene: Implications for new particle formation and growth above forests. *Environ. Sci. Technol.* 43, 6976–6982, 2009

Chan, M. N.; **Chan, A. W. H.**; Chhabra, P. S.; Surratt, J. D.; Seinfeld, J. H. Modeling of secondary organic aerosol yields from laboratory chamber data. *Atmos. Chem. Phys.* 9, 5669–5680, 2009

Galloway, M. M.; Chhabra, P. S.; **Chan, A. W. H.**; Surratt, J. D.; Flagan, R. C.; Seinfeld, J. H.; Keutsch, F. N. Glyoxal uptake on ammonium sulphate seed aerosol: reaction products and reversibility of uptake under dark and irradiated conditions. *Atmos. Chem. Phys.* 9, 3331–3345, 2009

**Chan, A. W. H.**; Kautzman, K. E.; Chhabra, P. S.; Surratt, J. D.; Chan, M. N.; Crounse, J. D.; Kürten, A.; Wennberg, P. O.; Flagan, R. C.; Seinfeld, J. H. Secondary organic aerosol formation from photooxidation of naphthalene and alkylnaphthalenes: Implications for oxidation of intermediate volatility organic compounds (IVOCs). *Atmos. Chem. Phys.*, 9, 3049–3060, 2009

**Chan, A. W. H.**; Galloway, M. M.; Kwan, A. J.; Chhabra, P. S.; Keutsch, F. N.; Wennberg, P. O.; Flagan, R. C.; Seinfeld, J. H. Photooxidation of 2-methyl-3-buten-2-ol (MBO) as a potential source of secondary organic aerosol. *Environ. Sci. Technol.* 43, 4647–4652, 2009

Ng, N. L.; Kwan, A. J.; Surratt, J. D.; **Chan, A. W. H.**; Chhabra, P. S.; Sorooshian, A.; Pye, H. O. T.; Crounse, J. D.; Wennberg, P. O.; Flagan, R. C.; Seinfeld, J. H. Secondary organic aerosol (SOA) formation from reaction of isoprene with nitrate radicals (NO<sub>3</sub>). *Atmos. Chem. Phys.* 8, 4117–4140, 2008

Surratt, J. D.; Gomez-Gonzalez, Y.; **Chan, A. W. H.**; Vermeylen, R.; Shahgholi, M.; Kleindienst, T. E.; Edney, E. O.; Offenberg, J. H.; Lewandowski, M.; Jaoui, M.; Maenhaut, W.; Claeys, M.; Flagan, R. C.; Seinfeld, J. H. Organosulfate formation in biogenic secondary organic aerosol. *J. Phys. Chem. A* 112, 8345–8378, 2008

Ng, N. L.; Chhabra, P. S.; **Chan, A. W. H.**; Surratt, J. D.; Kroll, J. H.; Kwan, A. J.; McCabe, D. C.; Wennberg, P. O.; Sorooshian, A.; Murphy, S. M.; Dalleska, N. F.; Flagan, R. C.; Seinfeld, J. H. Effect of NO<sub>x</sub> level on secondary organic aerosol (SOA) formation from the photooxidation of terpenes. *Atmos. Chem. Phys.* 7, 5159–5174, 2007

**Chan, A. W. H.**; Kroll, J. H.; Ng, N. L.; Seinfeld, J. H. Kinetic modeling of secondary

organic aerosol formation: effects of particle- and gas-phase reactions of semivolatile products. *Atmos. Chem. Phys.* 7, 4135–4147, 2007

Sorooshian, A.; Ng, N. L.; **Chan, A. W. H.**; Feingold, G.; Flagan, R. C.; Seinfeld, J. H. Particulate organic acids and overall water-soluble aerosol composition measurements from the 2006 Gulf of Mexico Atmospheric Composition and Climate Study (GoMACCS). *J. Geophys. Res.* 112, D13201, doi:10.1029/2007JD008537

Ng, N. L.; Kroll, J. H.; **Chan, A. W. H.**; Chhabra, P. S.; Flagan, R. C. and Seinfeld, J. H. Secondary organic aerosol formation from *m*-xylene, toluene, and benzene. *Atmos. Chem. Phys.* 7, 3902–3922, 2007

Kroll, J. H.; **Chan, A. W. H.**; Ng, N. L.; Flagan, R. C. and Seinfeld, J. H. Reactions of semivolatile organics and their effects on secondary organic aerosol formation. *Environ. Sci. Technol.* 41, 3545–3550, 2007

CONFERENCE  
PRESENTATIONS

**Chan, A. W. H.**; Chan, M. N.; Surratt, J. D.; Chhabra, P. S.; Loza, C. L.; Yee, L. D.; Crouse, J. D.; Flagan, R. C.; Wennberg, P. O.; Seinfeld, J. H. *SOA Formation from Aldehydes: Role of NO<sub>x</sub> and Molecular Structure*, presented at American Association for Aerosol Research Fall Meeting, Portland, OR, October 2010 (oral presentation)

**Chan, A. W. H.**; Surratt, J. D.; Chan, M. N.; Eddingsaas, N. C.; Loza, C. L.; Chhabra, P. S.; Hersey, S. P.; Kwan, A. J.; Kautzman, K. E.; Yee, L. D.; Flagan, R. C.; Wennberg, P. O.; Seinfeld, J. H. *Mechanism of secondary organic aerosol (SOA) formation from isoprene photooxidation*, presented at American Geophysical Union Fall Meeting, San Francisco, CA, December 2009 (oral presentation)

**Chan, A. W. H.**; Surratt, J. D.; Eddingsaas, N. C.; Chan, M. N.; Hersey, S. P.; Kwan, A. J.; Flagan, R. C.; Wennberg, P. O.; Seinfeld, J. H. *Secondary organic aerosol formation from isoprene: Role of epoxydiol intermediate under low-NO<sub>x</sub> conditions*, presented at American Association for Aerosol Research Fall Meeting, Minneapolis, MN, October 2009 (poster presentation)

**Chan, A. W. H.**; Surratt, J. D.; Paulot, F.; Chan, M. N.; Loza, C. L.; Chhabra, P. S.; Flagan, R. C.; Wennberg, P. O.; Seinfeld, J. H. *Secondary organic aerosol formation from isoprene: Mechanism and yields under high-NO<sub>x</sub> conditions*, presented at American Association for Aerosol Research Fall Meeting, Minneapolis, MN, October 2009 (poster presentation)

**Chan, A. W. H.**; Surratt, J. D.; Kautzman, K. E.; Chhabra, P. S.; Chan, M. N.; Crouse, J. D.; Wennberg, P. O.; Flagan, R. C.; Seinfeld, J. H. *Secondary organic aerosol (SOA) formation from photooxidation of naphthalene and alkyl-naphthalenes*, presented at American Association for Aerosol Research Fall Meeting, Orlando, FL, October 2008 (poster presentation)

AWARDS

California Institute of Technology

- Graduate Dean's Award for Outstanding Leadership, 2010

University of Pennsylvania

- Hugo Otto Wolf Memorial Prize, 2005
- Dean's List, 2001–2005

American Institute of Chemical Engineers

- Delaware Valley Section Award, 2004

TEACHING  
EXPERIENCE

**California Institute of Technology**, Pasadena, California

- Recitation leader & Grader for ESE 171: Atmospheric Chemistry I (Spring 2007)
- Recitation leader & Grader for ChE 64: Principles of Chemical Engineering (Fall 2007 & Fall 2008)

**University of Pennsylvania**, Philadelphia, Pennsylvania

- Recitation leader & Grader for CBE 460: Chemical Process Control (Spring 2005)

PROFESSIONAL  
ACTIVITIES

Student member of American Association for Aerosol Research (AAAR) and American Geophysical Union (AGU)

Reviewer for *Environmental Science and Technology*, *Atmospheric Environment*, *Atmospheric Chemistry and Physics*