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GORDON RESEARCH CONFERENCES *frontiers of science*

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Nancy Ryan Gray, Ph.D.

Director

**2008 GORDON RESEARCH CONFERENCE
on IRON-SULFUR ENZYMES**

FINAL PROGRESS REPORT

DEPARTMENT OF ENERGY
GRANT NO. DE-FG02-08ER15952

The Gordon Research Conference on IRON-SULFUR ENZYMES was held at Colby Sawyer College, New London, New Hampshire, June 8-13, 2008. The Conference was well-attended with 126 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 126 attendees, 61 voluntarily responded to a general inquiry regarding ethnicity which appears on our registration forms. Of the 61 respondents, 12% were Minorities – 10% Asian & 2% African American. Approximately 30% of the participants at the 2008 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In designing the formal speakers program, emphasis was placed on current unpublished research and discussion of the future target areas in this field.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 As you know, in the interest of promoting the presentation of unpublished and frontier-breaking research, Gordon Research Conferences does not permit publication of meeting proceedings.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,
Stephen Cramer, PI & Conference Chairperson
UC DAVIS

IRON-SULFUR ENZYMES

June 8-13, 2008
Colby-Sawyer College
New London, NH
Chair:
Stephen P. Cramer

Vice Chair:
Fraser A. Armstrong

Iron-sulfur proteins are among the most common and ancient enzymes and electron-transfer agents in nature. They play key roles in photosynthesis, respiration, and the metabolism of small molecules such as H₂, CO, and N₂. The Iron Sulfur Enzyme Gordon Research Conference evolved from an earlier GRC on Nitrogen Fixation that began in 1994. The scope of the current meeting has broadened to include all enzymes or metalloproteins in which Fe-S bonds play a key role. This year's meeting will focus on the biosynthesis of Fe-S clusters, as well as the structure and mechanism of key Fe-S enzymes such as hydrogenase, nitrogenase and its homologues, radical SAM enzymes, and aconitase-related enzymes. Recent progress on the role of Fe-S enzymes in health, disease, DNA/RNA-processing, and alternative bio-energy systems will also be highlighted. This conference will assemble a broad, diverse, and international group of biologists and chemists who are investigating fundamental issues related to Fe-S enzymes, on atomic, molecular, organism, and environmental scales.

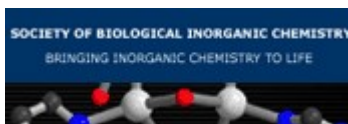
The topics to be addressed will include:

- Biosynthesis & Genomics of Fe-S Enzymes
- Fundamental Fe-S Chemistry
- Hydrogen and Fe-S Enzymes
- Nitrogenase & Homologous Fe-S Enzymes
- Fe-S Enzymes in Health & Disease
- Radical SAM and Aconitase-Related Fe-S Enzymes
- Fe-S Enzymes and Synthetic Analogues in BioEnergy
- Fe-S Enzymes in Geochemistry and the Origin of Life

The GRC on Iron Sulfur Enzymes conference strongly encourages presentations in the form of posters, which play a vital role in the meeting discourse. When filling out the application, please be sure to complete the poster title and abstract fields. This material will be used in selecting attendees for participation in the meeting, and space has been set aside in the program for 2-3 oral brief presentations selected from the poster sessions.

Social activities will include an outing to a Wednesday matinee at the New London Barn Playhouse, as well as the usual hiking, soccer, tennis, and water sports available at the Colby Sawyer venue.

Contributors



Dennis R. Dean



SUNDAY

2:00 pm - 11:00 pm Arrival and Check-in

6:00 pm Dinner

7:30 pm - 7:40 pm Welcome / Introductory Comments by GRC Site Staff

7:40 pm - 9:30 pm **FE-S ENZYMES - THEN & NOW** (*in memory of Helmut Beinert*)

Discussion Leader: **Lance Seefeldt** (Utah State University)

7:40 pm - 8:05 pm **Jacques Meyer** (CEA - Grenoble)
"The Discovery of Fe-S Enzymes"

8:05 pm - 8:15 pm Discussion

8:15 pm - 8:40 pm **Eckard Münck** (Carnegie Mellon University)
"Mössbauer Spectroscopy of Fe-S Enzymes"

8:40 pm - 8:50 pm Discussion

8:50 pm - 9:20 pm **Judy Hirst** (MRC Cambridge)
"Structure of Mitochondrial Complex I"

9:20 pm - 9:30 pm Discussion

9:30 pm - 10:30 pm Chair's Reception / Poster Session A1

MONDAY

7:30 am - 8:30 am Breakfast

9:00 am - 12:30 pm **BIOSYNTHESIS & GENOMICS OF FE-S CLUSTERS**

Discussion Leader: **Dennis Dean** (Virginia Tech)

9:00 am - 9:35 am **Roland Lill** (Philipps-Universität Marburg)
"Fe-S Processing in Eukaryotes"

9:35 am - 9:45 am Discussion

9:45 am - 10:20 am **Uli Brandt** (Universität Frankfurt)
"Assembly of Fe-S Clusters in Complex I"

10:20 am - 10:30 am Discussion

10:30 am	Coffee Break / Group Photo
11:00 am - 11:20 am	Ina O'Carroll (Virginia Tech) "Intermediates in Fe-S Cluster Biosynthesis"
11:20 am - 11:30 am	Discussion
11:30 am - 11:50 am	Yilin Hu (University of California - Irvine) "Functions of NifEN"
11:50 am - 12:00 pm	Discussion
12:00 pm - 12:20 pm	Luis Rubio (University of California - Berkeley) "Mo Trafficking for Nitrogen Fixation"
12:20 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 A2
6:00 pm	Dinner
7:30 pm - 9:30 pm	FUNDAMENTAL FE-S CHEMISTRY
	Discussion Leader: Thomas Rauchfuss (University of Illinois)
7:30 pm - 8:00 pm	Kazuyuki Tatsumi (Nagoya University) "New Synthetic Routes to Fe-S Clusters"
8:00 pm - 8:10 pm	Discussion
8:10 pm - 8:30 pm	Abhishek Dey (Stanford University) "What is Special About Fe-S Bonding?"
8:30 pm - 8:40 pm	Discussion
8:40 pm - 9:00 pm	Zach Tonzetich (MIT) "Models for NO Reactions with Fe-S Enzymes - Metabolic Implications"
9:00 pm - 9:05 pm	Discussion
9:05 pm - 9:25 pm	Scott Perrin (Georgetown University) "Fold vs. Sequence: Nature's Tuning of Fe-S Protein Reduction Potentials"
9:25 pm - 9:30 pm	Discussion
9:30 pm - 10:30 pm	Poster Session A3

TUESDAY

7:30 am - 8:30 am	Breakfast
9:00 am - 12:30 pm	HYDROGEN & FE-S ENZYMES
	Discussion Leader: Paul King (NREL)
9:00 am - 9:35 am	Bärbel Friedrich (Humboldt University of Berlin) "Hydrogenase Biosynthesis and Light-Driven H ₂ Production"
9:35 am - 9:45 am	Discussion
9:45 am - 10:20 am	John Peters (Montana State University) "[Fe-Fe] Hydrogenase Structure, Function, & Maturation"

10:20 am - 10:30 am Discussion

10:30 am Coffee Break

11:00 am - 11:35 am **James Swartz** (Stanford University)
"Cell-Free Synthesis, Maturation, and Evolution of [FeFe] Hydrogenase"

11:35 am - 11:45 am Discussion

11:45 am - 12:20 pm **Seigo Shima** (Philipps-Universität Marburg)
"Active Site Structure of [Fe] H₂ase (Hmd) & Convergent Evolution of H₂ases"

12:20 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 B1

6:00 pm Dinner

7:30 pm - 9:30 pm **NITROGENASE & HOMOLOGOUS FE-S ENZYMES**

Discussion Leader: **Joseph Jarrett** (University of Hawaii)

7:30 pm - 7:50 pm **Brian Hoffman** (Northwestern)
"Towards the Mechanism of N₂ase - ENDOR & EPR of Intermediates & Models"

7:50 pm - 8:00 pm Discussion

8:00 pm - 8:20 pm **Johannes Kaestner** (STFC Daresbury Laboratory)
"Why is the FeMoco of nitrogenase so large? Insight from simulation"

8:20 pm - 8:30 pm Discussion

8:30 pm - 8:50 pm **Robert Blankenship** (Washington University - St. Louis)
"Nitrogenase Homologues in Methanogens - Evolutionary Implications"

8:50 pm - 9:00 pm Discussion

9:00 pm - 9:20 pm **Yuichi Fujita** (Nagoya University)
"Nitrogenase Homologues in Chlorophyll Biosynthesis"

9:20 pm - 9:30 pm Discussion

9:30 pm - 10:30 pm Poster Session B2

WEDNESDAY

7:30 am - 8:30 am Breakfast

9:00 am - 12:30 pm **FE-S ENZYMES IN HEALTH & DISEASE**

Discussion Leader: **Tracy Rouault** (NIH Bethesda)

9:00 am - 9:35 am **James Imlay** (University of Illinois)
"Cellular Strategies that Protect Fe-S Clusters"

9:35 am - 9:45 am Discussion

9:45 am - 10:20 am **Patricia Jennings** (University of California - San Diego)
"Mito-NEET - An Outer Mitochondrial 2Fe-2S Protein Relevant to Type II

	Diabetes"
10:20 am - 10:30 am	Discussion
10:30 am	Coffee Break
11:00 am - 11:20 am	David Britt (University of California - Davis) "Multifrequency Pulsed EPR Studies of Fe-S Proteins"
11:20 am - 11:30 am	Discussion
11:30 am - 11:50 am	Wing-Hang Tong (NIH Bethesda) "Fe-S Enzyme Assembly & Human Disease"
11:50 am - 12:00 pm	Discussion
12:00 pm - 12:20 pm	Nick LeBrun (University of East Anglia) "Fe-S Clusters in Signal Transduction"
12:20 pm - 12:30 pm	Discussion
12:30 pm	Lunch
1:30 pm - 4:00 pm	Free Time / Optional Social Event: <i>I Hate Hamlet</i> at New London Barn Theatre
4:00 pm - 6:00 pm	Poster Session B3
6:00 pm	Dinner
7:30 pm - 9:30 pm	

FE-S ENZYMES & SYNTHETIC ANALOGUES IN BIOENERGY

	Discussion Leader: Juan Fontecilla-Camps (CEA Grenoble)
7:30 pm - 7:50 pm	Holger Dobbek (Universität Bayreuth) "The Ni,Fe-containing Cluster of CO Dehydrogenases"
7:50 pm - 8:00 pm	Discussion
8:00 pm - 8:20 pm	Wolfgang Buckel (Philipps-Universität Marburg) "Energy Conservation <i>via</i> Electron Transfer Flavoprotein and Ferredoxin in Anaerobes"
8:20 pm - 8:30 pm	Discussion
8:30 pm - 8:50 pm	Paul Lindahl (Texas A&M University) "Fe-S Enzyme Studies on Intact Mitochondria"
8:50 pm - 9:00 pm	Discussion
9:00 pm - 9:20 pm	Anne Jones (Arizona State University) "Design & Synthesis of Artificial Hydrogenases"
9:20 pm - 9:30 pm	Discussion
9:30 pm - 10:30 pm	Poster Session C1

THURSDAY

7:30 am - 8:30 am	Breakfast
8:30 am - 9:00 am	<u>Business Meeting</u> (Nominations for the next Vice Chair; Fill out Conference Evaluation

Forms; Discuss future Site & Scheduling preferences; Election of the next Vice Chair)

9:00 am - 12:30 pm

ACONITASE, RADICAL SAM, & RNA/DNA-RELATED ENZYMES

Discussion Leader: **Joan Broderick** (Montana State University)

9:00 am - 9:35 am

David Graham (University of Texas at Austin)

"Function & Evolution of Methanogen Homoaconitases"

9:35 am - 9:45 am

Discussion

9:45 am - 10:20 am

Yvain Nicolet (CEA - Grenoble)

"Structure of the Radical SAM Protein HydE - Its Role in Maturation of [FeFe] H₂ases"

10:20 am - 10:30 am

Discussion

10:30 am

Coffee Break

11:00 am - 11:20 am

Osamu Nureki (Tokyo Institute of Technology)

"Crystal Structure of Radical-SAM Enzyme Catalyzing Modified Base Formation in tRNA"

11:20 am - 11:30 am

Discussion

11:30 am - 11:50 am

Maria Spies (University of Illinois)

"Fe-S Cluster in Mechanism of Rad3 Helicases; Ancient Artifact or Means of Regulation?"

11:50 am - 12:00 pm

Discussion

12:00 pm - 12:20 pm

Amie Boal (California Institute of Technology)

"Redox Signaling Between DNA Repair Proteins Containing [4Fe-4S] Clusters"

12:20 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 C2

6:00 pm

Dinner

7:30 pm - 9:30 pm

LOOKING FORWARD (& WAY BACKWARD)

Discussion Leader: **Fraser Armstrong** (Oxford University)

7:30 pm - 8:00 pm

Gordon Southam (University of Western Ontario)

"The Role of Bacteria in the Accumulation of Gold"

8:00 pm - 8:10 pm

Discussion

8:10 pm - 8:40 pm

Perry Frey (University of Wisconsin)

"Radical Initiation by the Fe-S Center in a Radical SAM Enzyme & A Retrospective ..."

8:40 pm - 8:50 pm

Discussion

8:50 pm - 9:20 pm

Greg Ferry (Pennsylvania State University)

"CO Dehydrogenase and the Origin of Life"

9:20 pm - 9:30 pm Discussion

9:30 pm - 10:30 pm Poster Session C3

FRIDAY

7:30 am - 8:30 am Breakfast

9:00 am Depart

Iron-Sulfur Enzymes (2008)

Name	Organization	Participation	Status
ARMSTRONG, FRASER A	OXFORD UNIVERSITY	Vice Chair	Registered
BALLMANN, JOACHIM	GEORG-AUGUST UNIVERSITY GOETTINGEN	Poster Presenter	Registered
BARONDEAU, DAVID P	TEXAS A&M UNIVERSITY	Poster Presenter	Registered
BEARD, TREVOR E	MONTANA STATE UNIVERSITY	Poster Presenter	Registered
BINTER, ALEXANDRA	GRAZ UNIVERSITY OF TECHNOLOGY	Poster Presenter	Registered
BLANKENSHIP, ROBERT E	WASHINGTON UNIVERSITY IN ST. LOUIS	Speaker	Registered
BOAL, AMIE K	CALIFORNIA INSTITUTE OF TECHNOLOGY	Speaker	Registered
BOOKER, SQUIRE J	PENN STATE UNIV	Poster Presenter	Registered
BOYD, ERIC	MONTANA STATE UNIVERSITY	Poster Presenter	Registered
BOYD, JEFF M	UNIVERSITY OF WISCONSIN-MADISON	Poster Presenter	Registered
BRANDT, ULRICH	GOETHE UNIVERSITY FRANKFURT	Speaker	Registered
BRITT, R. DAVID	UNIVERSITY OF CALIFORNIA	Speaker	Registered
BRODERICK, JOAN B	MONTANA STATE UNIVERSITY	Discussion Leader	Registered
COLBERT, CHRISTOPHER	UNIV. OF TX SOUTHWESTERN MEDICAL CENTER	Attendee	Registered
CRACK, JASON C	UNIVERSITY OF EAST ANGLIA	Poster Presenter	Registered
CRAMER, STEPHEN P	UC DAVIS	Chair	Registered
DARENSBOURG, MARCETTA Y	TEXAS A&M UNIVERSITY	Poster Presenter	Registered
DAVIS, LAWRENCE C	KANSAS STATE UNIVERSITY	Attendee	Registered
DEAN, DENNIS R	VIRGINIA POLYTECHNIC INSTITUTE	Discussion Leader	Registered
DEMUEZ, MARIE	UNIVERSITY OF CALIFORNIA, DAVIS	Poster Presenter	Registered
DENG, LIANG	HARVARD UNIVERSITY	Poster Presenter	Registered
DEY, ABHISHEK	STANFORD UNIVERSITY	Attendee	Registered
DIBLE, BENJAMIN R	UNIVERSITY OF ROCHESTER	Attendee	Registered
DING, HUANGEN	LOUISIANA STATE UNIVERSITY	Attendee	Registered
DOBBEK, HOLGER	UNIVERSITAET BAYREUTH	Speaker	Registered
DOS SANTOS, PATRICIA C	VIRGINIA TECH	Poster Presenter	Registered
FAY, AARON W	UNIVERSITY OF CALIFORNIA, IRVINE	Attendee	Registered
FERRY, JAMES G	PENNSYLVANIA STATE UNIVERSITY	Speaker	Registered
FLINT, DENNIS H	E. I. DUPONT	Attendee	Registered
FONNER, BRITTANY A	MONTANA STATE UNIVERSITY	Attendee	Registered
FONTECILLA, JUAN C	INSTITUT DE BIOLOGIE STRUCTURALE	Discussion Leader	Registered
FREY, PERRY A	UNIVERSITY OF WISCONSIN-MADISON	Speaker	Registered
FRIEDRICH, BAERBEL	HUMBOLDT-UNIVERSITAET ZU BERLIN	Speaker	Registered
FRIEDRICH, PETER	PHILIPPS-UNIVERSITY	Poster Presenter	Registered
FUJITA, YUICHI	NAGOYA UNIVERSITY	Speaker	Registered
FUSS, JILL	LAWRENCE BERKELEY NATIONAL LABORATORY	Poster Presenter	Registered
GARDENGHI, DAVID	MONTANA STATE UNIVERSITY	Attendee	Registered
GEORGE, SIMON	LAWRENCE BERKELEY NATIONAL LABORATORY	Poster Presenter	Registered
GISSELBERG, JOLYN E.	JOHNS HOPKINS BLOOMBERG SCHOOL OF PUBLIC HEALTH	Poster Presenter	Registered
GRAHAM, DAVID E	UNIVERSITY OF TEXAS AT AUSTIN	Speaker	Registered
GRIGOROPOULOS, ALEXIOS G.	MONTANA STATE UNIVERSITY	Poster Presenter	Registered
GROVE, TYLER L	PENNSYLVANIA STATE UNIVERSITY	Poster Presenter	Registered
GUO, YISONG	UNIVERSITY OF CALIFORNIA, DAVIS	Poster Presenter	Registered

HALES, BRIAN J	LOUISIANA STATE UNIVERSITY	Attendee	Registered
HAMILTON, TRINITY L	MONTANA STATE UNIVERSITY	Poster Presenter	Registered
HARRIS, TRAVIS V	MONTANA STATE UNIVERSITY	Poster Presenter	Registered
HIRST, JUDY	MEDICAL RESEARCH COUNCIL	Speaker	Registered
HOFFMAN, BRIAN M	NORTHWESTERN UNIVERSITY	Speaker	Registered
HOLLAND, PATRICK	UNIVERSITY OF ROCHESTER	Poster Presenter	Registered
HOPKINS, ROBERT C	UNIVERSITY OF GEORGIA	Poster Presenter	Registered
HU, YILIN	UNIVERSITY OF CALIFORNIA, IRVINE	Speaker	Registered
ICHIYE, TOSHIKO	GEORGETOWN UNIVERSITY	Poster Presenter	Registered
IMLAY, JAMES A	UNIVERSITY OF ILLINOIS	Speaker	Registered
JARRETT, JOSEPH T	UNIVERSITY OF HAWAII	Discussion Leader	Registered
JENNEY, FRANCIS E	GA CAMPUS PHILADELPHIA COLLEGE OF OSTEOPATHIC MED	Attendee	Registered
JOHNSON, MICHAEL K	UNIVERSITY OF GEORGIA	Attendee	Registered
JONES, ANNE K	ARIZONA STATE UNIVERSITY	Speaker	Registered
KAESTNER, JOHANNES	STFC DARESURY LABORATORY	Attendee	Registered
KERKENI, BOUTHEINA	UNIVERSITY COLLEGE LONDON	Poster Presenter	Registered
KIM, JIN HAE	UNIVERSITY OF WISCONSIN-MADISON	Poster Presenter	Registered
KING, PAUL	NREL	Speaker	Registered
KOCH, STEPHEN A	SUNY STONY BROOK	Poster Presenter	Registered
KRIMMEL, REBECCA R	LOUISIANA STATE UNIVERSITY	Attendee	Registered
LE BRUN, NICK	UNIVERSITY OF EAST ANGLIA	Speaker	Registered
LEIMKUEHLER, SILKE	UNIVERSITY OF POTSDAM	Poster Presenter	Registered
LENZ, OLIVER	HUMBOLDT UNIVERSITY OF BERLIN	Attendee	Registered
LHEE, SANGMOON	UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN	Poster Presenter	Registered
LI, KUANYU	NATIONAL INSTITUTE OF HEALTH	Poster Presenter	Registered
LILL, ROLAND	UNIVERSITAET MARBURG	Speaker	Registered
LINDAHL, PAUL A	TEXAS A&M UNIVERSITY	Speaker	Registered
LIU, PINGHUA	BOSTON UNIVERSITY	Poster Presenter	Registered
LOPEZ, KARLO M	POMONA COLLEGE	Poster Presenter	Registered
MARTINEZ-GOMEZ, NORMA C	UNIVERSITY OF WISCONSIN, MADISON	Poster Presenter	Registered
MCGLYNN, SHAWN E	MONTANA STATE UNIVERSITY BOZEMAN	Poster Presenter	Registered
MEYER, JACQUES	CEA-GRENOBLE	Speaker	Registered
MITRA, DEVRANI	UNIVERSITY OF CALIFORNIA, DAVIS	Poster Presenter	Registered
MUNCK, ECKARD	CARNEGIE MELLON U	Speaker	Registered
NECHUSHTAI, RACHEL	HEBREW UNIVERSITY	Poster Presenter	Registered
NICOLET, YVAIN	CEA	Speaker	Registered
NIU, SHUQIANG	GEORGETOWN UNIVERSITY	Poster Presenter	Registered
NUREKI, OSAMU	UNIVERSITY OF TOKYO	Speaker	Registered
O'CARROLL, INA P	VIRGINIA TECH	Speaker	Registered
OLLAGNIER, SANDRINE	LCBM	Poster Presenter	Registered
OUTTEN, F. WAYNE	UNIVERSITY OF SOUTH CAROLINA	Poster Presenter	Registered
PADDOCK, MARK L	UNIVERSITY OF CALIFORNIA, SAN DIEGO	Poster Presenter	Registered
PERRIN, BRADLEY S	GEORGETOWN UNIVERSITY	Poster Presenter	Registered
PETERS, JOHN W	MONTANA STATE UNIVERSITY	Speaker	Registered
PICKETT, CHRIS	UNIVERSITY OF EAST ANGLIA	Attendee	Registered
PIERIK, ANTONIO J.	UNIVERSITY OF MARBURG	Poster Presenter	Registered
PRAT, LAURE	EPFL	Poster Presenter	Registered

PUCCIO, HELENE M	IGBMC	Poster Presenter	Registered
RAUCHFUSS, THOMAS B	UNIVERSITY OF ILLINOIS	Discussion Leader	Registered
RAULFS, ESTELLA C	VIRGINIA TECH	Poster Presenter	Registered
RIBBE, MARKUS	UNIVERSITY OF CALIFORNIA, IRVINE	Attendee	Registered
RIDLEY, ANNA	UNIVERSITY OF EAST ANGLIA	Attendee	Registered
ROACH, PETER L	UNIVERSITY OF SOUTHAMPTON	Poster Presenter	Registered
ROBBINS, GILLIAN E	INSTITUTE OF MARINE AND COASTAL SCIENCES	Attendee	Registered
ROUAULT, TRACEY	NATIONAL INSTITUTE OF CHILD HEALTH & DEVELOPMENT	Discussion Leader	Registered
RUBIO, LUIS M	UNIVERSITY OF CALIFORNIA-BERKELEY	Speaker	Registered
RUPNIK, KRESIMIR	LSU	Attendee	Registered
SAGGU, MIGUEL	TECHNICAL UNIVERSITY OF BERLIN	Poster Presenter	Registered
SAUNDERS, ALLISON	PENNSYLVANIA STATE UNIVERSITY	Poster Presenter	Registered
SEEFELDT, LANCE C	UTAH STATE UNIVERSITY	Attendee	Registered
SHARMA, ANIL K	UNIVERSITY OF ILLINOIS AT CHICAGO	Poster Presenter	Registered
SHEN, GAOZHONG	PENNSYLVANIA STATE UNIVERSITY	Poster Presenter	Registered
SHI, YANBO	NATIONAL INSTITUTE OF HEALTH	Poster Presenter	Registered
SHIMA, SEIGO	MAX-PLANCK-INSTITUTE FOR TERRESTRIAL MICROBIOLOGY	Speaker	Registered
SOUTHAM, GORDON G	UNIVERSITY OF WESTERN ONTARIO	Speaker	Registered
SPIES, MARIA	UNIVERSITY OF ILLINOIS	Speaker	Registered
SUBRAMANIAN, SOWMYA	UNIVERSITY OF GEORGIA	Poster Presenter	Registered
SWARTZ, JAMES	STANFORD UNIVERSITY	Speaker	Registered
TAN, MINGLIANG	GEORGETOWN UNIVERSITY	Poster Presenter	Registered
TAN, GUOQIANG	LOUISIANA STATE UNIVERSITY	Poster Presenter	Registered
TATSUMI, KAZUYUKI	NAGOYA UNIVERSITY	Speaker	Registered
TONG, WING-HANG	NIH	Speaker	Registered
TONZETICH, ZACHARY	MIT	Speaker	Registered
TRACEWELL, CARA A	CALIFORNIA INSTITUTE OF TECHNOLOGY	Attendee	Registered
UHRIGSHARDT, HELGE	NICHD/NIH	Poster Presenter	Registered
VINOGRADOV, ANDREI D	MOSCOW STATE UNIVERSITY	Attendee	Registered
WANG, HONGXIN	UC DAVIS / LAWRENCE BERKELEY LAB	Poster Presenter	Registered
WHITE, ROBERT H	VIRGINIA POLYTECHNIC INSTITUTE & STATE UNIVERSITY	Poster Presenter	Registered
YAN, LIFEN	UNIVERSITY OF CALIFORNIA, DAVIS	Attendee	Registered
YANG, JUANJUAN	LOUISIANA STATE UNIVERSITY	Poster Presenter	Registered
YE, HONG	NIH	Poster Presenter	Registered
YU, JIANPING	NATIONAL RENEWABLE ENERGY LABORATORY	Poster Presenter	Registered
ZWICKER, KLAUS P	JOHANN WOLFGANG GOETHE-UNIVERSITAET	Poster Presenter	Registered