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**GORDON RESEARCH CONFERENCES** *frontiers of science*

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**Nancy Ryan Gray, Ph.D.**

Director

**2007 GORDON RESEARCH CONFERENCE**

on

**Archea: Ecology, Metabolism & Molecular Biology**

**FINAL PROGRESS REPORT**

**Department of Energy**

DE-FG02-07ER15864

The Gordon Research Conference (GRC) on Archea: Ecology, Metabolism & Molecular Biology was held at Proctor Academy from 8/19/2007 thru 8/24/2007. The Conference was well-attended with 154 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.

In designing the formal speakers program, emphasis was placed on current unpublished research and discussion of the future target areas in this field.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.

I want to personally 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 As you know, in the interest of promoting the presentation of unpublished and frontier-breaking research, Gordon Research Conferences does not permit publication of meeting proceedings.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,

*Imke  
Schroeder  
UCLA*

# Archaea: Ecology, Metabolism & Molecular Biology

Proctor Academy  
Aug 19-24, 2007

Name	Organization	Participation	Status
SONJA-VERENA ALBERS	UNIVERSITY OF GRONINGEN	Speaker	Registered
THORSTEN ALLERS	UNIVERSITY OF NOTTINGHAM	Speaker	Registered
NETA ALTMAN	TEL AVIV UNIVERSITY	Poster Presenter	Registered
KIMBERLY L ANDERSON	UNIVERSITY OF MARYLAND BIOTECHNOLOGY INSTITUTE	Poster Presenter	Registered
HARUYUKI ATOMI	KYOTO UNIVERSITY	Speaker	Registered
SHAHAR BARAK	TEL AVIV UNIVERSITY	Attendee	Registered
TAMARA BASTA	INSTITUT PASTEUR	Poster Presenter	Registered
STEPHEN D BELL	UNIVERSITY OF CAMBRIDGE	Speaker	Registered
ROLF BERNANDER	UPPSALA UNIVERSITY	Attendee	Registered
KELLY A BIDLE	RIDER UNIVERSITY	Poster Presenter	Registered
ELISABETTA BINI	RUTGERS UNIVERSITY	Poster Presenter	Registered
FABIAN BLOMBACH	WAGENINGEN UR	Poster Presenter	Registered
PAUL BLUM	UNIVERSITY OF NEBRASKA	Speaker	Registered
EDWARD L BOLT	UNIVERSITY OF NOTTINGHAM	Speaker	Registered
MALIN JM BOMBERG	UNIVERSITY OF HELSINKI	Poster Presenter	Registered
STEPHANIE L BRIDGER	UNIVERSITY OF GEORGIA	Poster Presenter	Registered
CeLINE P BROCHIER-ARMANET	UNIVERSITE DE PROVENCE, AIX-MARSEILLE	Poster Presenter	Registered
DOMINIC W BURG	UNIVERSITY OF NEW SOUTH WALES	Poster Presenter	Registered
ISAAC CANN	UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN	Speaker	Registered
MELINDA D CAPES	UNIVERSITY OF MARYLAND BIOTECHNOLOGY INSTITUTE	Poster Presenter	Registered
RICK CAVICCHIOLI	UNSW	Poster Presenter	Registered
YIU-KWOK CHAN	AGRICULTURE & AGRI-FOOD CANADA	Poster Presenter	Registered
DANIEL CHARLIER	VRIJE UNIVERSITEIT BRUSSEL	Poster Presenter	Registered
JAMES A COKER	CENTER OF MARINE BIOTECHNOLOGY	Poster Presenter	Registered
AARON E COZEN	UNIVERSITY OF CALIFORNIA SANTA CRUZ	Poster Presenter	Registered
EDWARD J CRANE	POMONA COLLEGE	Poster Presenter	Registered
DAVID J CROWLEY	ASSUMPTION COLLEGE	Poster Presenter	Registered
CHARLES J DANIELS	OHIO STATE UNIVERSITY	Poster Presenter	Registered
BART DE KONING	WAGENINGEN UR	Poster Presenter	Registered
SIMON DE VRIES	DELFT UNIVERSITY OF TECHNOLOGY	Speaker	Registered
EMELIA DEFORCE	UNIVERSITY OF MASSACHUSETTS BOSTON	Poster Presenter	Registered
PATRICK P DENNIS	NATIONAL SCIENCE FOUNDATION	Attendee	Registered
LINDA C. DEVEAUX	IDAHO STATE UNIVERSITY	Poster Presenter	Registered
JOCELYNE DIRUGGIERO	UNIVERSITY OF MARYLAND	Speaker	Registered

<b>KIXMÜLLER DORTHE</b>	UNIVERSITY OF OSNABRÜCK	Poster Presenter	Registered
<b>CLAUDIA EHLERS</b>	UNIVERSITY OF KIEL	Poster Presenter	Registered
<b>JERRY EICHLER</b>	BEN GURION UNIVERSITY	Speaker	Registered
<b>JAMES ELKINS</b>	UNIVERISITY OF CALIFORNIA SAN DIEGO	Speaker	Registered
<b>CARYN EVILIA</b>	IDAHO STATE UNIVERSITY	Poster Presenter	Registered
<b>JAMES G FERRY</b>	PENN STATE	Poster Presenter	Registered
<b>SUSAN FISCHER</b>	UNIVERSITY OF ULM	Poster Presenter	Registered
<b>AMY E. FLEISHMAN LITTLEJOHN</b>	NORTHERN ARIZONA UNIVERSITY	Poster Presenter	Registered
<b>PATRICK FORTERRE</b>	INSTITUT PASTEUR	Speaker	Registered
<b>JENNIFER S FULTON</b>	MONTANA STATE UNIVERSITY	Poster Presenter	Registered
<b>TRAVIS GALLAGHER</b>	NIST	Poster Presenter	Registered
<b>VENKAT GOPALAN</b>	OHIO STATE UNIVERSITY	Poster Presenter	Registered
<b>ANDREA GORRELL</b>	UNIVERISTY OF NORTHERN BRITISH COLUMBIA	Poster Presenter	Registered
<b>DAVID E GRAHAM</b>	UNIVERSITY OF TEXAS AT AUSTIN	Poster Presenter	Registered
<b>DENNIS W GROGAN</b>	UNIVERSITY OF CINCINNATI	Speaker	Registered
<b>ROBERT P GUNSALUS</b>	UCLA	Speaker	Registered
<b>RAMESH GUPTA</b>	SOUTHERN ILLINOIS UNIVERSITY	Poster Presenter	Registered
<b>SAM HALDENBY</b>	UNIVERSITY OF NOTTINGHAM	Poster Presenter	Registered
<b>STEVE HALLAM</b>	UNIVERSITY OF BRITISH COLUMBIA	Speaker	Registered
<b>CHRISTINE HARDY</b>	APPLIED BIOSYSTEMS	Poster Presenter	Registered
<b>CYNTHIA A HASELTINE</b>	WASHINGTON STATE UNIVERSITY	Poster Presenter	Registered
<b>HISASHI HEMMI</b>	NAGOYA UNIVERSITY	Poster Presenter	Registered
<b>GUNYOUNG HEO</b>	CARB/UMBI	Attendee	Registered
<b>AKIRA HIRATA</b>	THE PENNSYLVANIA STATE UNIVERSITY	Poster Presenter	Registered
<b>MATTHEW ADAM HUMBARD</b>	UNIVERSITY OF FLORIDA	Poster Presenter	Registered
<b>YOSHIZUMI ISHINO</b>	KYUSHU UNIVERSITY	Attendee	Registered
<b>KEN F JARRELL</b>	QUEEN'S UNIVERSITY	Poster Presenter	Registered
<b>RICARDO JASSO-CHAVEZ</b>	PENNSYLVANIA STATE UNIVERSITY	Poster Presenter	Registered
<b>ELIZABETH A KARR</b>	UNIVERSITY OF OKLAHOMA	Poster Presenter	Registered
<b>SCOTT T KELLEY</b>	SAN DIEGO STATE UNIVERSITY	Poster Presenter	Registered
<b>ZVI KELMAN</b>	CARB/UMBI	Attendee	Registered
<b>PHILLIP A KIRKLAND</b>	UNIVERSITY OF FLORIDA	Poster Presenter	Registered
<b>ARNULF KLETZIN</b>	DARMSTADT UNIVERSITY OF TECHNOLOGY	Speaker	Registered
<b>ROLAND KNISPEL</b>	MAX-PLANCK-INSTITUTE OF BIOCHEMISTRY	Poster Presenter	Registered
<b>TATIANA G KOONIN</b>	NATIONAL INSTITUTES OF HEALTH	Attendee	Registered
<b>EUGENE KOONIN</b>	NIH	Speaker	Registered
<b>JOSEPH A KRZYCKI</b>	OHIO STATE UNIVERSITY	Speaker	Registered
<b>GARGI KULKARNI</b>	UNIVERSITY OF ILLINOIS	Poster Presenter	Registered
<b>ANDREW T LARGE</b>	UNIVERSITY OF BIRMINGHAM	Poster Presenter	Registered
<b>SUNG-JAE LEE</b>	KYUNG HEE UNIVERSITY	Poster Presenter	Registered
<b>JOHN A LEIGH</b>	UNIVERSITY OF WASHINGTON	Poster Presenter	Registered
<b>DANIEL J LESSNER</b>	PENNSYLVANIA STATE UNIVERSITY	Poster Presenter	Registered
<b>KATHRYN J. LEYVA</b>	MIDWESTERN UNIVERSITY	Attendee	Registered
<b>GEORG LIPPS</b>	UNIVERSITY OF BAYREUTH	Poster Presenter	Registered
<b>YUCHEN LIU</b>	UNIVERSITY OF GEORGIA	Poster Presenter	Registered
<b>HELENE LOUVEL</b>	INSTITUT PASTEUR	Attendee	Registered
<b>TODD LOWE</b>	UNIVERSITY OF CALIFORNIA, SANTA CRUZ	Attendee	Registered

<b>PETER A LUND</b>	UNIVERSITY OF BIRMINGHAM	Speaker	Registered
<b>MAGNUS LUNDGREN</b>	UPPSALA UNIVERSITY	Poster Presenter	Registered
<b>BOGUSLAW F LUPA</b>	UNIVERSITY OF GEORGIA	Poster Presenter	Registered
<b>STUART A MACNEILL</b>	UNIVERSITY OF COPENHAGEN	Poster Presenter	Registered
<b>YUKARI MAEZATO</b>	UNIVERSITY OF NEBRASKA-LINCOLN	Poster Presenter	Registered
<b>KIRA S MAKAROVA</b>	NATIONAL CENTER FOR BIOTECHNOLOGY INFORMATION	Poster Presenter	Registered
<b>JULIE MAUPIN-FURLOW</b>	UNIVERSITY OF FLORIDA	Vice Chair	Registered
<b>WILLIAM W METCALF</b>	UNIVERSITY OF ILLINOIS	Speaker	Registered
<b>MOSHE MEVARECH</b>	TEL-AVIV UNIVERSITY	Attendee	Registered
<b>JUNICHI MIYAZAKI</b>	JAPAN AGENCY FOR MARINE-EARTH SCIENCE & TECHNOLOGY	Poster Presenter	Registered
<b>MARCO MORACCI</b>	INSTITUTE OF PROTEIN BIOCHEMISTRY - CNR	Poster Presenter	Registered
<b>SAMANTHA A MORRIS</b>	TRENDS IN MICROBIOLOGY	Attendee	Registered
<b>BISWARUP MUKHOPADHYAY</b>	VIRGINIA STATE UNIVERSITY	Speaker	Registered
<b>STACEY MUNRO</b>	UNIVERSITY OF ST ANDREWS	Poster Presenter	Registered
<b>KATSUHIKO S MURAKAMI</b>	PENNSYLVANIA STATE UNIVERSITY	Poster Presenter	Registered
<b>SANDY Y.M. NG</b>	QUEEN'S UNIVERSITY	Poster Presenter	Registered
<b>GRAEME W NICOL</b>	UNIVERSITY OF ABERDEEN	Speaker	Registered
<b>TAKURO NUNOURA</b>	JAPAN AGENCY FOR MARINE-EARTH SCIENCE & TECHNOLOGY	Poster Presenter	Registered
<b>SEAN P O'CONNELL</b>	WESTERN CAROLINA UNIVERSITY	Poster Presenter	Registered
<b>RINA B OPULENCIA</b>	UNIVERSITY OF ILLINOIS, URBANA-CHAMPAIGN	Poster Presenter	Registered
<b>SONIA PAYTUBI</b>	UNIVERSITY OF ST. ANDREWS	Poster Presenter	Registered
<b>EVELINE PEETERS</b>	VRIJE UNIVERSITEIT BRUSSEL	Poster Presenter	Registered
<b>FRANCINE PERLER</b>	NEB	Attendee	Registered
<b>JOHN J PERONA</b>	UNIVERSITY OF CALIFORNIA, SANTA BARBARA	Attendee	Registered
<b>MECHTHILD POHLSCHRODER</b>	UNIVERSITY OF PENNSYLVANIA	Discussion Leader	Registered
<b>PETER J POLSGROVE</b>	NORTHERN ARIZONA UNIVERSITY	Poster Presenter	Registered
<b>IRIS PORAT</b>	PENN STATE	Poster Presenter	Registered
<b>MIZANUR RAHMAN</b>	IOWA STATE UNIVERSITY	Poster Presenter	Registered
<b>LENNART RANDAU</b>	YALE UNIVERSITY	Attendee	Registered
<b>PETER REDDER</b>	PASTEUR INSTITUTE, PARIS	Poster Presenter	Registered
<b>JOHN N REEVE</b>	OHIO STATE UNIVERSITY	Speaker	Registered
<b>MATTHEW J REICHLEN</b>	PENN STATE UNIVERSITY	Poster Presenter	Registered
<b>CHARLES E ROBERTSON</b>	UNIVERSITY OF COLORADO, BOULDER	Poster Presenter	Registered
<b>MARTA V RODRIGUES</b>	INSTITUTO DE TECNOLOGIA QUÍMICA E BIOLÓGICA	Poster Presenter	Registered
<b>LARS E ROHLIN</b>	UCLA	Poster Presenter	Registered
<b>ANICE SABAG-DAIGLE</b>	OHIO STATE UNIVERSITY	Poster Presenter	Registered
<b>NOZOMI SAKAKIBARA</b>	UNIVERSITY OF MARYLAND BIOTECHNOLOGY INSTITUTE	Attendee	Registered
<b>CYNTHIA J SAKOFSKY</b>	UNIVERSITY OF CINCINNATI	Attendee	Registered
<b>RACHEL Y SAMSON</b>	HUTCHISON MRC CENTRE	Attendee	Registered
<b>THOMAS J SANTANGELO</b>	OHIO STATE UNIVERSITY	Poster Presenter	Registered
<b>RUTH A SCHMITZ-STREIT</b>	UNIVERSITY OF KIEL	Speaker	Registered
<b>PETER SCHOENHEIT</b>	UNIVERSITY OF KIEL	Speaker	Registered
<b>IMKE SCHROEDER</b>	UCLA	Chair	Registered

<b>GERRIT JAN SCHUT</b>	UNIVERSITY OF GEORGIA	Attendee	Registered
<b>RICHARD F SHAND</b>	NORTHERN ARIZONA UNIVERSITY	Attendee	Registered
<b>BETTINA SIEBERS</b>	UNIVERSITAET DUISBURG- ESSEN	Vice Chair	Registered
<b>NICOLAS SOLER</b>	INSTITUT DE GENETIQUE ET MICROBIOLOGIE	Poster Presenter	Registered
<b>DIETER SOLL</b>	YALE UNIVERSITY	Speaker	Registered
<b>JOERG SOPPA</b>	GOETHE-UNIVERSITY	Poster Presenter	Registered
<b>KEVIN R SOWERS</b>	UNIVERSITY OF MARYLAND BIOTECHNOLOGY INSTITUTE	Attendee	Registered
<b>JOSHUA L SPUHLER</b>	MONTANA STATE UNIVERSITY	Poster Presenter	Registered
<b>DAVID A STAHL</b>	UNIVERSITY OF WASHINGTON	Speaker	Registered
<b>KENNETH M STEDMAN</b>	PORTLAND STATE UNIVERSITY	Poster Presenter	Registered
<b>KARL O STETTER</b>	UNIVERSITY OF REGENSBURG	Discussion Leader	Registered
<b>HENRIK MR STRAHL</b>	UNIVERSITY OF OSNABRUECK	Poster Presenter	Registered
<b>SUHARTI SUHARTI</b>	PENN STATE UNIVERSITY	Poster Presenter	Registered
<b>ROLF K THAUER</b>	MARBURG UNIVERSITY	Speaker	Registered
<b>MICHAEL THOMM</b>	UNIVERSITAT REGENSBURG	Poster Presenter	Registered
<b>MANUELA TRIPEPI</b>	UNIVERSITY OF PENNSYLVANIA	Attendee	Registered
<b>JOHN VAN DER OOST</b>	WAGENINGEN UNIVERSITY	Speaker	Registered
<b>DAVID J VANDYKE</b>	QUEEN'S UNIVERSITY	Poster Presenter	Registered
<b>KATRIN WEIDENBACH</b>	CHRISTIAN ALBRECHTS UNIVERSITY OF KIEL	Poster Presenter	Registered
<b>MALCOLM F WHITE</b>	ST ANDREWS UNIVERSITY	Chair	Registered
<b>ROBERT H WHITE</b>	VIRGINIA TECH	Speaker	Registered
<b>WILLIAM B WHITMAN</b>	UNIVERSITY OF GEORGIA	Discussion Leader	Registered
<b>WINNIE W WU</b>	CENTRE FOR EXTREMOPHILE RESEARCH	Poster Presenter	Registered
<b>SHIGEO YOSHINARI</b>	UNIVERSITY OF TOKYO	Attendee	Registered
<b>MARK YOUNG</b>	MONTANA STATE UNIVERISTY	Poster Presenter	Registered
<b>JING YUAN</b>	YALE UNIVERSITY	Poster Presenter	Registered
<b>CHUANLUN ZHANG</b>	UNIVERSITY OF GEORGIA	Attendee	Registered
<b>WEIDONG ZHAO</b>	UNIVERSITY OF GEORGIA	Poster Presenter	Registered
<b>SABRINA A ZIMMERMAN</b>	PENNSYLVANIA STATE UNIVERSITY	Poster Presenter	Registered
<b>BEHNAM ZOLGHADR</b>	UNIVERSITY OF GRONINGEN	Poster Presenter	Registered

The Archaea are a fascinating and diverse group of prokaryotic organisms with deep roots overlapping those of eukaryotes. The focus of this GRC conference, "**Archaea: Ecology Metabolism & Molecular Biology**", expands on a number of emerging topics highlighting the evolution and composition of microbial communities and novel archaeal species, their impact on the environment, archaeal metabolism, and research that stems from sequence analysis of archaeal genomes. The strength of this conference lies in its ability to couple reputable areas with new scientific topics in an atmosphere of stimulating exchange. This conference remains an excellent opportunity for younger scientists to interact with world experts in this field.

## CONTRIBUTORS



## 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 - 8:30 pm **KEYNOTE SPEAKER**
- Introduction to Keynote: **Imke Schroeder** (University of California, Los Angeles)
- 7:40 pm - 8:20 pm **John Reeve** (Ohio State University)  
"Starting and Stopping Transcription"
- 8:20 pm - 8:30 pm Discussion
- 8:30 pm - 9:30 pm **MICROBIAL COMMUNITIES**
- Discussion Leader: **Imke Schroeder** (University of California, Los Angeles)
- 8:30 pm - 8:55 pm **Christa Schleper** (University of Bergen)  
"Ammonia Oxidizing Crenarchaeota in Soils and Hot Springs"
- 8:55 pm - 9:00 pm Discussion
- 9:00 pm - 9:25 pm **David Stahl** (University of Washington)  
"Ammonia Oxidizing Archaea and Their Place in the Nitrogen Cycle"
- 9:25 pm - 9:30 pm Discussion

## MONDAY

- 7:30 am - 8:30 am Breakfast
- 8:30 am Group Photo
- 9:00 am - 12:30 pm **GENOMES AND GENE REGULATION**
- Discussion Leader: **John Reeve** (Ohio State University)
- 9:00 am - 9:25 am **John van der Oost** (Wageningen University)  
"Global Regulation in Archaea"
- 9:25 am - 9:30 am Discussion
- 9:30 am - 9:55 am **Jocelyne DiRuggiero** (University of Maryland)  
"Whole Genome Response to Oxidative Stress in *Halobacterium*"
- 9:55 am - 10:00 am Discussion
- 10:00 am Coffee Break
- 10:30 am - 10:55 am **Rob Gunsalus** (University of California, Los Angeles)  
"Coordinate Control of Methanogen Pathways Leading to Methane Formation"
- 10:55 am - 11:00 am Discussion

11:00 am - 11:25 am **Ruth Schmitz-Streit** (University of Kiel)  
 "Genome-Wide Transcriptional Analysis in *Methanosarcina mazei*"

11:25 am - 11:30 am Discussion

11:30 am - 11:55 am **William Metalf** (University of Illinois at Urbana-Champaign)  
 "Regulation of Genes Involved in Methylo-trophic Methanogenesis in *Methanosarcina* Species"

11:55 am - 12:00 pm Discussion

12:00 pm - 12:25 pm **Ken Jarrell** (Queen's University Kingston)  
 "Inframe Deletion and Complementation of Genes Involved in Posttranslational Modification and Assembly of Flagella in *Methanococcus maripaludis*"

12:25 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

7:30 pm - 9:30 pm **PHYSIOLOGY AND REGULATION OF CARBOHYDRATE METABOLISM**

Discussion Leader: **Barny Whitman** (University of Georgia)

7:30 pm - 7:55 pm **Peter Schönheit** (University of Kiel)  
 "Unusual Enzymes of Archaeal Glycolysis and Acetate Formation"

7:55 pm - 8:00 pm Discussion

8:00 pm - 8:25 pm **Bettina Siebers** (University of Duisburg-Essen)  
 "Trehalose Metabolism in *Thermoproteus tenax*"

8:25 pm - 8:30 pm Discussion

8:30 pm - 8:55 pm **Paul Blum** (University of Nebraska Lincoln)  
 "Toxin/Antitoxins and Carbon Flux in *Sulfolobus solfataricus*"

8:55 pm - 9:00 pm Discussion

9:00 pm - 9:25 pm **Haruyuki Atomi** (Kyoto University)  
 "Unusual Pentose Metabolism in *Thermococcus kodakaraensis*"

9:25 pm - 9:30 pm Discussion

## TUESDAY

7:30 am - 8:30 am Breakfast

9:00 am - 12:30 pm **ARCHAEAL PROTEINS AND PHYSIOLOGY**

Discussion Leader: **Francine Perler** (New England Biolabs)

9:00 am - 9:25 am **Biswarup Mukhopadhyay** (Virginia Bioinformatics Institute, State University)  
 "Sulfite Reduction in Methanogenic Archaea - New Enzymes and New Hypotheses on Two Ancient Metabolisms"

9:25 am - 9:30 am Discussion

9:30 am - 9:55 am **Arnulf Kletzin** (Technical University Darmstadt)

"Mechanisms of Sulfur Oxidation in *Acidianus ambivalens*"

9:55 am - 10:00 am Discussion

10:00 am Coffee Break

10:30 am - 10:55 am **Simon de Vries** (Technical University Delft)  
"Structural and Functional Variations of Archaeal Denitrification Pathways"

10:55 am - 11:00 am Discussion

11:00 am - 11:25 am **Rolf Thauer** (Max Planck Institute for Terrestrial Microbiology Marburg)  
"How Methanogenic Archaea Activate H<sub>2</sub>: Function and Structure of the Fe-Hydrogenase Hmd"

11:25 am - 11:30 am Discussion

11:30 am - 11:55 am **Mark Young** (Montana State University)  
"Coping with Oxidative Stress: Role of the Dps Protein in *Sulfolobus solfataricus*"

11:55 am - 12:00 pm Discussion

12:00 pm - 12:25 pm **Robert White** (Virginia Polytechnic Institute and State University)  
"Evolution of Metabolism on Earth"

12:25 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

7:30 pm - 9:30 pm **PROTEIN TRANSLOCATION AND PROCESSING**

Discussion Leader: **Mecki Pohlschröder** (University of Pennsylvania)

7:30 pm - 7:55 pm **Jerry Eichler** (Ben Gurion University)  
"Sweet and Salty: Protein Glycosylation in *Haloferax volcanii*"

7:55 pm - 8:00 pm Discussion

8:00 pm - 8:25 pm **Peter Lund** (University of Birmingham)  
"Chaperonin-Mediated Protein Folding in the Halophilic Archaeon *Haloferax volcanii*"

8:25 pm - 8:30 pm Discussion

8:30 pm - 8:55 pm **Sonja Albers** (University of Groningen)  
"Functional Analysis of Secretion Systems Involved in the Assembly of Extracellular Appendages in the Cell Envelope of *Sulfolobus solfataricus*"

8:55 pm - 9:00 pm Discussion

9:00 pm - 9:25 pm **Julie Maupin-Furrow** (University of Florida)  
"Archaeal Proteasomes and Post-Translational Regulation"

9:25 pm - 9:30 pm Discussion

## WEDNESDAY

7:30 am - 8:30 am Breakfast

9:00 am - 12:30 pm **ECOLOGY OF EMERGING ARCHAEA**



	Discussion Leader: <b>Karl Stetter</b> (University of Regensburg)
9:00 am - 9:25 am	<b>Rick Caviccioli</b> (University of New South Wales) "Learning about Cold Adaptation from Psychrophilic Archaea"
9:25 am - 9:30 am	Discussion
9:30 am - 9:55 am	<b>Charles Robertson</b> (University of Colorado) "New Perspectives on Archaeal Phylogenetics"
9:55 am - 10:00 am	Discussion
10:00 am	Coffee Break
10:30 am - 10:55 am	<b>Todd Low</b> (University of California, Santa Cruz) "Sequencing of Four New <i>Pyrobaculum</i> Species Reveals Clues to Genome Evolution and Novel RNA Genes"
10:55 am - 11:00 am	Discussion
11:00 am - 11:25 am	<b>Steven Hallam</b> (University of British Columbia Bioinformatics Center) "Assembling a functional mosaic: The composite genome of <i>Cenarchaeum symbiosum</i> "
11:25 am - 11:30 am	Discussion
11:30 am - 11:55 am	<b>James Elkins</b> (University of California, San Diego) "A Complete Korarchaeal Genome Sequence Reveals a Unique Combination of Signature Genes"
11:55 am - 12:00 pm	Discussion
12:00 pm - 12:30 pm	<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)
12:30 pm	Lunch
1:30 pm - 4:00 pm	Free Time
4:00 pm - 6:00 pm	Poster Session
6:00 pm	Dinner
7:30 pm - 9:30 pm	<b>INFORMATION PROCESSING</b>
	Discussion Leader: <b>Michael Thomm</b> (University of Regensburg)
7:30 pm - 7:55 pm	<b>Steve Bell</b> (University of Cambridge) "DNA Replication in <i>Sulfolobus</i> "
7:55 pm - 8:00 pm	Discussion
8:00 pm - 8:25 pm	<b>Joseph Krzycki</b> (Ohio State University) "Transmissible Biosynthesis and Genetic Encoding of Pyrrolysine"
8:25 pm - 8:30 pm	Discussion
8:30 pm - 8:55 pm	<b>Dieter Söll</b> (Yale University) "Protein Synthesis: Archaea-Specific Processes"
8:55 pm - 9:00 pm	Discussion
9:00 pm - 9:25 pm	<b>Katsuhiko Murakami</b> (Pennsylvania State University) "X-ray Crystal Structure of RNA Polymerase from Archaea"

9:25 pm - 9:30 pm Discussion

## THURSDAY

7:30 am - 8:30 am Breakfast

### 9:00 am - 12:30 pm RECOMBINATION AND REPAIR

Discussion Leader: **Malcolm White** (St. Andrew's University)

9:00 am - 9:25 am **Thorsten Allers** (University of Nottingham)

"DNA Damage Response in *Haloferax volcanii* - Role of Mre11-Rad50"

9:25 am - 9:30 am Discussion

9:30 am - 9:55 am **Linda DeVaux** (Idaho State University)

"*Halobacterium* and Radiation: Resistance is Not Futile!"

9:55 am - 10:00 am Discussion

10:00 am Coffee Break

10:30 am - 10:55 am **Denis Grogan** (University of Cincinnati)

"Genetic Recombination in *Sulfolobus*: Examining Substrate Requirements"

10:55 am - 11:00 am Discussion

11:00 am - 11:25 am **Isaac Cann** (University of Illinois at Urbana-Champaign)

"A Unique Archaeal Clamp Loader Assembles and Loads the Clamp: a Nexus for DNA Replication, Repair, and Recombination Proteins"

11:25 am - 11:30 am Discussion

11:30 am - 11:55 am **Yoshizumi Ishino** (Kyusho University)

"Variation of PCNA-interacting Site in the Archaeal DNA Replication/Repair Proteins"

11:55 am - 12:00 pm Discussion

12:00 pm - 12:25 pm **Ed Bolt** (University of Nottingham)

"Getting Caught Copying: Proteins Promoting DNA Replication Past Lesions in Archaea"

12:25 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

### 7:30 pm - 8:30 pm Student Short Talks and Student Poster Awards

Discussion Leader: **Moshe Mevarech** (Tel-Aviv University)

### 8:30 pm - 9:30 pm EVOLUTION AND THE TREE OF LIFE

Discussion Leader: **Moshe Mevarech** (Tel-Aviv University)

8:30 pm - 8:55 pm **Eugene Koonin** (National Institute of Health)

"Evolution of Archaeal Gene Content"

8:55 pm - 9:00 pm Discussion

9:00 pm - 9:25 pm **Patrick Forterre** (University of Paris)

"The Universal Protein Set and the Nature of LUCA. Discovery of a Novel

Universal Protein Essential for Genome Stability"

9:25 pm - 9:30 pm Discussion

**FRIDAY**

7:30 am - 8:30 am Breakfast

9:00 am Depart

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