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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In designing the formal speakers program, emphasis was placed on current unpublished research and discussion of the future target areas in this field.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 As you know, in the interest of promoting the presentation of unpublished and frontier-breaking research, Gordon Research Conferences does not permit publication of meeting proceedings.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

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

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

GERRIT JAN SCHUT	UNIVERSITY OF GEORGIA	Attendee	Registered
RICHARD F SHAND	NORTHERN ARIZONA UNIVERSITY	Attendee	Registered
BETTINA SIEBERS	UNIVERSITAET DUISBURG-ESSEN	Vice Chair	Registered
NICOLAS SOLER	INSTITUT DE GENETIQUE ET MICROBIOLOGIE	Poster Presenter	Registered
DIETER SOLL	YALE UNIVERSITY	Speaker	Registered
JOERG SOPPA	GOETHE-UNIVERSITY	Poster Presenter	Registered
KEVIN R SOWERS	UNIVERSITY OF MARYLAND BIOTECHNOLOGY INSTITUTE	Attendee	Registered
JOSHUA L SPUHLER	MONTANA STATE UNIVERSITY	Poster Presenter	Registered
DAVID A STAHL	UNIVERSITY OF WASHINGTON	Speaker	Registered
KENNETH M STEDMAN	PORTLAND STATE UNIVERSITY	Poster Presenter	Registered
KARL O STETTER	UNIVERSITY OF REGENSBURG	Discussion Leader	Registered
HENRIK MR STRAHL	UNIVERSITY OF OSNABRUECK	Poster Presenter	Registered
SUHARTI SUHARTI	PENN STATE UNIVERSITY	Poster Presenter	Registered
ROLF K THAUER	MARBURG UNIVERSITY	Speaker	Registered
MICHAEL THOMM	UNIVERSITAT REGENSBURG	Poster Presenter	Registered
MANUELA TRIPEPI	UNIVERSITY OF PENNSYLVANIA	Attendee	Registered
JOHN VAN DER OOST	WAGENINGEN UNIVERSITY	Speaker	Registered
DAVID J VANDYKE	QUEEN'S UNIVERSITY	Poster Presenter	Registered
KATRIN WEIDENBACH	CHRISTIAN ALBRECHTS UNIVERSITY OF KIEL	Poster Presenter	Registered
MALCOLM F WHITE	ST ANDREWS UNIVERSITY	Chair	Registered
ROBERT H WHITE	VIRGINIA TECH	Speaker	Registered
WILLIAM B WHITMAN	UNIVERSITY OF GEORGIA	Discussion Leader	Registered
WINNIE W WU	CENTRE FOR EXTREMOPHILE RESEARCH	Poster Presenter	Registered
SHIGEO YOSHINARI	UNIVERSITY OF TOKYO	Attendee	Registered
MARK YOUNG	MONTANA STATE UNIVERISTY	Poster Presenter	Registered
JING YUAN	YALE UNIVERSITY	Poster Presenter	Registered
CHUANLUN ZHANG	UNIVERSITY OF GEORGIA	Attendee	Registered
WEIDONG ZHAO	UNIVERSITY OF GEORGIA	Poster Presenter	Registered
SABRINA A ZIMMERMAN	PENNSYLVANIA STATE UNIVERSITY	Poster Presenter	Registered
BEHNAM ZOLGHADR	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 <i>Methanosarcina mazei</i> "
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 Methylotrophic Methanogenesis in <i>Methanosarcina</i> 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 <i>Methanococcus maripaludis</i> "
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) Peter Schönheit (University of Kiel) "Unusual Enzymes of Archaeal Glycolysis and Acetate Formation" Discussion Bettina Siebers (University of Duisburg-Essen) "Trehalose Metabolism in <i>Thermoproteus tenax</i> " Discussion Paul Blum (University of Nebraska Lincoln) "Toxin/Antitoxins and Carbon Flux in <i>Sulfolobus solfataricus</i> " Discussion Haruyuki Atomi (Kyoto University) "Unusual Pentose Metabolism in <i>Thermococcus kodakaraensis</i> " 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) Biswarup Mukhopadhyay (Virginia Bioinformatics Institute, State University) "Sulfite Reduction in Methanogenic Archaea - New Enzymes and New Hypotheses on Two Ancient Metabolisms" Discussion Arnulf Kletzin (Technical University Darmstadt)

	"Mechanisms of Sulfur Oxidation in <i>Acidianus ambivalens</i> "
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 ₂ : 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 <i>Sulfolobus solfataricus</i> "
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 <i>Haloferax volcanii</i> "
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 <i>Haloferax volcanii</i> "
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 <i>Sulfolobus solfataricus</i> "
8:55 pm - 9:00 pm	Discussion
9:00 pm - 9:25 pm	Julie Maupin-Furlow (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: Karl Stetter (University of Regensburg)
9:00 am - 9:25 am	Rick Caviccioli (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	Charles Robertson (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	Todd Low (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	Steven Hallam (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	James Elkins (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	INFORMATION PROCESSING
	Discussion Leader: Michael Thomm (University of Regensburg)
7:30 pm - 7:55 pm	Steve Bell (University of Cambridge) "DNA Replication in <i>Sulfolobus</i> "
7:55 pm - 8:00 pm	Discussion
8:00 pm - 8:25 pm	Joseph Krzycki (Ohio State University) "Transmissible Biosynthesis and Genetic Encoding of Pyrrolysine"
8:25 pm - 8:30 pm	Discussion
8:30 pm - 8:55 pm	Dieter Söll (Yale University) "Protein Synthesis: Archaea-Specific Processes"
8:55 pm - 9:00 pm	Discussion
9:00 pm - 9:25 pm	Katsuhiko Murakami (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

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 DeVeaux** (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

Student Short Talks and Student Poster Awards

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

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
