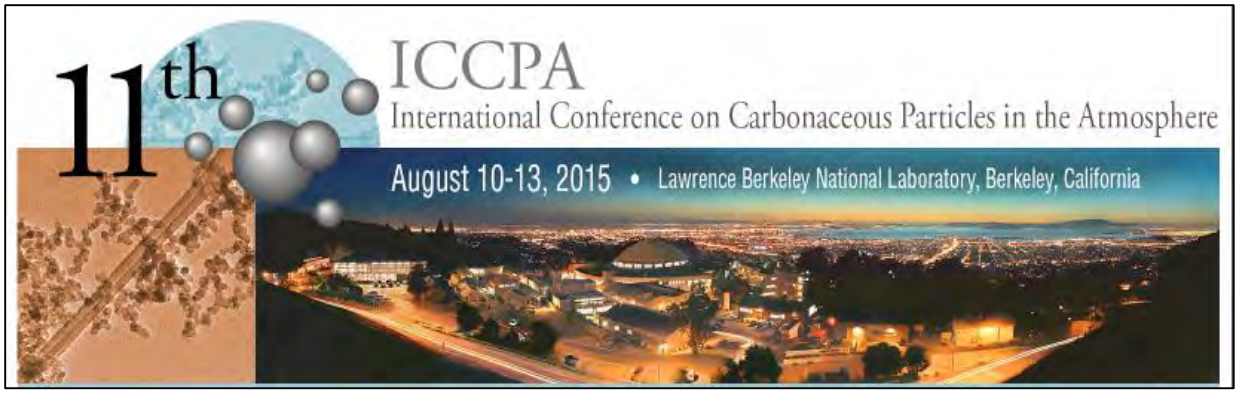


11th International Conference on Carbonaceous Particles in the Atmosphere

10-13 August 2015

Lawrence Berkeley National Laboratory

Berkeley, California

Special thanks to our sponsors!

Aerosol

MAGEE SCIENTIFIC

AethLabs

California Environmental Protection Agency
Air Resources Board

DROPLET MEASUREMENT TECHNOLOGIES

Sunset Laboratory Inc.

11th International Conference on Carbonaceous Particles in the Atmosphere

10-13 August 2015

Lawrence Berkeley National Laboratory, Berkeley, California

Honorary Chairs

T. Novakov (in memoriam)
H. Puxbaum, Vienna

Conference Chairs

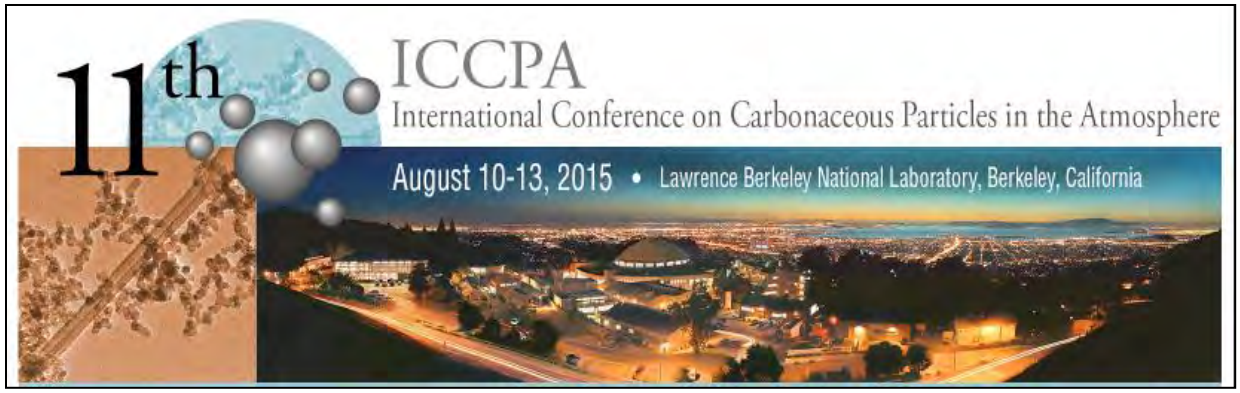
T. Kirchstetter, Berkeley
R. Hitzenberger, Vienna

Berkeley Organizing Committee

M. Canawati
T. Kirchstetter
C. Preble
S. Jarvis (website)
J. Stark (registration)

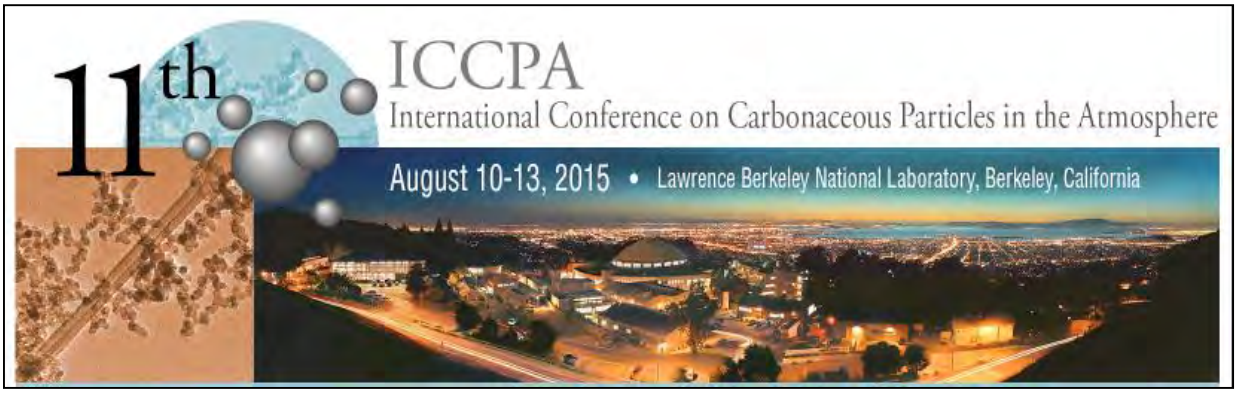
Scientific Committee

M.O. Andreae, Mainz
T. Bond, Urbana-Champaign
C. Cappa, Davis
J. Chow, Reno
M. Claeys, Antwerp
A. Gelencsér, Veszprem
A. Kasper-Giebl, Vienna
A. Goldstein, Berkeley
H. Grothe, Vienna
T. Kuhlbusch, Duisburg
L. Liu, Urbana-Champaigne
W. Maenhaut, Ghent
O. Mayol-Bracero, Rio Piedras
H. Moosmüller, Reno
A. Petzold, Jülich
C. Pio, Aveiro
A. Sedlacek, New York
J. Zhen Yu, Hong Kong



11th Conference Citizenship of 125 Participants (as of 11-Aug 2015)

Country	%	No.	Country	%	No.
United States	47%	59	Iran	2%	2
Germany	8%	10	Portugal	2%	2
China	4%	5	Bangladesh	1%	1
France	3%	4	Chile	1%	1
India	3%	4	Egypt	1%	1
United Kingdom	3%	4	Greece	1%	1
Austria	2%	3	Hungary	1%	1
Belgium	2%	3	Iraq	1%	1
Japan	2%	3	Italy	1%	1
Korea	2%	3	Poland	1%	1
Slovenia	2%	3	Romania	1%	1
Canada	2%	2	Spain	1%	1
Czech Republic	2%	2	Sri Lanka	1%	1
Finland	2%	2	Taiwan	1%	1
Hong Kong	2%	2			



Monday 10-Aug 2015

Registration, Welcome Reception, and Sponsor Exhibit

17:00 – 20:00 Registration and welcome reception at LBNL Building 54 Cafeteria Patio. Food and refreshments will be provided. Transportation to/from Hotel Shattuck is provided.

20:00 End of day

16:45 – 20:15 Roundtrip shuttle service between Hotel Shattuck and LBNL Building 54 Cafeteria

Tuesday 11-Aug 2015

07:45 – 09:45 Shuttle service from Hotel Shattuck to LBNL Building 50 Auditorium

08:15 – 09:00 Breakfast and on-site registration. If you're presenting this day, upload your presentation at the podium.

09:00 – 09:15 Welcome remarks – Tom Kirchstetter

Session 1: Instrumentation/Analytical Methods

Chairs: Tom Kirchstetter & Regina Hitzenberger

09:15 Griša Močnik – Interpretation of the loading effect in absorption filter photometers – dual spot aethalometer measurements

09:35 Judith C. Chow – Adapting the IMPROVE_A protocol for multiwavelength elemental and organic carbon measurements

09:55 Dario Massabò – The effect of brown carbon on thermal-optical analysis: a correction based on optical multi-wavelength analysis

10:15 John G. Watson – Simultaneous measurements of carbon, nitrogen, sulfur, oxygen, and hydrogen with thermal/optical analysis

10:35 *Break (20 min)*

10:55 Andrew Freedman – Measuring absorption of primary emissions by difference using a single scattering albedo monitor

11:15 Amara Holder – Black carbon instrument intercomparison by source type

Session 2: Microanalytical Techniques

Chairs: Lara Gundel & Tom Kirchstetter

11:35 Andrew R. Metcalf – Microfluidic measurements of atmospheric aerosol mimic mixing states

11:55 Mary K. Gilles – Chemical imaging of atmospheric particles

12:15 – 13:30 Lunch (75 min)

Session 3: Source Characterization

Chairs: Jian Zhen Yu & Brian McDonald

13:30 Chelsea V. Preble – Effects of after-treatment control technologies on heavy-duty diesel truck emissions

13:50 Diep Vu – Evaluating the hygroscopic properties of vehicle emissions over transient drive cycles

14:10 Daniel Ferry – First results of the "MERMOSE" campaign: influence of aircraft engine thrust on physical and chemical properties of soot particles. A study from the macroscale down to the atomic scale by HRTEM, XPS and NEXAFS

14:30 Ricardo L. Carvalho – Particulate emissions from residential wood combustion: improving estimations in Denmark and Portugal

14:50 *Break (20 min)*

Session 4: Secondary Organic Aerosol Formation (1)

Chairs: Allen Goldstein & Jian Zhen Yu

15:10 Hilkka Timonen – High secondary organic aerosol emissions observed for the gasoline vehicles

15:30 Greg T. Drozd – Using detailed chemical composition of surfaced oil to inform history and predict aerosol formation: insights on subsurface oil transport and SOA yields from intermediate volatility organic compounds

15:50 Arian Saffari – Nighttime secondary organic aerosol formation in Los Angeles: oxidative potential and physicochemical properties

16:10 End of day

16:10 – 18:10 Shuttle service from LBNL Building 50 Auditorium to Hotel Shattuck

Dinner on your own. There are many good restaurants to choose from in downtown Berkeley within walking distance of the Hotel Shattuck.

Wednesday 12-Aug 2015

07:45 – 09:45 Shuttle service from Hotel Shattuck to LBNL Building 50 Auditorium

08:15 – 09:00 Breakfast and on-site registration. If you're presenting this day, upload your presentation at the podium.

09:00 – 09:15 In Memoriam: Tica Novakov

Session 5: Aerosol Optical Properties and Brown Carbon

Chairs: Hans Moosmuller & Hinrich Grothe

09:15 Rajan K. Chakrabarty – The different shades of atmospheric carbonaceous aerosols and their optical properties

09:35 András Gelencsér – Atmospheric tar balls – the dark side of brown carbon

09:55 Arthur J. Sedlacek – Biomass burning aerosol optical properties in the near field

10:15 Apoorva Pandey – Biomass cookstoves in India: emissions and optical properties of carbonaceous aerosols

10:35 Gregory L. Schuster – Remote sensing of soot carbon without using the AAE

10:55 *Break (20 min)*

Session 6: Contemporary and Historical Concentration Trends

Chairs: Hans Moosmuller & Arthur Sedlacek

11:15 Nathan J. Chellman – Evaluating and interpreting a new method for measuring BC in lake sediment cores using paired ice core and sediment core records from the Northern Hemisphere

11:35 Joseph R. McConnell – A 1300 year record of total organic carbon, black carbon, and other burning tracers from a northeast Greenland ice core

11:55 Brian C. McDonald – Long-term trends in California mobile source emissions and ambient concentrations of black carbon and organic aerosol

12:15 Liang Liu – Assessing air quality and climate impacts of future land freight choice in the U.S.

12:35 – 13:50 Lunch (75 min)

Session 7: Health Effects

Chairs: Mike Hays & Amara Holder

13:50 Michael D. Hays – A glimpse at the interface between carbon particle chemistry and toxicology

14:10 Jian Zhen Yu – Reactive oxygen species (ROS) production under simulated physiological conditions by quinones and humic-like substances in atmospheric aerosols: enhancement effects by N-containing bases

14:30 Arian Saffari – Impact of photochemical aging on the primary and secondary organic sources associated with the oxidative potential of ultrafine particles

14:50 Chris Ruehl – Toxicological responses to particulate matter emitted from eight different light-duty vehicle engine-fuel combinations

15:10 *Break (20 min)*

Session 8: Secondary Organic Aerosol Formation (2)

Chairs: Allen Goldstein & Magda Claeys

15:30 Yuzo Miyazaki – Impact of nitrogen fertilization on the formation of biogenic organic aerosol in a cool-temperate forest

15:50 Lindsay D. Yee – Observational constraints on terpene oxidation during the GoAmazon 2014/5 field campaign using speciated measurements from SV-Tag

16:10 Hinrich Grothe – Model SOA derived from catechol and guaiacol and its halogenation processes

16:30 *Break; Hang posters in LBNL Building 54 Cafeteria (30 min)*

POSTER SESSION

17:00 – 20:00 Poster session reception in LBNL Building 54 Cafeteria

20:00 End of day

18:30 – 20:30 Shuttle service from LBNL Building 54 Cafeteria to Hotel Shattuck

Thursday 13-Aug 2015

07:45 – 09:45 Shuttle service from Hotel Shattuck to LBNL Building 50 Auditorium

08:15 – 09:00 Breakfast. If you're presenting this day, upload your presentation at the podium.

Session 9: Aging and Transformation (1)

Chairs: Willy Maenhaut & Casimiro Pio

09:00 Iulia Gensch – Chemical stability of levoglucosan in laboratory and ambient aerosol studies: an isotopic perspective

09:20 Magda Claeys – Profiles of biomass burning markers in Amazonian PM_{10} aerosols from Porto Velho, Brazil

09:40 Nicole K. Richards-Henderson – A large enhancement in the heterogeneous oxidation rate of organic aerosols by hydroxyl radicals in polluted regions

10:00 Trevor Krasowsky – Ambient measurements on the impact of aging on physical and optical properties of black carbon particles

10:20 *Break (20 min)*

Session 10: Bioaerosols

Chairs: Pearl Nathan & Hinrich Grothe

10:40 Elizabeth A. Stone – Blame it on the rain: local and meteorological influences on bioaerosols in the Midwestern United States

11:00 Roland Sarda-Estève – One year of bioaerosols measurements with a wideband integrated bioaerosol sensor (WIBS-4A/WIBS-3M) at CEA atmospheric super site, France

11:20 Laura Felgitsch – Cellulose and their characteristic ice nucleation activity

11:40 – 13:10 Lunch (90 min)

Session 11: Source Apportionment

Chairs: Willy Maenhaut & Jiachen Zhang

13:10 Patrick Schlag – Aerosol source apportionment from long term measurements at the CESAR tower at Cabauw, NL

13:30 Magdalena Kistler – Source apportionment of winter carbonaceous matter in Central Europe – comparison of three methods

13:50 Soenke Szidat – The benefit of the combination of ^{14}C and AMS analysis for source apportionment of carbonaceous aerosols

14:10 X. H. Hilda Huang – Investigating the secondary organic aerosols from biomass burning emission sources

14:30 *Break (20 min)*

Session 12: Aging and Transformation (2)

Chairs: Magda Claeys & Arthur Sedlacek

14:50 Joel C. Corbin – Black-carbon-surface oxidation and organic composition of beech-wood soot aerosols

15:10 Jorma Jokiniemi – Ageing of logwood combustion aerosols: an aerosol mass spectrometer study

15:30 Jiachen Zhang – Long-range transport of black carbon and its dependence on aging timescale

15:50 End of day

15:00 – 17:00 Shuttle service from LBNL Building 50 Auditorium to Hotel Shattuck

End of conference

POSTER SESSION

17:00-20:00, 12-Aug 2015

Aerosol Concentrations, Trends, and Transport		
No.	*Presenter*	*Title*
1	Hannes Schulz	Black carbon in the Arctic: an outline of our research activities
2	Ernesto Gramsch	Black carbon and $PM_{2.5}$ transport between Santiago de Chile and the Andes Mountains
3	Joyce E. Penner	Emission and transport of BC to the Russian Arctic from Siberian wildfires
4	Gerald Spindler	OC and EC analyzed in PM_{10}, $PM_{2.5}$ and PM_1 using thermographic and thermo-optical method at Melpitz site in Germany – a two year comparison
5	Magdalena Kistler	Temporal variations of carbonaceous aerosol concentrations and sources in the metropolitan area of Krakow, Poland
6	Denise C. Napolitano	Seasonal variations in the carbonaceous composition of size-resolved particles collected in Tempe, Arizona
7	Jeonghoon Lee	Seasonal variation of black carbon concentration at Cheonan in Korea
8	Casimiro Pio	Seasonal variability of carbonaceous matter in rain and aerosol co-collected at an urban site in Oporto, Portugal
9	Casimiro Pio	Carbonated and carbonaceous compounds in desert dust
10	Griša Močnik	A combined wildfire and Saharan dust event observed at a high-altitude observatory
11	Pearl M. Nathan	Characterization of fine bioaerosols in outdoor air – urban and rural airsheds
12	Gilmarie Santos-Figueroa	Fungal spore concentrations in the Caribbean during African dust incursions
13	Willy Maenhaut	Contribution from selected organic species to $PM_{2.5}$ aerosol during a summer field campaign at K-puszta, Hungary

Analytical Techniques and Methods

14	Herbert Schloesser	Use of a multi wavelength integrating Nephelometer to determine particle concentration and size
15	Margit Hildebrandt	Towards a national standard for mass concentration and number concentration of soot particles in Germany
16	Amewu A. Mensah	Inconsistencies in the detection sensitivity of the SP-AMS
17	Jeonghoon Lee	An instrument for measuring aerosol light absorption using photothermal interferometry
18	Julien Caubel	A new sensor for economical measurement of black carbon
19	Ken Stroud	A new method for continuous black carbon measurement
20	Longwen Gong	Measurement of black carbon emissions from motor vehicles – an ARB effort
21	Payam Pakbin	Elemental carbon model performance evaluation with optical and thermal-optical black carbon measurements in the South Coast Air Basin
22	Mohammed Kamruzzaman	Prediction of organic and elemental carbon in aerosol using FT-IR spectroscopy: case studies from the CSN and IMPROVE networks
23	L.-W. Antony Chen	Black carbon in dust and sediment particles: quantification from filter-based spectral absorption measurement
24	Warren H. White	Light absorption by aerosol deposits on PTFE filters: a decade of backscatter-corrected transmittance measurements by the IMPROVE network
25	Pavlos Panteliadis	Comparison of common filter media and thermal protocols used in EC-OC analysis
26	Tristan H. Harder	Atmospheric particles: correlating viscosity to chemical composition and humidity
27	Roland Sarda-Estève	A novel on line method to detect and quantify a set of anhydrosugars emitted in the atmosphere
28	Jana Rousová	Method development for determination of trace concentrations of carboxylic acids in wood smoke particulate matter
29	Ibrahim Al-Naiema	Method development: quantification of potential anthropogenic SOA tracers in ambient aerosol

30	Laura Felgitsch	Molecular surface chemistry on birch pollen
31	Ivan Kourtchev	Effects of biogenic-anthropogenic interactions on the molecular composition of organic aerosols from Amazonian rainforest (Brazil): an ultra-high resolution mass spectrometry study

Source Characterization

32	François-Xavier Ouf	Water uptake by soot emitted during industrial fires: experimental results and application of a coupled mutli-molecular adsorption/capillary condensation model
33	François-Xavier Ouf	The MERMOSE project: characterization of particulate emissions of a commercial aircraft engine: from combustion chamber to complete engine
34	Joel C. Corbin	Optical and morphological properties of ship-engine-emitted particles
35	Nicholas W. Tang	Measurement of black carbon emissions from in-use diesel-electric passenger locomotives in California
36	Naomi Zimmerman	Field measurement of gasoline direct injection particle number emission factors: spatial and temporal variability in particle size and concentration
37	Irena Ježek	Black carbon, particle number and NO_x emission factors of European in-use cars and goods vehicles measured with the on-road chasing method
38	Steven G. Brown	Black carbon trends at a landfill on the edge of Los Angeles: local and regional impacts
39	Tian Xia	Optical and physical characterization of coal fly ash and powdered activated carbon agglomerates
40	Jorma Jokiniemi	Online characterization of carbonaceous aerosol emissions from wood combustion and their atmospheric aging
41	Edward J. S. Mitchell	The impact of residential solid fuel properties on elemental and organic carbon emissions
42	Jin Dang	In-field measurement of combustion emission from solid fuel cookstoves

43	Hans Moosmüller	Optical properties of aerosol emissions from laboratory peat combustion

Aerosol Radiative Forcing and Climate

44	Hans Moosmüller	Aerosol optics, radiative forcing, and climate change
45	Hans Moosmüller	Coefficients of an analytical aerosol forcing equation determined with a Monte-Carlo radiation model

Aging and Transformation

46	Adam T. Ahern	Compositional changes of aging biomass burning emissions
47	Aaron A. Wiegel	A stochastic reaction diffusion kinetics model of the fragmentation and evaporation processes during heterogeneous oxidation of organic aerosol
48	James F. Davies	The role of water in controlling heterogeneous transformations of model oxygenated organic aerosol
49	Noopur Sharma	Condensation of secondary organic aerosol on soot seed: effect of relative humidity

Secondary Organic Aerosol

50	Marwa M. H. El-Sayed	Direct atmospheric evidence for the irreversible formation of aqueous secondary organic aerosol (aqSOA)
51	Anusha Priyadarshani Silva Hettiyadura	Quantitative and qualitative analysis of atmospheric organosulfates in Centreville, Alabama
52	Lijie Li	Instantaneous nitric oxide effect on secondary organic aerosol formation from m-xylene
53	Iulia Gensch	Experimental determination of the partitioning coefficient of β-pinene oxidation products in SOA

54	Magda Claeys	Characterization of secondary organic aerosol from green leaf aldehydes at the molecular level using mass spectrometric approaches

Health Effects

55	Masayuki Hasegawa	The relationship between occupational exposure to toner and health: findings of a cohort study from 2004 to 2013
56	Naomi J. Farren	Estimating exposure risks from carcinogenic nitrosamines in urban airborne particulate matter
57	Alena Kubatova	Chemical composition vs. toxicity of exhaustively extracted/fractionated diesel exhaust and wood smoke particulate matter
58	M. Esther Salinas	Assessing the cytotoxicity of black carbon as a model for ultrafine anthropogenic aerosol on human epithelial lung cells and murine macrophages
59	David H. Gonzalez	HULIS enhancement of OH formation by iron: Suwanee River Fulvic Acid-Fe(II) complexes in surrogate lung fluid

Historical Trends

60	Audrey M. Yau	Insights on the historical changes in black carbon over recent centuries from ice cores around and within the Arctic Polar Dome
61	Monica M. Arienzo	Antarctic black carbon tracks southern hemisphere climate throughout the Holocene