CalNex 2010 Data Analysis Workshop Agenda
May 16 – 19, 2011
Joe Serna Jr. Cal/EPA Headquarters Building
1001 I Street, Sacramento CA

Monday, May 16
Session Chair: Eileen McCauley
1:00 Welcome
1:10 Logistics

Session Chair: Chet Koblinsky
1:15 Introduction
1:20 Science Questions to Improve California’s Climate and Air Quality Programs
1:35 NOAA and CalNex: Goals and Contributions
1:50 Collaboration of the Broader Science Community in CalNex
2:05 NOAA’s Contribution to Policy Relevant Information: CalNex
2:20 Discussion and Questions
2:30 Science Questions Related to Emissions & Inventories
2:40 Volatile organic compounds (VOCs) in the greater Los Angeles Basin: Compilation of multi-platform measurements in order to characterize the chemical evolution of air masses and their relative contribution to OH reactivity and potential SOA formation
3:00 Airborne measurements of volatile organic compounds in the Los Angeles Basin and the Central Valley, California
3:20 Measurements of pollutants and their spatial distributions over the Los Angeles Basin
3:40 Airborne observations of the weekend ozone effect and precursor emissions in the California Los Angeles Air Basin during CalNex
4:00 BREAK (20 minutes)

4:20 Emission and trends of VOC precursors in Los Angeles megacity
4:40 Traffic related emissions of radical precursors HCHO and HONO in Los Angeles during CalNex
5:00 Diurnal variations of CO₂ emissions during CalNex-LA: magnitude and sources
5:20 Urban CO₂ Emissions from the Los Angeles Basin: Assessing chemistry and dynamics using the suite of tracers measured aboard the CalNex WP-3 Aircraft

Tuesday Morning, May 17
Session Chair: Joost DeGouw
8:30 Methane Emissions from Point and Area Sources in California
8:50 Constraints on Methane Emissions from California’s Central Valley using CalNex WP-3 Aircraft Data and a Lagrangian Transport Model
9:10 Remote Sensing of Spatial Distributions of Greenhouse Gases in the Los Angeles Basin
9:30 Nitrous Oxide Emissions from California Based on Airborne Measurements During CalNex
9:50 A Tale of Two Extremes: Contrasting NH₃ at the Bakersfield and Pasadena Supersites
10:10 Airborne Measurements of Ammonia and Implications for Ammonium Nitrate Formation in the Central Valley and the South Coast Air Basin of California
10:30 BREAK (20 minutes)
10:50 Column observations of NOx and OVOC over California during the CalNex and CARES

Poster Previews - 2 minutes each
11:10 P1 In-situ measurements of a broad range of volatile organic compounds at the CalNex-Bakersfield supersite
11:12 P2 Measurement of Greenhouse Gases (GHGs) and source apportionment in Bakersfield, CA during CalNex 2010
11:14 P3 Atmospheric Ammonia Measurements in the Northern San Joaquin Valley Using Cavity Ring-Down Spectroscopy

Poster Presenters

Gentner, Drew
Guha, Abhinav
Pendergrass, Will
Tuesday Afternoon, May 17
Session Chair: Jochen Stutz

1:00 Science Questions Related to Atmospheric Chemistry and transport
Jochen Stutz

1:10 Aircraft measurements of NO$_3$ and N$_2$O$_5$ over Los Angeles during CalNex 2010
Brown, Steven

1:30 Nocturnal Vertical Gradients of O$_3$, NO$_x$, NO$_y$, HONO, HCHO, and SO$_2$ in Los Angeles, CA, during CalNex 2010
Tsai, C.

1:50 Glyoxal and Formaldehyde Measurements in the Southern San Joaquin Valley: Comparison with CMAQ Model Results and Analysis of Formaldehyde Sources
Keutsch, Frank N.

2:10 Nocturnal Chemistry Observed from the R/V Atlantis during CalNex
Wagner, Nicholas

2:30 Airborne Measurements of Nitril Chloride and Implications for Chlorine Activation in the South Coast Air Basin of California
Roberts, James M.

2:50 BREAK (40 minutes)

3:30 Sensitivity of ozone production to organic nitrate formation in the urban outflows of Sacramento and Los Angeles
Browne, E. C.

3:50 Contribution of nitrous acid to the urban Los Angeles radical budget
Young, C. J.

4:10 WRF/Chem Simulation of Ozone and NO$_x$ Precursors in the LA Basin during the 2010 CalNex Campaign
Chen, Dan

4:30 Photochemical Air Quality Modeling in California during the CalNex Period
Kaduwela, Ajith

4:50 Chemical and Aerosol Data Assimilation and Forecasting Experiments during CalNex
Pierce, R. Bradley

Poster Previews - 2 minutes each

5:10 P10 VH-TDMA measurements on board the R/V Atlantis during the CalNex 2010 Campaign
Hakala, Jani

5:12 P11 Measurements of OH, HO$_2$ and total OH reactivity during CalNex LA 2010
Griffith, Stephen

5:14 P12 In-situ, Quantitative Speciation of Aerosols in Pasadena, CA during CalNex 2010
Issacman, Gabriel

5:16 P13 Monoterpene oxidation products in aerosols collected in Los Angeles during the 2010 CalNex campaign
Kristensen, Kasper

5:18 P40 The Use of Photochemical Ages from Different Hydrocarbon Ratios To Describe Emissions and Chemistry of Volatile Organic Compounds in the Los Angeles Basin
de Gouw, Joost

5:20 P41 Molecular Characterization of Organic Compounds in Atmospheric Aerosols
Laskin or Nizkorodov

5:22 P14 Off-line UPLC/ESI-HR-Q-TOFMS Analyses of SOA Heterogeneous-Reaction Products in PM$_{2.5}$ Collected from the CalNex-Pasadena Ground Site
Lin, Y.-H.

5:24 P15 Quantification and analysis of nitryl chloride (ClNO$_2$) during CalNex-LA 2010
Mielke, Levi H.

5:26 P16 Measurements of soluble composition of fine atmospheric particulate matter (PM$_{2.5}$) and associated precursor gases in Bakersfield, CA during CalNex 2010
Murphy, J. G.

5:28 P17 Gas-particle partitioning of atmospheric ammonia at the CalNex-LA ground site
Murphy, J. G.

5:30 P18 Southern San Joaquin Valley ozone production: Relationships with NO$_x$ abundance, alkyl nitrate formation, VOC reactivity, and rates of primary HO$_x$ production
Pusede, Sally E.

5:32 P19 On the relationship between nitryl chloride and molecular chlorine and their relative importance as Cl-atom sources from simultaneous ship-borne observations in coastal California
Riedel, Theran P.

5:34 P43 Estimating Fossil Fuel CO$_2$, CH$_4$, and N2O Emissions Using Tower Measurements in California.
Fischer, Mark

5:36 P44 Urban Energy Balance Measurements During CalNex 2010
Pendergrass, Will
Wednesday morning, May 18
Session Chairs: Jochen Stutz & Jose Jimenez

8:30  Ozone transport from the free troposphere into the Los Angeles basin  Neuman, J. A.
8:50  Airborne lidar measurements of horizontal and vertical ozone transport in southern California during CalNex 2010  Senff, C. J.
9:10  Stratosphere-troposphere transport in southern California during CalNex or LRT of Asian pollutants in Central California during CalNex  Langford, A
9:30  Discussion of insights, planned papers and potential collaborations related to atm chemistry and transport  Jochen Stutz
9:50  Science Questions Related to Aerosols  Jose Jimenez
10:00 Characterization of black carbon containing aerosol particles measured by the soot particle aerosol mass spectrometer (SP-AMS) on board the R/V Atlantis during the 2010 CalNex study.  Massoli, Paola
10:20  BREAK (20 minutes)
10:40  Absorption by ambient aerosols during CalNex  Cappa, Chris
11:00  Measurements of light absorption spectra of fine particle aqueous extracts during CalNex  Zhang, Xiaolu
11:20  Black Carbon and Coating Measurements at Pasadena  Allan, James
11:40  LUNCH

Wednesday afternoon, May 18
Session Chair: Jose Jimenez

1:00  The study of cloud and aerosol properties during CalNex using spectral methods  McBride, Patrick J.
1:20  Regional Assessment of Organic PM during CalNex, Cal-Mex, and CARES  Russell, Lynn M.
1:40  Chemical and Physical Properties of Aerosols Measured Onboard the R/V Atlantis during CalNEX  Bates, Tim
2:00  Optical and Cloud Nucleating Properties of Aerosols Measured during CalNex: Dependence on Sources and Aging  Quinn, Trish
2:20  Molecular Characterization of Organic Aerosols from the Los Angeles Ground Site during the CalNex 2010 Campaign Using High-Resolution Mass Spectrometry  Laskin, Alex
2:40  Aerosol Composition in Los Angeles During the 2010 CalNex Campaign Studied by High Resolution Aerosol Mass Spectrometry  Hayes, Patrick
3:00  Results from thermal-desorption proton-transfer-reaction mass-spectrometry (TD-PTR-MS) measurements at the Caltech ground site in May/June 2010  Holzinger, Rupert
3:20  BREAK (20 minutes)
3:40  Aircraft Aerosol Mass Spectrometer Measurements over the Los Angeles Basin during CalNex  Craven, Jill

Poster Previews - 2 minutes each

<table>
<thead>
<tr>
<th>Time</th>
<th>Poster</th>
<th>Title</th>
<th>Authors</th>
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<tbody>
<tr>
<td>4:00</td>
<td>P20</td>
<td>Regional CO2 simulation in the Los Angeles Basin with WRF-VPRM mode</td>
<td>Park, Changhyoun</td>
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<tr>
<td>4:02</td>
<td>P21</td>
<td>Los Angeles and Bakersfield HCl During CalNex: Acid Displacement, Reactive Cl Reservoir and Partitioning</td>
<td>VanderBoer, T.C.</td>
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<td>4:04</td>
<td>P22</td>
<td>Ozone in the Lower Free Troposphere and its Impact on Surface Levels in the Northern Sacramento Valley</td>
<td>Faloona, Ian</td>
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<td>4:06</td>
<td>P23</td>
<td>Black Carbon Measurements over the Los Angeles Basin during CalNex</td>
<td>Metcalf, Ian</td>
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<td>4:08</td>
<td>P24</td>
<td>Understanding the aerosol-cloud droplet link in California: A perspective derived from CalNex data</td>
<td>Nenes, A</td>
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<tr>
<td>4:10</td>
<td>P25</td>
<td>High time-resolution elemental composition of particulate matter in Pasadena</td>
<td>Prévôt, André S.H.</td>
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<tr>
<td>4:12</td>
<td>P26</td>
<td>On the Nature of Water-Soluble Organic Aerosols in the Southern California Region</td>
<td>Sorooshian, Armin</td>
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<td>4:14</td>
<td>P27</td>
<td>Contribution of glyoxal to the secondary organic aerosol budget in Los Angeles</td>
<td>Washenfelder, R. A.</td>
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<td>4:16</td>
<td>P28</td>
<td>Secondary aerosol formation and oxidation during CalNex-LA: Real-time measurements from a photooxidation flow reactor using high-resolution aerosol mass spectrometry</td>
<td>Ortega, Amber</td>
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<td>4:18</td>
<td>P29</td>
<td>Impact of aerosols on photolysis frequencies</td>
<td>Grossberg, Nicole</td>
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<td>4:20</td>
<td>P30</td>
<td>Isoprene- and Monoterpene-Derived Organosulfates in PM$_{2.5}$ During the CALNEX Campaign in Bakersfield, CA</td>
<td>Rubitschun, Caitlin L.</td>
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<td>4:22</td>
<td>P31</td>
<td>Molecular-level Analysis of Size Resolved Secondary Organic Aerosol (SOA) Samples from CALNEX Bakersfield Using High Resolution Mass Spectrometry.</td>
<td>Sellon, R.</td>
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<td>4:24</td>
<td>P32</td>
<td>Major components of summertime atmospheric organic aerosols in Bakersfield, CA during CalNex</td>
<td>Zhao, Yunliang</td>
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<td>4:26</td>
<td>P33</td>
<td>TEM study of CalNex aerosol particles</td>
<td>Adachi, Kouji</td>
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<td>4:28</td>
<td>P34</td>
<td>Polarimetric remote sensing of clouds and aerosols during CALNEX 2010</td>
<td>Cairns, Brian</td>
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<td>4:30</td>
<td>P35</td>
<td>Aerosol extinction profiles and columns distribution of NO2 obtained in the CALNEX field Campaign by means of the CU-MAXDOAS instrument</td>
<td>Ortega, Ivan</td>
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<tr>
<td>4:32</td>
<td>P36</td>
<td>Investigating the partitioning of organic acids in LA During the 2010 CalNex Campaign</td>
<td>Liu, Jiumeng</td>
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<td>4:34</td>
<td>P37</td>
<td>LED-CE-DOAS and MAX-DOAS measurements of glyoxal and NO2 at Milliken Library during CalNex</td>
<td>Thalman, Ryan</td>
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<td>4:36</td>
<td>P38</td>
<td>Heterogeneous ice nucleation on organic containing particles collected during CalNex campaign</td>
<td>Wang, Bingbing</td>
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<td>4:38</td>
<td>P39</td>
<td>Aerosol Composition in Los Angeles During the 2010 CalNex Campaign Studied by High Resolution Aerosol Mass Spectrometry</td>
<td>Hayes, Patrick</td>
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<td>4:40</td>
<td>P42</td>
<td>Long Range Transport of Asian pollutants in Central California during CalNex or Stratosphere-troposphere transport in SoCal</td>
<td>Langford, Andy</td>
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<td>4:42</td>
<td>P45</td>
<td>Airborne High Spectral Resolution Lidar Aerosol Measurements during CalNex and CARES</td>
<td>Ferrare, Richard</td>
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<td>4:44</td>
<td>P46</td>
<td>A Summary of the Optical Properties of Aerosols Observed at the Pasadena CALNEX Site</td>
<td>Thompson, Jon</td>
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<td>4:46</td>
<td>P47</td>
<td>Organic compound analysis from CalNex-LA PM filter samples</td>
<td>van Drooge, Barend</td>
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**Thursday, May 19**

**Session Chair: Allen Goldstein**

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<tr>
<td>8:30 – 10:30</td>
<td>Poster Session</td>
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<tr>
<td>10:30</td>
<td>Temporal variations of aerosol components in Tijuana, Mexico, during the Cal-Mex campaign</td>
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<td>10:50</td>
<td>Source Signatures of Organic Compounds and Particle Growth in Bakersfield, CA</td>
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<td>11:10</td>
<td>Secondary Organic Aerosol Contributions during CALNEX, Bakersfield</td>
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<td>11:30</td>
<td>Ambient aerosol measurement during CalNex2010 using a newly developed combined Thermal desorption Aerosol GC (TAG) and Aerodyne Aerosol Mass Spectrometer (AMS) instrument: TAG-AMS</td>
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**11:50 LUNCH**

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<tr>
<td>1:00</td>
<td>Insights from the CARES Campaign in Northern California – Biogenic SOA formation and roles in New Particle Growth</td>
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<td>1:20</td>
<td>Characterization of Organic Aerosol Formation and Processing in California from Airborne Measurements</td>
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<td>1:40</td>
<td>Contrasting SOA formation mechanisms observed at two urban sites</td>
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<td>2:00</td>
<td>Diurnal cycle of fossil and non-fossil total carbon using 14C analyses during CalNex</td>
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<td>2:20</td>
<td>Discussion of insights, planned papers and potential collaborations related to aerosols</td>
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<td>2:40</td>
<td>Policy Relevant Summary Document</td>
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<td>2:50</td>
<td>Future Activities</td>
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3:00 End