

CURRICULUM VITAE
GRAHAM FEINGOLD

Address:

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Chemical Sciences Division
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Education:

- 1986 – 1989: Ph.D – Geophysics (*summa cum laude*),
Department of Geophysics and Planetary Sciences,
Tel Aviv University.
Thesis: On the evolution of raindrop spectra and their
effect on the atmosphere below cloud base:
numerical models and comparisons with observations.
Advisor: Prof. Zev Levin.
- 1983 – 1985: M.Sc – Geophysics (*summa cum laude*),
Department of Geophysics and Planetary Sciences,
Tel Aviv University.
Thesis: The size distribution of raindrops in Israel:
application to rainfall processes and radar measurements.
Advisor: Prof. Zev Levin.
- 1980 – 1982: B.Sc – Geophysics and Atmospheric Sciences,
Department of Geophysics and Atmospheric Sciences,
Tel Aviv University.
- 1978: B.Sc – Mechanical Engineering (1st year),
Faculty of Engineering,
University of the Witwatersrand, Johannesburg, South Africa.

Research Experience:

- 2005 – Present: Physicist, Chemical Sciences Division,
NOAA Earth System Research Laboratory,
Boulder, Colorado.
- 2000 – 2005: Physicist, Optical Remote Sensing Division,
NOAA Environmental Technology Laboratory,

2000 – 2003: Boulder, Colorado.
 Affiliate Faculty, Department of Atmospheric Science,
 Colorado State University, Fort Collins.
 1997 – 2000: Research Scientist, CIRA,
 (Cooperative agreement with NOAA Environmental
 Technology Laboratory)
 Colorado State University, Fort Collins.
 1994 – 1997: Research Associate, CIRA.
 1991 – 1994: Research Associate, CIRES,
 (Cooperative agreement with NOAA Environmental
 Technology Laboratory)
 University of Colorado, Boulder.
 1993 – 1994: Affiliate Faculty, Department of Atmospheric Science
 Colorado State University, Fort Collins.
 1990 – 1991: Post-doctoral fellow at
 Mesoscale and Microscale Meteorology Division, NCAR.
 1983 – 1989: Research assistant, Cloud Physics Laboratory,
 Department of Geophysics and Planetary Sciences,
 Tel Aviv University.

Teaching Experience:

2008: Distinguished Lecturer,
 Peking University, December 2008.
 (Aerosol-Cloud Interactions and Climate Change)
 2008: Lecturer,
 International Summer School on Atmospheric and Oceanic
 Sciences, L'Aquila, Italy, September 2008.
 (Aerosols and Climate Change)
 2006: Guest Lecturer,
 Department of Geophysics and Planetary Sciences,
 Tel Aviv University.
 Selected Topics in Aerosol-Cloud Interactions (Gordon
 Center for Energy; 2 credit course)
 1986 – 1989: Teaching assistant,
 Department of Geophysics and Planetary Sciences,
 Tel Aviv University.
 Tutor: An Introduction to Atmospheric Physics
 Tutor: The Physics of Clouds and Precipitation

Field Work:

2009: RACORO, Oklahoma

2008: VOCALS, Chile
2007: MASE-II, Marina, CA
2006: GoMACCS, Houston, TX
2004: ICARTT, New England
2003: DOE/ARM Aerosol IOP, OK
2000: DYCOMS-II, San Diego, CA
1999: Southern Oxidants Study, Nashville, TN

Other Professional Activities:

2008 – Present: IGAC Scientific Steering Committee
2008 – Present: ACPC Scientific Steering Committee
2007 – Present: NOAA Representative to EarthCare
2007: AGU Special Session Convener
2006: Reviewer IPCC Fourth Assessment
2005: AGU Special Session Convener
2004 – 2008: Chapter author International Aerosol-Precipitation Science
Assessment Group (IAPSAG)
2004 – Present: Climate Change Science Program Assessment
2004 – Present: International Commission on Clouds and Precipitation
(ICCP) Committee Member
2003 – Present: Editor Atmospheric Chemistry and Physics
2006 – Present: CIRA Fellow
2003 – Present: CIRES Fellow
2001 – Present: Member: NOAA/ETL Strategic Planning Team
2000: Reviewer IPCC Third Assessment Report
2000: Member: NOAA/ETL Millenium Team
1993 – Present: Member American Meteorological Society
1995 – Present: Member American Association for Aerosol Research (AAAR)
1994 – Present: Member American Geophysical Union
1984 – 1990: Member Israel Association for Aerosol Research

Awards and Fellowships:

2008: NOAA Administrator's Award
2003: NOAA Office of Atmospheric Research Outstanding Paper
Award
2002: NOAA Office of Atmospheric Research Outstanding Paper
Award
1998: NOAA Environmental Technology Laboratory Award for
Innovative Research in the Modeling of Complex Cloud and
Aerosol Interactions
1990: Rothschild Fellowship for Post-Doctoral Research
Fulbright Fellowship for Post-Doctoral Research
Canadian NSERC Fellowship for Post-Doctoral
Research (declined)

1986 – 1989: Fellowship from the Joseph Buchmann Fund
1987: Landau Prize for Outstanding Research (Israel)
Deutsche Akademischer Austauschdienst (DAAD) scholarship
1982 – 1985: Certificates of Merit for academic achievement,
Faculty of Exact Sciences, Tel Aviv University
1978 – 1979: Undergraduate Scholarship, South African Council
For Scientific and Industrial Research (CSIR)

Invited Talks:

- Kreidenweis S. M., and G. Feingold, 1995: *Modeling of Aerosol and Cloud Microphysical Processes*. Tutorial presented at the Annual Meeting of the American Association for Aerosol Research, October 1995.
- Feingold, G., 1999: *A review of cloud processing of aerosol in the marine boundary layer*. Gentner Symposium, Israel, October 1999.
- Feingold, G., 2000: *Cloud-scale modeling of aerosol-cloud interactions*. Presented at the 4th Workshop on the Regional Aerosol Climate Model, Toronto, Canada, March 2000.
- Feingold, G., 2001: *Aerosol-Cloud-Climate Feedbacks*. Invited presentation to National Research Council's NRC Climate Change Feedbacks Workshop. Boulder, Colorado, August 2001.
- Feingold, G., 2002: *Modeling the Indirect Effect in Large Eddy Simulations*. Round Table on Boundary Layer Clouds, Toulouse, June 2002.
- Feingold, G., S. M. Kreidenweis, H. Jiang, and W. R. Cotton, 2002: *Large Eddy Simulations of Aerosol-Cloud-Chemistry Interactions*. American Geophysical Union Fall Meeting, December 2002.
- Feingold, G., 2003: *Observations and Modeling of Aerosol-Cloud Interactions at the Large Eddy Scale*. European Geophysical Society/American Geophysical Union Meeting, Nice, April 2003.
- Feingold, G., 2003: *Surface-based remote sensing and modeling of the aerosol indirect effect*. Sixth International Symposium on Tropospheric Profiling, Leipzig, September 2003.
- Feingold, G., 2005: *Small-scale modeling of aerosol-cloud interactions*. NOAA/IGAC Specialty Workshop on the Aerosol Indirect effect. Manchester, UK., January 5-7, 2005.
- Feingold, G., 2005: *Aerosols, Clouds and Climate*. NASA Goddard Space Flight Center's Distinguished Lecture series. June 2005.
- Feingold G., and H. Jiang, 2005: *Aerosol-cloud-radiation and surface flux interactions simulated in a large eddy model*. 1st iLEAPS Science Conference, Boulder, Colorado, Jan 2006.
- Feingold, G., Discussion Leader: Aerosol and Clouds Session. Gordon Conference on

Chemistry, Big Sky, Montana, 2005.

Feingold, G., H. Jiang, H. Xue, B. Stevens, P. Zuidema, 2007: *Aerosol Effects on Precipitation and Cloud Lifetime at the Large Eddy Scale*. Interdisciplinary Tropospheric Research (INTROP): Aerosols- properties, processes, and climate. Crete, April 2007.

Feingold, G., Invited speaker Gordon Conference on Radiation and Climate. Colby-Sawyer College, July 2007.

Feingold, G., Invited speaker Aerosol Indirect Effects Workshop, Victoria, BC, Nov. 13-14, 2007.

Feingold, G., Invited participant, *Perturbed Clouds in the Climate System*. Frankfurt Institute for Advanced Studies. March 2-7, 2008.

Feingold, G., Keynote speaker, *The Importance of Small Cumulus Clouds in the Climate System*. International Laser Radar Conference. June, 2008.

Feingold, G., *Summary of the ARM Mobile Facility Deployment at Pt Reyes, California*. ARM Science Team Meeting, Louisville, KY, April 2009.

Feingold, G., and H. Wang, *Self organization in a bowl of soup*. Goldschmidt Conference, Davos Switzerland, June 2009.

Publications:

Refereed Publications :

Feingold, G. and Z. Levin, 1986: The lognormal fit to raindrop spectra from frontal convective clouds in Israel. *J. Clim. Appl. Meteor.*, **25**, 1346–1363.

Feingold, G. and Z. Levin, 1987: The lognormal size distribution of raindrops: application to differential reflectivity measurements of rainfall (Z_{DR}). *J. Atmos. Ocean. Tech.*, **4**, 377–382.

Tzivion, S., G. Feingold and Z. Levin, 1987: An efficient numerical solution to the stochastic collection equation. *J. Atmos. Sci.*, **44**, 3139–3149.

Feingold, G., S. Tzivion and Z. Levin, 1988: The evolution of raindrop spectra. Part I: stochastic collection and breakup. *J. Atmos. Sci.*, **45**, 3387–3399.

Tzivion, S., G. Feingold and Z. Levin, 1989: The evolution of raindrop spectra. Part II: collisional collection/breakup and evaporation in a rainshaft. *J. Atmos. Sci.*, **46**, 3312–3327.

Feingold, G., S. Tzivion and Z. Levin, 1991: The evolution of raindrop spectra: Part III. Downdraft generation in an axisymmetrical model. *J. Atmos. Sci.*, **48**, 315–330.

Levin, Z., G. Feingold, S. Tzivion and A. Waldvogel, 1991: The evolution of raindrop spectra: comparisons between modelled and observed spectra along a mountain slope in Switzerland. *J. Appl. Meteor.*, **30**, 893–900.

- Feingold, G., and A.J. Heymsfield, 1992: Parameterizations of condensational growth of droplets for use in general circulation models. *J. Atmos. Sci.*, **49**, 2325–2342.
- Segal, M. and G. Feingold, 1993: On the impact of summer daytime local convective cloud systems on the shelter temperature. *J. Appl. Meteor.*, **32**, 1569–1578.
- Feingold, G., 1993: A parameterization of rainfall evaporation for use in general circulation models. *J. Atmos. Sci.*, **50**, 3454–3467.
- Feingold, G., B. Stevens, W.R. Cotton, and R.L. Walko, 1994: An explicit microphysics/LES model designed to simulate the Twomey Effect. *Atmospheric Research*, **33**, 207–233.
- Feingold, G., and C. J. Grund, 1994: On the feasibility of using multi-wavelength lidar measurements to measure cloud condensation nuclei. *J. Atmos. Ocean. Tech.*, **11**, 1543–1558.
- Feingold, G., B. Stevens, W. R. Cotton, and A. S. Frisch, 1996: On the relationship between drop in-cloud residence time and drizzle production in stratocumulus clouds. *J. Atmos. Sci.*, **53**, 1108–1122.
- Stevens, B., G. Feingold, R. L. Walko and W. R. Cotton, 1996: On elements of the microphysical structure of numerically simulated non-precipitating stratocumulus. *J. Atmos. Sci.*, **53**, 980–1006.
- Stevens, B., R. L. Walko, W. R. Cotton, and G. Feingold, 1996: A note on the spurious production of cloud edge supersaturations by Eulerian models. *Mon. Wea. Rev.*, **124**, 1034–1041.
- Feingold, G., S. M. Kreidenweis, B. Stevens, and W. R. Cotton, 1996: Numerical simulation of stratocumulus processing of cloud condensation nuclei through collision-coalescence. *J. Geophys. Res.*, **101**, 21,391–21,402.
- Feingold, G., R. Boers, B. Stevens, and W. R. Cotton, 1997: A modeling study of the effect of drizzle on cloud optical depth and susceptibility. *J. Geophys. Res.*, **102**, D12, 13,527–13,534.
- Feingold, G., R. L. Walko, B. Stevens, and W. R. Cotton 1998: Simulations of marine stratocumulus using a new microphysical parameterization scheme. *Atmos. Res.*, **47–48**, 505–528.
- Stevens, B., W. R. Cotton, and G. Feingold, 1998: A critique of one and two-dimensional models of marine boundary layer clouds with detailed representations of droplet microphysics. *Atmos. Res.*, **47–48**, 529–553.
- Olsson, P. Q., J. Y. Harrington, G. Feingold, W. R. Cotton, and S. M. Kreidenweis, 1998: Exploratory cloud resolving simulations of boundary layer arctic stratus clouds. Part I: Warm season clouds. *Atmos. Res.*, **47–48**, 573–597.
- Feingold, G., S. Yang, R. M. Hardesty, and W. R. Cotton, 1998: Retrieving cloud condensation nucleus properties from Doppler cloud radar, microwave radiometer, and lidar. *J. Atmos. Ocean. Tech.*, **15**, 1189–1196.
- Stevens, B., W. R. Cotton, G. Feingold, and C.-H. Moeng, 1998: Large-eddy simulations of strongly precipitating, shallow, stratocumulus-topped boundary layers. *J. Atmos.*

- Sci.*, **55**, 3616–3638.
- Frisch, A. S., G. Feingold, C. W. Fairall, T. Uttal, and J. B. Snider, 1998: On cloud radar and microwave radiometer measurements of stratus cloud liquid water profiles. *J. Geophys. Res.*, **103**, 23,195–23,197.
- Feingold, G., S. M. Kreidenweis, and Y. Zhang, 1998: Stratocumulus processing of gases and cloud condensation nuclei: Part I: trajectory ensemble model. *J. Geophys. Res.*, **103**, 19,527–19,542.
- Feingold, G., W. R. Cotton, S. M. Kreidenweis, and J. T. Davis, 1999: Impact of giant cloud condensation nuclei on drizzle formation in marine stratocumulus: Implications for cloud radiative properties. *J. Atmos. Sci.*, **56**, 4100–4117.
- Zhang, Y., S. M. Kreidenweis, and G. Feingold, 1999: Stratocumulus processing of gases and cloud condensation nuclei: Part II: chemistry sensitivity analysis. *J. Geophys. Res.*, **104**, 16,601–16,080.
- Feingold, G. A. S. Frisch, B. Stevens, and W. R. Cotton, 1999: The stratocumulus-capped boundary layer as viewed by K_{α} -band radar, microwave radiometer and lidar. *J. Geophys. Res.*, **104**, 22,195 – 22,203.
- Wulfmeyer, V., and G. Feingold, 2000: On the relationship between relative humidity and particle backscattering coefficient in the marine boundary layer determined with differential absorption lidar. *J. Geophys. Res.*, **104**, 4729–4741.
- Harrington, J. Y., G. Feingold, and W. R. Cotton, 2000: Radiative impacts on the growth of a population of drops within simulated summertime Arctic stratus. *J. Atmos. Sci.*, **57**, 766–785.
- Jiang, H., G. Feingold, W. R. Cotton, and P. G. Duynkerke, 2001: Large-Eddy Simulations of Entrainment of Cloud Condensation Nuclei into the Arctic Boundary Layer: 18 May 1998 FIRE/SHEBA Case Study. *J. Geophys. Res.*, **106**, 15,113–15,122.
- Feingold, G., and S. M. Kreidenweis, 2000: Does heterogeneous processing of aerosol increase the number of cloud droplets? *J. Geophys. Res.* **105**, 24,351–24,361.
- Walko, R.L., W.R. Cotton, G. Feingold, B. Stevens, 2000: Efficient computation of vapor and heat diffusion between hydrometeors in a numerical model. *Atmos. Res.*, **53**, 171–183.
- Feingold, G., L. A. Remer, J. Ramaprasad, and Y. Kaufman, 2001: analysis of smoke impact on clouds in Brazilian biomass burning regions: An extension of Twomey’s approach. *J. Geophys. Res.* **106**, 22,907–22,922.
- Feingold, G., and P. Y. Chuang, 2002: Analysis of influence of film-forming compounds on droplet growth: Implications for cloud microphysical processes and climate. *J. Atmos. Sci.*, **59**, 2006–2018.
- Kim, C-H., S. M. Kreidenweis, G. Feingold, and G. J. Frost, 2001: Modeling cloud effects on hydrogen peroxide and methylhydroperoxide in the marine atmosphere. *J. Geophys. Res.*, **107**, 10.1029/2000JD000285.
- Frisch, A.S., M.D. Shupe, S.Y. Matrosov, I. Djalalova, G. Feingold, and M. Poellot,

- 2002: On the retrieval of effective radius with cloud radars. *J. Atmos. Ocean. Tech.*, **19**, 835–842.
- Feingold, G., and S. M. Kreidenweis, 2002: Cloud processing of aerosol as modeled by a large eddy simulation with coupled microphysics and aqueous chemistry. *J. Geophys. Res.*, **107**, D23, 4687, doi:10.1029/2002JD002054.
- Feingold, G., G. J. Frost, and A. R. Ravishankara, 2002: The role of NO₃ in sulfate formation in the wintertime northern latitudes. *J. Geophys. Res.*, **107**, D22, 4640, doi:10.1029/2002JD002288.
- Jiang, H., G. Feingold, and W. R. Cotton, 2002: A modeling study of entrainment of cloud condensation nuclei into the marine boundary layer during ASTEX. *J. Geophys. Res.*, **107**, D24, 4813, doi:10.1029/2001JD001502.
- Wang, S., Q. Wang, and G. Feingold, 2003: Turbulence, condensation and liquid water transport in numerically simulated nonprecipitating stratocumulus clouds. *J. Atmos. Sci.*, **60**, 262–278.
- Löhnert, U., G. Feingold, A. S. Frisch, T. Uttal, and M. D. Shupe, 2003: Analysis of two independent methods to derive liquid water profiles in spring and summer Arctic boundary layer clouds. *J. Geophys. Res.*, **108**, No. D7, 4219, doi:10.1029/2002JD002861.
- Kreidenweis, S. M., Walcek, C., C. H. Kim, G. Feingold, W. Gong, M. Z. Jacobson, X. Liu, J. Penner, A. Nenes, and J. H. Seinfeld, 2003: Modification of aerosol mass and size distribution due to aqueous-phase SO₂ oxidation in clouds: comparisons of several models. *J. Geophys. Res.*, **108**, No. D7, 4213, doi:10.1029/2002JD002697.
- Feingold, G., and B. Morley, 2003: Aerosol hygroscopic properties as measured by lidar and comparison with in-situ measurements. *J. Geophys. Res.*, **108**, No. D11, 4327, doi:10.1029/2002JD002842.
- Feingold, G., W. L. Eberhard, D. E. Veron, and M. Previdi, 2003: First measurements of the Twomey aerosol indirect effect using ground-based remote sensors. *Geophys. Res. Lett.*, **30**, No. 6, 1287, doi:10.1029/2002GL016633.
- Rosenfeld, D., and G. Feingold, 2003: Explanation of the discrepancies among satellite observations of the aerosol indirect effects. *Geophys. Res. Lett.*, **30**, No. 14, 1776, doi:10.1029/2003GL017684.
- Ervens, B., P. Herckes, G. Feingold, T. Lee, J. L. Collett, Jr. and S. M. Kreidenweis, 2003: On the drop-size dependence of organic acid and formaldehyde concentrations in fog. *J. Atmos. Chem.*, **46**, 239–269.
- Feingold, G., 2003: Modeling of the first indirect effect: Analysis of measurement requirements. *Geophys. Res. Lett.*, **30**, No. 19, 1997, doi:10.1029/2003GL017967.
- Ervens, B., G. Feingold, S. M. Kreidenweis, and G. J. Frost, 2004: Aqueous production of dicarboxylic acids. Part 1: Chemical pathways and organic mass production. *J. Geophys. Res.*, **109**, D15205, doi:10.1029/2003004387.
- Ervens, B., G. Feingold, S. L. Clegg, and S. M. Kreidenweis, 2004: Aqueous production of dicarboxylic acids. Part 2: Implications for cloud microphysics. *J. Geophys.*

- Res.*, **109**, D15206, doi:10.1029/2004JD004575.
- Xue, H., and G. Feingold, 2004: A modeling study of the effect of nitric acid on cloud properties. *J. Geophys. Res.*, **109**, D18204, doi:10.1029/2004JD004750.
- Yin, Y. K. S. Carslaw, and G. Feingold, 2005: Vertical transport and processing of aerosols in a mixed-phase convective cloud and the feedback on cloud development. *Q. J. R. Meteorol. Soc.*, **131**, no. 605, pp. 221–245.
- Feingold, G., H. Jiang, and J. Y. Harrington, 2005: On smoke suppression of clouds in Amazonia. *Geophys. Res. Lett.*, **32**, No. 2, L02804, 10.1029/2004GL021369.
- Feingold, G., R. Furrer, P. Pilewskie, L. A. Remer, Q. Min and H. Jonsson, 2006: Aerosol Indirect Effect Studies at Southern Great Plains during the May 2003 Intensive Operations Period. *J. Geophys. Res.*, **111**, D05S14, doi:10.1029/2004JD005648.
- Pahlow, M., G. Feingold, A. Jefferson, E. Andrews, J. A. Ogren, J. Wang, Y.-N. Lee, R. A. Ferrare, and D. D. Turner, 2006: Comparison between lidar and nephelometer measurements of aerosol hygroscopicity at the Southern Great Plains Atmospheric Radiation Measurement site. *J. Geophys. Res.*, **111**, D05S15, doi:10.1029/2004JD005646.
- Ervens, B., G. Feingold, and S. M. Kreidenweis, 2005: The influence of water-soluble organic carbon on cloud drop number concentration. *J. Geophys. Res.*, **110**, D18211, doi:10.1029/2004JD005634.
- Xue, H., and G. Feingold, 2006: Large eddy simulations of trade-wind cumuli: Investigation of aerosol indirect effects. *J. Atmos. Sci.*, **63**, 1605 – 1622.
- Jiang, H., and G. Feingold, 2006: Effect of aerosol on warm convective clouds: Aerosol-cloud-surface flux feedbacks in a new coupled large eddy model. *J. Geophys. Res.*, **111**, D01202, doi:10.1029/2005JD006138.
- Koehler, K. A., S. M. Kreidenweis, P.J. DeMott, A. J. Prenni, C. M. Carrico, B. Ervens, and G. Feingold, 2005 Water activity and activation diameters from hygroscopicity data. Part II: Application to organic species. *Atmos. Chem. Phys.*, **6**, 795-809.
- Kim, C. H., S. M. Kreidenweis, G. Feingold, K. Anlauf, and W. R. Leitch, 2005: Measurement and interpretation of cloud effects on the concentrations of hydrogen peroxide and organoperoxides over Ontario, Canada. *Atmos. Res.*, **81**, 141–149.
- Yu, H., Y. Kaufman, M. Chin, G. Feingold, L. A. Remer, T. L. Anderson, Y. Balkanski, N. Bellouin, O. Boucher, S. Christopher, P. DeCola, R. Kahn, D. Koch, N. Loeb, M. S. Reddy, M. Schultz, T. Takemura, M. Zhou, 2006: A review of measurement based assessment of aerosol direct radiative effect and forcing. *Atmos. Chem. Phys.*, **6**, 613-666.
- Sorooshian, A., V. Varutbangkul, F. J. Brechtel, B. Ervens, G. Feingold, R. Bahreini, S. Murphy, J. S. Holloway, E. L. Atlas, G. Buzorius, H. Jonsson, R. C. Flagan, J. H. Seinfeld., 2006: Oxalic acid in clear and cloudy atmospheres: analysis of data from ICARTT 2004., *J. Geophys. Res.*, **111**, D23S45, doi:10.1029/2005JD006880.
- Lee, Y.S., D. R. Collins, R. Li, K. P. Bowman, and G. Feingold, 2005: Expected impact

- of an aged biomass burning aerosol on cloud condensation nuclei and cloud droplet concentrations. *J. Geophys. Res.*, , 111, D22204, doi:10.1029/2005JD006464.
- Ferrare, R., G. Feingold, S. Ghan, J. Ogren, B. Schmid, S. E. Schwartz, and P. Sheridan, 2006: Preface to special section: Atmospheric Radiation Measurement Program May 2003 Intensive Operations Period examining aerosol properties and radiative influences. *J. Geophys. Res.*, **111**,doi:10.1029/2005JD006908.
- Pahlow, M., D. Müller, M. Tesche, H. Eichler, Ya-Fang Cheng, G. Feingold, and W. L. Eberhard, 2006: Retrieval of aerosol properties from combined multiwavelength lidar and sun photometer measurements: simulations. *Applied Optics*, **45**, 7429–7442.
- McFiggans, G., P. Artaxo, U. Baltensberger, H. Coe, M.C. Facchini, G. Feingold, S. Fuzzi, M. Gysel, A. Laaksonen, U. Lohmann, T. F. Mentel, D. M. Murphy, C. D. O'Dowd, J. R. Snider, E. Weingartner, 2006: The effect of physical and chemical aerosol properties on warm cloud droplet activation. *Atmos. Chem. Phys.*, **6**, 2593–2649.
- Jiang, H., H. Xue, A. Teller, G. Feingold, and Z. Levin, 2006: Aerosol effects on the lifetime of shallow cumulus. *Geophys. Res. Lett.*, **33**, L14806, doi:1029/2006GL026024.
- Ervens, B., M. Cubison, E. Andrews, G. Feingold, J. A. Ogren, J. L. Jimenez, P. DeCarlo, and A. Nenes, 2007: Prediction of CCN number concentration using measurements of aerosol size distributions and composition and light scattering enhancement due to humidity. *J. Geophys. Res.*, 112, D10S32, doi:10.1029/2006JD007426.
- Sorooshian, A., M. L. Lu, F. J. Brechtel, H. Jonsson, G. Feingold, R. C. Flagan, J. H. Seinfeld, 2007: On the Source of Organic Acid Aerosol Layers above Clouds. *Env. Sci. Tech.*, 41,4647–4654.
- Sorooshian, A., N. L. Ng, A. W. H. Chan, G. Feingold, R. C. Flagan, J. H. Seinfeld, 2007: 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.
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- Zuidema, P., H. Xue, and G. Feingold, 2008: Shortwave radiative impacts from aerosol effects on marine shallow cumuli. *J. Atmos. Sci.*, 65, 1979–1990.
- Altaratz, O., I. Koren, T. Reisin, A. Kostinski, G. Feingold, Z. Levin, and Y. Yin, 2007: Aerosols' influence on the interplay between condensation, evaporation and rain in warm cumulus cloud. *Atmos. Chem. Phys.*, 8, 15–24, 2008.
- McComiskey, A., and G. Feingold, 2008: Quantifying error in the radiative

- forcing of the first aerosol indirect effect. *Geophys. Res. Lett.*, **35**, L02810, doi:10.1029/2007GL032667.
- Jiang, H., G. Feingold, H. Jonsson, M.-L. Lu, P. Y. Chuang, R. C. Flagan, J. H. Seinfeld, 2008: Statistical comparison of properties of simulated and observed cumulus clouds in the vicinity of Houston during the Gulf of Mexico Atmospheric Composition and Climate Study (GoMACCS). *J. Geophys. Res.*, **113**, D13205, doi:10.1029/2007JD009304.
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- Cubison, M. J., B. Ervens, G. Feingold, K. S. Docherty, I. M. Ulbrich, L. Shields, K. Prather, S. Hering, and J. L. Jimenez, 2008: The influence of chemical composition and mixing state of Los Angeles urban aerosol on CCN number and cloud properties. *Atmos. Chem. Phys.*, **8**, 5649 - 5667.
- Hill, A., G. Feingold, and H. Jiang, 2009: The influence of entrainment and mixing assumption on aerosol-cloud interactions in marine stratocumulus. *J. Atmos. Sci.*, **66**, 1450 - 1464.
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