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**GORDON RESEARCH CONFERENCES** *frontiers of science*  
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**Nancy Ryan Gray, Ph.D.**  
Director

**2011 GORDON RESEARCH CONFERENCE  
on RADITION & CLIMATE**

**FINAL PROGRESS REPORT**  
DEPARTMENT OF ENERGY  
GRANT NO. DE-SC0005897

The Gordon Research Conference on RADITION & CLIMATE was held at Colby College, Waterville, Maine, July 10 – 15, 2011. The Conference was well-attended with 158 participants (attendees list attached). The attendees represented the spectrum of endeavor in this field coming from academia, industry, and government laboratories, both U.S. and foreign scientists, senior researchers, young investigators, and students. Of the 158 attendees, 75 voluntarily responded to a general inquiry regarding ethnicity which appears on our registration forms. Of the 75 respondents, 13% were Minorities – 1% Hispanic, 12% Asian and 0% African American. Approximately 29% of the participants at the 2011 meeting were women.

In designing the formal speakers program, emphasis was placed on current unpublished research and discussion of the future target areas in this field. There was a conscious effort to stimulate lively discussion about the key issues in the field today. Time for formal presentations was limited in the interest of group discussions. In order that more scientists could communicate their most recent results, poster presentation time was scheduled. Attached is a copy of the formal schedule and speaker program and the poster program. In addition to these formal interactions, "free time" was scheduled to allow informal discussions. Such discussions are fostering new collaborations and joint efforts in the field.

Thank you for your support of this Conference. As you know, in the interest of promoting the presentation of unpublished and frontier-breaking research, Gordon Research Conferences does not permit publication of meeting proceedings. If you wish any further details, please feel free to contact me. Thank you.

Sincerely,  
*Robert Wood, Conference Chairperson*  
UNIVERSITY OF WASHINGTON

## Radiation & Climate

Clouds, Aerosols, Precipitation and their Role in Climate and Climate Change

July 10-15, 2011

Colby College

Waterville, ME

Chairs:

Robert Wood & Alexander Marshak

Vice Chairs:

Sally A. McFarlane & Robert Pincus

### Related Meeting Information

The Radiation & Climate Gordon Research Conference was held in conjunction with the **Radiation & Climate Gordon-Kenan Research Seminar**. Please refer to the Radiation & Climate GKRS web page for more information.

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The 2011 Gordon Research Conference on Radiation and Climate will present cutting-edge research on outstanding issues in climate change, particularly those in which the interactions between clouds, aerosols, and precipitation play a major role. The Conference will feature a broad range of topics, including grand challenges in atmospheric radiation and climate, cloud and water vapor feedbacks, aerosol-cloud-precipitation-climate interactions across scales, new approaches for remote sensing and in-situ observations of clouds, aerosols and precipitation, and multi-scale modeling challenges.

The invited speakers will present the most important recent advances and future challenges in these areas. The Conference will bring together a collection of leading investigators who are at the forefront of their field, and will provide opportunities for scientists, especially junior scientists and graduate students, to present their work in poster format and exchange ideas with leaders in the field. The collegial atmosphere of this Conference, with programmed discussion sessions as well as opportunities for informal gatherings in the afternoons and evenings, provides an avenue for scientists from different disciplines to brainstorm and promotes cross-disciplinary collaborations in the various research areas represented.

Graduate students and early-career scientists will also have the opportunity to present their work at a special Gordon Research Seminar held immediately before the GRC.

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### Contributors



U.S. DEPARTMENT OF  
**ENERGY**



## SUNDAY

2:00 pm - 9:00 pm	Arrival and Check-in ( <a href="#">Office Closed 6:00 pm - 7:00 pm</a> )
6:00 pm	Dinner
7:30 pm - 7:40 pm	Welcome / Introductory Comments by GRC Site Staff
7:40 pm - 9:30 pm	<b>Grand Challenges in Radiation and Climate</b> Discussion Leader: <b>William Collins</b> (UC Berkeley) <b>V. Ramanathan</b> (Scripps Institution of Oceanography) "Why is there no evidence for the aerosol indirect effect in the Planetary Albedo?"
8:20 pm - 8:35 pm	Discussion
8:35 pm - 9:15 pm	<b>Stephen Klein</b> (Lawrence Livermore National Laboratory) "Identifying Robust Cloud Feedbacks in Observations and Models"
9:15 pm - 9:30 pm	Discussion

## MONDAY

7:30 am - 8:30 am	Breakfast
9:00 am - 12:30 pm	<b>Observational perspectives on cloud feedbacks with climate change and global circulations</b> Discussion Leader: <b>Chris Bretherton</b> (University of Washington) <b>Joel Norris</b> (Scripps Institution of Oceanography) "What can observed cloud variability tell us about cloud feedbacks and climate change?"
9:40 am - 10:00 am	Discussion
10:00 am - 10:30 am	Group Photo / Coffee Break
10:30 am - 11:10 am	<b>Yukari Takayabu</b> (University of Tokyo) "Effects of the large scale circulation on tropical cumulus convection"
11:10 am - 11:30 am	Discussion
11:30 am - 12:10 pm	<b>Ralf Bennartz</b> (University of Wisconsin) "A sharper view of fuzzy objects: Warm clouds and their role in the climate system as seen by satellite"

12:10 pm - 12:30 pm Discussion

12:30 pm Lunch

1:30 pm - 4:00 pm Free Time

4:00 pm - 6:00 pm Poster Session

6:00 pm Dinner

### Improving cloud feedbacks in climate models

Discussion Leader: **Yangang Liu** (Brookhaven National Laboratory)

7:30 pm - 8:10 pm **Brian Soden** (University of Miami)

"Cloud Feedback: The good, the bad, and what keeps us employed"

8:10 pm - 8:30 pm Discussion

8:30 pm - 9:10 pm **Minghua Zhang** (Stony Brook University)

"Key physical processes responsible for low cloud feedbacks in climate models"

9:10 pm - 9:30 pm Discussion

## TUESDAY

7:30 am - 8:30 am Breakfast

### Scanning remote sensing, clouds and aerosols

Discussion Leader: **Thomas Ackerman** (University of Washington)

9:00 am - 9:40 am **Pavlos Kollias** (McGill University)

"A fresh look of clouds using radars"

9:40 am - 10:00 am Discussion

10:00 am - 10:30 am Coffee Break

10:30 am - 11:10 am **David Turner** (National Severe Storms Laboratory)

"Using ground-based remote sensors to investigate Arctic clouds and processes"

11:10 am - 11:30 am Discussion

11:30 am - 12:10 pm **Igor Veselovski** (Physics Instrumentation Center, Moscow)

"Potential of multiwavelength lidars for study of aerosol-cloud interaction"

12:10 pm - 12:30 pm Discussion

12:30 pm Lunch

1:30 pm - 4:00 pm Free Time

4:00 pm - 6:00 pm Poster Session

6:00 pm Dinner

### Aerosol heating effects on clouds

Discussion Leader: **Joyce Penner** (University of Michigan)

7:30 pm - 8:10 pm **Surabi Menon** (Lawrence Berkeley National Laboratory)

"The contribution of aerosol heating rates to clouds and climate"

8:10 pm - 8:30 pm	Discussion
8:30 pm - 9:10 pm	<b>Eric Wilcox</b> (Desert Research Institute) "Aerosols near clouds: the response of clouds and convection to aerosol heating"
9:10 pm - 9:30 pm	Discussion

## WEDNESDAY

7:30 am - 8:30 am	Breakfast
9:00 am - 12:30 pm	<b>Aerosol-cloud-precipitation interactions</b> Discussion Leader: <b>Daniel Rosenfeld</b> (Hebrew University)
9:00 am - 9:40 am	<b>Johannes Quaas</b> (University of Leipzig) "Using satellite data to understand aerosol-cloud relations in climate models and vice versa"
9:40 am - 10:00 am	Discussion
10:00 am - 10:30 am	Coffee Break
10:30 am - 11:10 am	<b>Graham Feingold</b> (NOAA Earth System Research Laboratory) "The aerosol-cloud-precipitation system: in search of simplicity"
11:10 am - 11:30 am	Discussion
11:30 am - 12:10 pm	<b>Trude Storelvmo</b> (Yale University) "Global modeling of aerosol effects on cold clouds"
12:10 pm - 12:30 pm	Discussion
12:30 pm	Lunch
1:30 pm - 4:00 pm	Free Time
4:00 pm - 6:00 pm	<u>Poster Session</u>
6:00 pm	Dinner
7:00 pm - 7:30 pm	<u>Business Meeting</u> <i>Nominations for the next Vice Chair; Fill out Conference Evaluation Forms; Discuss future Site &amp; Scheduling preferences; Election of the next Vice Chair</i>
7:30 pm - 9:30 pm	<b>Polarization - the final frontier of spaceborne remote sensing?</b> Discussion Leader: <b>Michael Mischenko</b> (NASA Goddard Space Flight Center)
7:30 pm - 8:10 pm	<b>George Kattawar</b> (Texas A&M University) "Virtues of Polarization in Remote Sensing of Atmospheres and Oceans"
8:10 pm - 8:30 pm	Discussion
8:30 pm - 9:10 pm	<b>François-Marie Bréon</b> (Laboratoire des Sciences du Climat et de l'Environnement) "Polarized remote Sensing of Surfaces, Aerosols and Clouds: Lessons learnt from POLDER and Parasol"

9:10 pm - 9:30 pm Discussion

## THURSDAY

7:30 am - 8:30 am Breakfast

### How can we retrieve aerosols from space in a cloudy world?

Discussion Leader: **Ralph Kahn** (NASA Goddard Space Flight Center)

9:00 am - 9:40 am **Lorraine Remer** (NASA Goddard Space Flight Center)

"If the MODIS aerosol product is so infested with cloud contamination, why does everybody use the product?"

9:40 am - 10:00 am Discussion

10:00 am - 10:30 am Coffee Break

10:30 am - 11:10 am **Dave Winker** (NASA Langley Research Center)

"Aerosol-Cloud Interactions: Using active techniques to observe aerosols where they matter"

11:10 am - 11:30 am Discussion

11:30 am - 12:10 pm **Ilan Koren** (Weizmann Institute)

"Is it possible to decouple aerosols from clouds or from meteorology?"

12:10 pm - 12:30 pm Discussion

12:30 pm Lunch

1:30 pm - 4:00 pm Free Time

4:00 pm - 6:00 pm Poster Session

6:00 pm Dinner

### The future of cloud remote sensing and its application to model evaluation

Discussion Leader: **Larry Di Girolamo** (University of Illinois)

7:30 pm - 8:10 pm **Robin Hogan** (University of Reading)

"Grand Unified Algorithms: how to retrieve radiatively consistent profiles of clouds, precipitation and aerosol from radar, lidar and radiometers"

8:10 pm - 8:30 pm Discussion

8:30 pm - 9:10 pm **Bernhard Mayer** (LMU - Munich)

"What can we learn from high-resolution cloud remote sensing?"

## FRIDAY

7:30 am - 8:30 am Breakfast

9:00 am Departure

### Radiation & Climate (2011)

Name	Organization	Participation	Status
ACKERMAN, THOMAS P	UNIVERSITY OF WASHINGTON	Speaker	Registered
ALTARATZ, ORIT	THE WEIZMANN INSTITUTE OF SCIENCE	Poster Presenter	Registered
BANGERT, MAX	KARLSRUHE INSTITUTE OF TECHNOLOGY (KIT)	Poster Presenter	Registered
BAR-OR, ROTEM	WEIZMANN INSTITUTE OF SCIENCE	Poster Presenter	Registered
BARAHONA, DONIFAN	UNIVERSITY OF MARYLAND	Poster Presenter	Registered
BARTON, NEIL P	LAWRENCE LIVERMORE NATIONAL LABORATORY	Poster Presenter	Registered
BAUGHER, ELIZABETH	TEXAS A&M UNIVERSITY	Poster Presenter	Registered
BEGUE, NELSON N	UNIVERSITE DE LA REUNION	Poster Presenter	Registered
BENNARTZ, RALF	UNIVERSITY OF WISCONSIN	Speaker	Registered
BOLLASINA, MASSIMO A	GEOPHYSICAL FLUID DYNAMICS LABORATORY/NOAA	Poster Presenter	Registered
BRENGUIER, JEAN-LOUIS L	CNRS	Attendee	Registered
BREON, FRANCOIS-MARIE	CEA/LABORATOIRE DES SCIENCES DU CLIMAT ET DE L ENV	Speaker	Registered
BRETHERTON, CHRISTOPHER S	UNIVERSITY OF WASHINGTON	Speaker	Registered
BRUCKNER, MARLEN	LEIBNIZ INSTITUT FOR TROPOSPHERIC RESEARCH LEIPZIG	Poster Presenter	Registered
BURAS, ROBERT	LUDWIG-MAXIMILIANS-UNIVERSITÄT	Poster Presenter	Registered
CERMAK, JAN	ETH ZURICH	Poster Presenter	Registered
CHELLAPPAN, SEETHALA	MAX PLANCK INSTITUTE FOR METEOROLOGY	Poster Presenter	Registered
CHEN, WEI-TING	JPL/CALTECH	Poster Presenter	Registered
CHOI, YONG-SANG	EWHA WOMANS UNIVERSITY	Poster Presenter	Registered
CHRISTENSEN, MATTHEW	COLORADO STATE UNIVERSITY	Poster Presenter	Registered
CHUANG, HUIWEN	UNIVERSITY OF MICHIGAN	Poster Presenter	Registered
CLOTHIAUX, EUGENE E	THE PENNSYLVANIA STATE UNIVERSITY	Attendee	Registered
COLARCO, PETER R	NASA GSFC	Poster Presenter	Registered
COLE, BENJAMIN H	TEXAS A&M UNIVERSITY	Poster Presenter	Registered

<b>COLLINS, WILLIAM D</b>	LAWRENCE BERKELEY LABORATORY	Discussion Leader	Registered
<b>DANILIN, MIKHAIL Y</b>	THE BOEING COMPANY	Attendee	Registered
<b>DAVIS, ANTHONY B</b>	JPL/CALTECH	Poster Presenter	Registered
<b>DE SZOKE, SIMON P</b>	OREGON STATE UNIVERSITY	Poster Presenter	Registered
<b>DESSLER, ANDREW E</b>	TEXAS A&M UNIVERSITY	Poster Presenter	Registered
<b>DI GIROLAMO, LARRY</b>	UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN	Discussion Leader	Registered
<b>EBELL, KERSTIN</b>	UNIVERSITY OF COLOGNE	Poster Presenter	Registered
<b>ELLISON, LUKE</b>	NASA GSFC / SSAI	Attendee	Registered
<b>ENDO, SATOSHI</b>	BROOKHAVEN NATIONAL LABORATORY	Poster Presenter	Registered
<b>FEINGOLD, GRAHAM</b>	NOAA	Speaker	Registered
<b>FELDMAN, DANIEL</b>	LAWRENCE BERKELEY NATIONAL LABORATORY	Poster Presenter	Registered
<b>GADIAN, ALAN</b>	NCAS, UNIVERSITY OF LEEDS	Poster Presenter	Registered
<b>GARAY, MICHAEL J</b>	RAYTHEON COMPANY	Attendee	Registered
<b>GEORGE, RHEA C</b>	UNIVERSITY OF WASHINGTON	Poster Presenter	Registered
<b>GOLAZ, JEAN-CHRISTOPHE</b>	NOAA/GFDL	Poster Presenter	Registered
<b>GROSVENOR, DANIEL P</b>	UNIVERSITY OF WASHINGTON	Poster Presenter	Registered
<b>GUAN, XIAODAN</b>	UNIVERSITY OF TEXAS AT AUSTIN	Poster Presenter	Registered
<b>GUNN, LARA N</b>	UC BERKELEY	Poster Presenter	Registered
<b>GUO, HUAN</b>	UCAR/GFDL	Poster Presenter	Registered
<b>GUZMAN, RODRIGO</b>	UNIVERSITE PIERRE ET MARIE CURIE	Poster Presenter	Registered
<b>HANSCHMANN, TIMO</b>	LEIBNIZ INSTITUTE FOR TROPOSPHERIC RESEARCH	Poster Presenter	Registered
<b>HARROP, BRYCE E</b>	UNIVERSITY OF WASHINGTON	Poster Presenter	Registered
<b>HE, FEI</b>	UNIVERSITY OF MICHIGAN	Attendee	Registered
<b>HILEY, MICHAEL J</b>	UNIVERSITY OF WISCONSIN-MADISON	Poster Presenter	Registered
<b>HILL, PETER G</b>	UK MET OFFICE	Poster Presenter	Registered
<b>HIRSCH, EITAN</b>	WEIZMANN INSTITUTE OF SCIENCE	Poster Presenter	Registered

HOGAN, ROBIN J	UNIVERSITY OF READING	Speaker	Registered
HORVATH, AKOS	MAX PLANCK INSTITUTE FOR METEOROLOGY	Poster Presenter	Registered
HSIEH, WEI-CHUN	UC, BERKELEY	Poster Presenter	Registered
HSU, CHUAN-YUAN	UNIVERSITY OF MICHIGAN, ANN ARBOR	Poster Presenter	Registered
HUANG, XIANGLEI	UNIVERSITY OF MICHIGAN	Poster Presenter	Registered
HUANG, YI	HARVARD UNIVERSITY	Poster Presenter	Registered
ICHOKU, CHARLES M	NASA GODDARD SPACE FLIGHT CENTER	Attendee	Registered
JACKSON, ROBERT C	UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN	Poster Presenter	Registered
JENKINS, ANNABEL K L	UNIVERSITY OF LEEDS	Poster Presenter	Registered
JETHVA, HIREN T	HAMPTON UNIVERSITY	Poster Presenter	Registered
JIN, HONGCHUN	TEXAS A&M UNIVERSITY	Poster Presenter	Registered
JONES, CHRISTOPHER R	UNIVERSITY OF WASHINGTON	Poster Presenter	Registered
JONES, ALEXANDRA L	UIUC	Poster Presenter	Registered
JONKO, ALEXANDRA K	OREGON STATE UNIVERSITY	Poster Presenter	Registered
JOSSET, DAMIEN B	SSAI	Poster Presenter	Registered
JUNG, EUNSIL	UNIVERSITY OF MIAMI	Poster Presenter	Registered
KABLICK, GEORGE P	UNIVERSITY OF MARYLAND, COLLEGE PARK	Poster Presenter	Registered
KAHN, RALPH	NASA GODDARD SPACE FLIGHT CENTER	Discussion Leader	Registered
KAHN, BRIAN H	NASA/JPL	Poster Presenter	Registered
KALASHNIKOVA, OLGA V	JET PROPULSION LABORATORY	Poster Presenter	Registered
KATO, SEIJI	NASA LANGLEY RESEARCH CENTER	Poster Presenter	Registered
KATTAWAR, GEORGE	TEXAS A&M UNIVERSITY	Speaker	Registered
KIM, JONG H	YONSEI UNIVERSITY	Poster Presenter	Registered
KING, NICK J	UNIVERSITY OF MANCHESTER	Poster Presenter	Registered
KINNE, STEFAN	MPI-MET	Poster Presenter	Registered
KLEIDMAN, RICHARD G	SSAI / NASA GSFC	Attendee	Registered

KLEIN, STEPHEN A	LAWRENCE LIVERMORE NATIONAL LABORATORY	Speaker	Registered
KNIFFKA, ANKE	CM SAF	Poster Presenter	Registered
KOK, JASPER F	NATIONAL CENTER FOR ATMOSPHERIC RESEARCH	Poster Presenter	Registered
KOKHANOVSKY, ALEXANDER A	UNIVERSITY OF BREMEN	Poster Presenter	Registered
KOLLIAS, PAVLOS	MCGILL UNIVERSITY	Speaker	Registered
KOREN, ILAN	WEIZMANN IST OF SCIENCE	Speaker	Registered
KORKIN, SERGEY V	UMBC GEST / NASA GSFC	Poster Presenter	Registered
KRATZ, DAVID P	NASA, Langley Research Center	Poster Presenter	Registered
KUBAR, TERRY L	CALTECH/JET PROPULSION LAB	Poster Presenter	Registered
KUBBELER, MIRIAM	ETH ZURICH	Poster Presenter	Registered
LAUER, AXEL	UNIVERSITY OF HAWAII	Poster Presenter	Registered
LEBO, ZACHARY J	CALIFORNIA INSTITUTE OF TECHNOLOGY	Poster Presenter	Registered
LEBSOCK, MATTHEW D	COLORADO STATE UNIVERSITY	Poster Presenter	Registered
LEE, SEOUNG SOO	ESRL/NOAA	Poster Presenter	Registered
LENHARDT, JENNIFER	DEUTSCHER WETTERDIENST (GERMAN WEATHER SERVICE)	Poster Presenter	Registered
LEVY, ROBERT C	SSAI	Poster Presenter	Registered
LI, ZHUJUN	UNIVERSITY OF MIAMI	Poster Presenter	Registered
LIANG, XINGMING	NOAA/NESDIS & CSU/CIRA	Poster Presenter	Registered
LIN, PU	UNIVERSITY OF WASHINGTON	Attendee	Registered
LIU, CHAO	TEXAS A&M UNIVERSITY	Poster Presenter	Registered
LIU, YANGANG	BROOKHAVEN NATIONAL LABORATORY	Discussion Leader	Registered
LONITZ, KATRIN	MAX PLANCK INSTITUTE FOR METEOROLOGY	Poster Presenter	Registered
LU, CHUNSONG	BROOKHAVEN NATIONAL LABORATORY	Poster Presenter	Registered
LU, YINGHUI	PENNSYLVANIA STATE UNIVERSITY	Attendee	Registered
LUKASHIN, CONSTANTINE	NASA	Poster Presenter	Registered
LYAPUSTIN, ALEXEI I	UMBC/NASA GSFC	Poster Presenter	Registered

MA, HSI-YEN	LAWRENCE LIVERMORE NATIONAL LABORATORY	Poster Presenter	Registered
MANN, JULIAN	UNIVERSITY OF READING	Poster Presenter	Registered
MARSHAK, ALEXANDER	NASA/GOODARD SPACE FLIGHT CENTER	Chair	Registered
MATTOO, SHANA	SSAI/NASA/GSFC CODE 613	Poster Presenter	Registered
MAYER, BERNHARD	LUDWIG-MAXIMILIANS-UNIVERSITY MUNICH	Speaker	Registered
MCCOMISKEY, ALLISON C	NOAA EARTH SYSTEM RESEARM LABORATORY	Poster Presenter	Registered
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MIN, QILONG	ATMOSPHERIC SCIENCES RESEARCH CENTER, SUNY AT ALBA	Poster Presenter	Registered
MISHCHENKO, MICHAEL I	NASA GODDARD INSTITUTE FOR SPACE STUDIES	Speaker	Registered
NAM, CHRISTINE I	LABORATOIRE DE MÉTÉOROLOGIE DYNAMIQUE	Poster Presenter	Registered
NATRAJ, VIJAY	JET PROPULSION LABORATORY, CALTECH	Poster Presenter	Registered
NORRIS, JOEL R.	SCRIPPS INSTITUTION OF OCEANOGRAPHY	Speaker	Registered
NORRIS, BETHANY N	UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN	Poster Presenter	Registered
NUIJENS, LOUISE	MAX PLANCK INSTITUTE FOR METEOROLOGY	Poster Presenter	Registered
PAINTER, GALLIA M	UNIVERSITY OF WASHINGTON	Poster Presenter	Registered
PENDERGRASS, ANGELINE G	UNIVERSITY OF WASHINGTON	Poster Presenter	Registered
PENNER, JOYCE E	UNIVERSITY OF MICHIGAN	Discussion Leader	Registered
PERSAD, GEETA G	NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION	Poster Presenter	Registered
PETERS, KARSTEN	MAX PLANCK INSTITUTE FOR METEOROLOGY	Poster Presenter	Registered
PINCUS, ROBERT	UNIVERSITY OF COLORADO	Vice Chair	Registered
PISTONE, KRISTINA	SCRIPPS INSTITUTION OF OCEANOGRAPHY	Attendee	Registered
PLACIDI, SIMONE	TU DELFT	Poster Presenter	Registered
PO-CHEDLEY, STEPHEN D	UNIVERSITY OF WASHINGTON   ATMOSPHERIC SCIENCES	Poster Presenter	Registered
POSSELT, DEREK	UNIVERSITY OF MICHIGAN	Poster Presenter	Registered

PRASAD, ABHNIL A.	UNIVERSITY OF AUCKLAND	Poster Presenter	Registered
PRITCHARD, MICHAEL S	UNIVERSITY OF CALIFORNIA, SAN DIEGO	Poster Presenter	Registered
QUAAS, JOHANNES	UNIVERSITY OF LEIPZIG	Speaker	Registered
RAMANATHAN, VEERABHADRAN	UNIVERSITY OF CALIFORNIA- SAN DIEGO	Speaker	Registered
RANDLES, CYNTHIA A	NASA, GODDARD SPACE FLIGHT CENTER	Poster Presenter	Registered
RASCH, PHILIP	PACIFIC NORTHWEST NATIONAL LABORATORY	Poster Presenter	Registered
RAUSCH, JOHN	UNIVERSITY OF WISCONSIN - MADISON	Attendee	Registered
REMER, LORRAINE A	NASA/GODDARD SPACE FLIGHT CENTER	Speaker	Registered
RIIHIMAKI, LAURA D	PACIFIC NORTHWEST NATIONAL LABORATORY	Poster Presenter	Registered
ROSENFELD, DANIEL	THE HEBREW UNIVERSITY OF JERUSALEM	Discussion Leader	Registered
SAWYER, VIRGINIA R	UNIVERSITY OF MARYLAND, COLLEGE PARK	Poster Presenter	Registered
SAYER, ANDREW M	NASA GSFC	Poster Presenter	Registered
SCHWARTZ, STEPHEN E	BROOKHAVEN NATIONAL LABORATORY	Attendee	Registered
SENA, ELISA	UNIVERSITY OF SAO PAULO	Poster Presenter	Registered
SHINOZUKA, YOHEI	BAY AREA ENVIRONMENTAL RESEARCH	Poster Presenter	Registered
SODEN, BRIAN	UNIVERSITY OF MIAMI	Speaker	Registered
STIER, PHILIP	UNIVERSITY OF OXFORD	Poster Presenter	Registered
STORELVMO, TRUDE	YALE UNIVERSITY	Speaker	Registered
SUNDSTROM, ANU-MAJJA	UNIVERSITY OF HELSINKI	Poster Presenter	Registered
TACKETT, JASON L	SCIENCE SYSTEMS AND APPLICATIONS, INC.	Poster Presenter	Registered
TAKAYABU, YUKARI N	UNIVERSITY OF TOKYO	Speaker	Registered
TANG, JINPING	CAS /INSTITUTE OF ATMOSPHERIC PHYSICS	Poster Presenter	Registered
TAYLOR, PATRICK C	NASA LANGLEY RESEARCH CENTER	Poster Presenter	Registered
TEN HOEVE, JOHN E	STANFORD UNIVERSITY	Poster Presenter	Registered
TERAI, CHRISTOPHER R	UNIVERSITY OF WASHINGTON	Poster Presenter	Registered
THORSEN, TYLER J	UNIVERSITY OF WASHINGTON	Poster Presenter	Registered
TURNER, DAVID	NOAA/ NATIONAL SEVERE STORMS LABORATORY	Speaker	Registered

UM, JUNSHIK	UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN	Poster Presenter	Registered
VERMA, ABHISHEK	TEXAS A&M UNIVERSITY	Poster Presenter	Registered
VESELOVSKI, IGOR	PHYSICS INSTRUMENTATION CENTER	Speaker	Registered
WANG, TAO	TEXAS A&M UNIVERSITY	Poster Presenter	Registered
WANG, PUCAI	INSTITUTE OF ATMOSPHERIC PHYSICS,CAS	Poster Presenter	Registered
WANG, JIAN	BROOKHAVEN NATIONAL LABORATORY	Attendee	Registered
WILCOX, ERIC M	DESERT RESEARCH INSTITUTE	Speaker	Registered
WINKER, DAVID	NASA LANGLEY RESEARCH CENTER	Speaker	Registered
WISCOMBE, WARREN	NASA GODDARD SPACE FLIGHT CTR	Poster Presenter	Registered
WOOD, ROBERT	UNIVERSITY OF WASHINGTON	Chair	Registered
WU, WEI	BROOKHAVEN NATIONAL LABORATORY	Poster Presenter	Registered
XIE, XINXIN	UNIVERSITY OF COLOGNE	Poster Presenter	Registered
XU, YANGYANG	SCRIPPS INSTITUTION OF OCEANOGRAPHY	Poster Presenter	Registered
YANG, HEE JUNG	UNIVERSITY OF ILLINOIS	Poster Presenter	Registered
YANG, YUEKUI	GESTAR/NASA/GSFC	Poster Presenter	Registered
YI, BINGQI	TEXAS A&M UNIVERSITY	Poster Presenter	Registered
YOU, YU	TEXAS A&M UNIVERSITY	Poster Presenter	Registered
YUAN, TIANLE	NASA/JCET	Poster Presenter	Registered
YUE, QING Q	CALTECH	Poster Presenter	Registered
ZELINKA, MARK D	PCMDI / LLNL	Poster Presenter	Registered
ZHANG, MINGHUA	STONY BROOK UNIVERSITY	Speaker	Registered
ZHAO, CHUANFENG	LAWRENCE LIVERMORE NATIONAL LAB	Poster Presenter	Registered
ZHOU, LUXI	UNIVERSITY OF HELSINKI	Poster Presenter	Registered
ZHURAVLEVA, TATIANA B	.E. ZUEV INSTITUTE OF ATMOSPHERIC OPTICS SB RAS	Poster Presenter	Registered

178 Attendees