

# NOAA ESRL GLOBAL MONITORING ANNUAL CONFERENCE 2019

David Skaggs Research Center, Cafeteria  
325 Broadway, Boulder, Colorado 80305 USA

## Tuesday, May 21, 2019 Poster Session Agenda

(Only presenter's name is given; please refer to abstract for complete author listing.)

### 2019 GMAC Poster Session - Carbon Cycle Greenhouse Gases

- P-1 One-step Preparation of Gravimetric CO<sub>2</sub>-in-air Standards  
*Brad Hall (NOAA Earth System Research Laboratory, Global Monitoring Division (GMD))*
- P-2 Development of a New Flask-air Analysis System for the Global Greenhouse Gas Reference Network  
*Andrew Croftwell (Cooperative Institute for Research in Environmental Sciences (CIRES), University of Colorado)*
- P-3 Laboratory Identification and Testing of Sources of Bias in Carbon Dioxide Measurements of Atmospheric Air Collected and Stored in Glass Flasks  
*Don Neff (Cooperative Institute for Research in Environmental Sciences (CIRES), University of Colorado)*
- P-4 Tower *in situ* and Flask CO<sub>2</sub> Comparisons  
*Jonathan Kofler (Cooperative Institute for Research in Environmental Sciences (CIRES), University of Colorado)*
- P-5 High Humidity-induced Bias in Aircraft Network CO<sub>2</sub> Data Due to Water Condensation in Flasks  
*Kathryn McKain (Cooperative Institute for Research in Environmental Sciences (CIRES), University of Colorado)*
- P-6 Stable Carbon Isotope Analysis of Airborne Particulate Matter Using a Carbon Aerosol Analyzer and a Cavity Ringdown Spectrometer  
*Jonathan Bent (Cooperative Institute for Research in Environmental Sciences (CIRES), University of Colorado)*
- P-7 Standoff Measurements of CO<sub>2</sub> and H<sub>2</sub>O in Boulder using DIAL And IPDA Techniques  
*David Plusquellic (National Institute of Standards and Technology (NIST), Physical Measurement Laboratory, Quantum Electromagnetics Division)*
- P-8 Combining *in situ* and Satellite Observations of CO<sub>2</sub> in a Synthesis Inversion Framework for the U.S. Corn Belt  
*Bharat Rastogi (Cooperative Institute for Research in Environmental Sciences (CIRES), University of Colorado)*
- P-9 Partitioning Sources of CO<sub>2</sub> Atmospheric Signal in an Urban Site Using Carbon Monoxide as a Tracer  
*Wilson K. Gichuhi (Department of Chemistry, Tennessee Technological University)*
- P-10 Utilization of CH<sub>4</sub>:CO<sub>2</sub> and CO:CO<sub>2</sub> Correlations in Deciphering Temporal Changes in Urban CH<sub>4</sub> and CO Emissions  
*Lahiru P. Gamage (School of Environmental Studies, Tennessee Technological University)*
- P-11 Utilizing Public Transit for Urban Atmospheric Monitoring in Denver, CO  
*Isaac Vimont (National Research Council Post-Doc)*
- P-12 Creating an Emissions Map for Benzene Based on Fossil Fuel CO<sub>2</sub> emissions: "HESTIA Benzene"  
*Isaac Vimont (National Research Council Post-Doc)*
- P-13 Characterization and Quantification of Benzene Emissions from a New Multiwell Pad in a Colorado Front Range Residential Community  
*Ingrid Mielke-Maday (Cooperative Institute for Research in Environmental Sciences (CIRES), University of Colorado)*
- P-14 Measuring BTEX with a Commercial GC-PID System in an Oil and Gas Field  
*Monica Madronich (Cooperative Institute for Research in Environmental Sciences (CIRES), University of Colorado)*
- P-15 Open-path, Mid-infrared, Dual Comb Spectroscopy for Measurement of Ambient Ethane and Propane  
*Kevin Cossel (National Institute of Standards and Technology (NIST))*
- P-16 Continuous Methane Leak Detection in Oil and Gas: Recent Progress Toward a Regional Approach with Dual Frequency Comb Spectroscopy and Inversions  
*Caroline Alden (Cooperative Institute for Research in Environmental Sciences (CIRES), University of Colorado)*
- P-17 Measurement Capabilities of the CU SOF Instrument: Separation of Methane Emissions from Agricultural and Natural Gas Sources & Developing Techniques to Quantify Wildfire Emissions  
*Rainer Volkamer (Cooperative Institute for Research in Environmental Sciences (CIRES), University of Colorado)*
- P-18 Modeling Ground- and Aircraft-based Methane Monitoring Systems for Natural Gas Storage Facilities using LPDM-LES  
*Alex Rybchuk (University of Colorado, Department of Mechanical Engineering)*

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### 2019 GMAC Poster Session - Carbon Cycle Greenhouse Gases (continued)

- P-19 How Useful Are Carbon Stable Isotopes of Methane? Improvements in Analysis and Quality Controls at the INSTAAR Stable Isotope Lab  
*Sylvia Englund Michel (Institute of Arctic and Alpine Research (INSTAAR), University of Colorado)*
- P-20 Sensitivity of the Isotopic Composition of Atmospheric Methane to Oxidant Fields in the GEOS Model  
*Sarah Strobe (Universities Space Research Association (USRA))*
- P-21 Quantification of Transport Error Using a Coupled Meteorological and Constituent Transport Model Within an Ensemble Kalman Filter (EnKF)  
*Vikram Khade (University of Toronto, Department of Physics, Toronto, Canada)*

### 2019 GMAC Poster Session - Halocarbons and Other Ozone Depleting Substances

- P-22 Two Years of MAX-DOAS Data from Remote Tropical Marine Mountaintops  
*Theodore K. Koenig (Cooperative Institute for Research in Environmental Sciences (CIRES), University of Colorado)*
- P-23 Improving the Sampling and Analysis of Atmospheric Carbonyl Sulfide (OCS) in the GMD Networks  
*Benjamin R. Miller (Cooperative Institute for Research in Environmental Sciences (CIRES), University of Colorado)*
- P-24 SO<sub>2</sub> Profiles during the Kilauea Eruption  
*Paul J. Walter (St. Edward's University)*

### 2019 GMAC Poster Session - Ozone and Water Vapor

- P-25 Optimizing Umkehr Ozone Profile Retrievals during the Mt. Pinatubo Volcanic Eruption  
*Koji Miyagawa (Guest Scientist at NOAA Earth System Research Laboratory, Global Monitoring Division (GMD))*
- P-26 South American Dobson Intercomparison Campaign for RA-III  
*Glen McConville (Cooperative Institute for Research in Environmental Sciences (CIRES), University of Colorado)*
- P-27 New Volumetric Flow Rate Tests of Ozonesonde Pumps at Reduced Pressures  
*Bryan Johnson (NOAA Earth System Research Laboratory, Global Monitoring Division (GMD))*
- P-28 Ozonesonde Observations at South Pole Station During the 2018 Ozone Hole  
*Patrick Cullis (Cooperative Institute for Research in Environmental Sciences (CIRES), University of Colorado)*
- P-29 The Role of Convection in Tropical Ozone Variability Inferred from Profiles at NOAA's SHADOZ Stations (1998–2017)  
*Anne M. Thompson (NASA Goddard Space Flight Center (GSFC), Atmospheric Chemistry and Dynamics Laboratory)*
- P-30 Measured and Modeled Ozone Distributions over the Atlantic and Pacific Oceans from the ATom Mission  
*Eric Hintsa (Cooperative Institute for Research in Environmental Sciences (CIRES), University of Colorado)*
- P-31 Comparison of Vertical Distribution of Ozone Profiles between Ozonesondes and the GMI Merra II Model  
*Emrys Hall (Cooperative Institute for Research in Environmental Sciences (CIRES), University of Colorado)*
- P-32 Stratospheric Aerosol and Gas Experiment III on the International Space Station (SAGE III/ISS) Science Data Products: Preliminary Validation Results  
*Susan Kizer (Science Systems and Applications, Inc. (SSAI))*
- P-33 Seasonal Trends in Observed Surface Ozone Conditions in the Arctic  
*Audra McClure-Begley (Cooperative Institute for Research in Environmental Sciences (CIRES), University of Colorado)*

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### 2019 GMAC Poster Session - Surface Radiation, Clouds, and Aerosol Distributions

- P-34 Overview and Selected Results from the NOAA Federated Aerosol Network  
*Patrick Sheridan (NOAA Earth System Research Laboratory, Global Monitoring Division (GMD))*
- P-35 An Overview of the Effect of Water Uptake on Aerosol Particle Light Scattering: Observations, Evaluation of Proxies, and Comparison with Global Models  
*Elisabeth Andrews (Cooperative Institute for Research in Environmental Sciences (CIRES), University of Colorado)*
- P-36 Seasonal Dependence of Column-averaged and Near-surface Aerosol Optical Properties Measured at Appalachian State University (APP)  
*Taylor Foote (Appalachian State University, Department of Physics and Astronomy)*
- P-37 Variability of Aerosol Optical Properties at Mauna Loa and its Characteristics According to Source Regions  
*Jong-Uk Park (Seoul National University, South Korea)*
- P-38 Case Study of Air Quality during Winter Season over Northeastern Pakistan during 2007 to 2015  
*Muhammad Zeeshan Shahid (College of Earth & Environmental Sciences University of the Punjab, Lahore, Pakistan)*
- P-39 34-year Trends in Aerosol Chemistry in Relation to Aerosol Acidity at Alert, NU, Canada  
*Sangeeta Sharma (Environment and Climate Change Canada, Toronto, Canada)*
- P-40 Variation of Carbonaceous Aerosols on Foggy Days in and Around Special Episodic Events  
*Pallavi Saxena (University of Delhi, Hindu College, Department of Environmental Sciences, Delhi, India)*
- P-41 Two Centuries of Volcanic Aerosols Derived from Lunar Eclipse Records, 1805–2019  
*Richard A. Keen (University of Colorado, Emeritus, Department of Atmospheric and Oceanic Sciences)*
- P-42 Holographic Cloud Particle Imager (HCPI) for Unmanned Aircraft Systems (UASs)  
*Andrew M. Harrington (Radiation Monitoring Devices, Inc.)*
- P-43 The De-Icing Comparison Experiment (D-ICE): A Study of Broadband Radiometric Measurements Under Icing Conditions in the Arctic  
*Christopher J. Cox (Cooperative Institute for Research in Environmental Sciences (CIRES), University of Colorado)*
- P-44 The Need for a Surface Energy Budget Network and Increased Surface Radiation Measurements to Improve Weather and Climate Forecasting  
*John A. Augustine (NOAA Earth System Research Laboratory, Global Monitoring Division (GMD))*

### 2019 GMAC Poster Session - Interdisciplinary Connections and Partnerships

- P-45 Curating a Multiagency Set of Federal Climate Indicators  
*Laura Stevens (North Carolina State University (NCSU))*
- P-46 The New Barrow Atmospheric Baseline Observatory  
*Brian Vasel (NOAA Earth System Research Laboratory, Global Monitoring Division (GMD))*
- P-47 Opportunity to Plan and Develop a Comprehensive U.S. Arctic Research Infrastructure Network Hub at Oliktok Point, Alaska  
*Jasper Hardesty (Sandia National Laboratories)*
- P-48 Soil Respiration Response To *Adenostoma Sparsifolium* Microsites Among Seasons in Semiarid Shrubland  
*Jessica Montes (San Diego State University, Global Change Research Group)*
- P-49 The Acquisition of Fog in Montane California Chaparral: Ecosystem Inputs and Use by Plants  
*Brahma Gillespie (San Diego State University, Global Change Research Group)*
- P-50 A Bibliometric Analysis of GMD Publications, 2010–2018  
*Sue Visser (FedWriters)*

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