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Nancy Ryan Gray, Ph.D.

Director

2003 GORDON RESEARCH CONFERENCE

on 2003 Archaea: Ecology, Metabolism and Molecular Biology

FINAL PROGRESS REPORT

DOE

DE-FG02-03ER15432

The Gordon Research Conference (GRC) on 2003 Archaea: Ecology, Metabolism and Molecular Biology was held at Proctor Academy, Andover, NH from August 3-8, 2003. The Conference was well-attended with 150 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In designing the formal speakers program, emphasis was placed on current unpublished research and discussion of the future target areas in this field.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 As you know, in the interest of promoting the presentation of unpublished and frontier-breaking research, Gordon Research Conferences does not permit publication of meeting proceedings.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.

Dr. Richard F. Shand
2003 Conference Chair

ARCHAEA: ECOLOGY, METABOLISM & MOLECULAR BIOLOGY

Proctor Academy
Aug 3-8, 2003

Name	Organization	Participation	Status
MICHAEL W ADAMS	UNIVERSITY OF GEORGIA	Speaker	Registered
SONJA-VERENA ALBERS	UNIVERSITY OF GRONINGEN	Poster Presenter	Registered
THORSTEN ALLERS	UNIVERSITY OF NOTTINGHAM	Poster Presenter	Registered
STEPHAN W AUFHAMMER	MAX-PLANCK INSTITUTE	Poster Presenter	Registered
NITIN S BALIGA	INSTITUTE FOR SYSTEMS BIOLOGY	Speaker	Registered
SONIA L BARDY	QUEEN'S UNIVERSITY	Poster Presenter	Registered
STEPHEN D BELL	CAMBRIDGE UNIVERSITY	Vice Chair	Registered
ROLF BERNANDER	UPPSALA UNIVERSITY	Speaker	Registered
BRIAN R BERQUIST	CENTER OF MARINE BIOTECHNOLOGY	Poster Presenter	Registered
KELLY A BIDLE	RIDER UNIVERSITY	Speaker	Registered
NILS-KARE BIRKELAND	UNIVERSITY OF BERGEN	Poster Presenter	Registered
SHERRY K BLIGHT	OHIO STATE UNIVERSITY	Poster Presenter	Registered
PAUL BLUM	UNIVERSITY OF NEBRASKA	Speaker	Registered
EDWARD L BOLT	UNIVERSITY OF NOTTINGHAM	Poster Presenter	Registered
STAN JJ BROUNS	WAGENINGEN UNIVERSITY	Poster Presenter	Registered
ISAAC CANN	UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN	Poster Presenter	Registered
RICK CAVICCHIOLI	UNIVERSITY OF NEW SOUTH WALES (UNSW)	Speaker	Registered
FLORENCE CONSTANTINESCO	GENETIC AND MICROBIOLOGY INSTITUT	Poster Presenter	Registered
EVERLY CONWAY DE MACARIO	WADSWORTH CENTER	Poster Presenter	Registered
STEPHEN P CRAMER	UNIVERSITY OF CALIFORNIA, DAVIS	Poster Presenter	Registered
EDWARD J CRANE	POMONA COLLEGE	Poster Presenter	Registered
DAVID J CROWLEY	MERCER UNIVERSITY	Poster Presenter	Registered
FRANCISCO CRUZ	PENNSYLVANIA STATE UNIVERSITY	Poster Presenter	Registered
CHARLES J DANIELS	OHIO STATE UNIVERSITY	Discussion Leader	Registered
MICHAEL J DANSON	UNIVERSITY OF BATH	Discussion Leader	Registered
SHILADITYA DASSARMA	CENTER OF MARINE BIOTECHNOLOGY	Speaker	Registered
MARIARITA DE FELICE	INSTITUTE OF PROTEIN BIOCHEMISTRY (IBP)-CNR	Poster Presenter	Registered
SIMON DE VRIES	TU DELFT	Poster Presenter	Registered
EDWARD F DELONG	MONTERERY BAY AQUARIUM AQUARIUM RESEARCH INS	Speaker	Registered
YAN-HUAI RICHARD DING	YAN-HUAI RICHARD DING	Poster Presenter	Registered
ISABELLE DIONNE	MRC CANCER CELL UNIT	Poster Presenter	Registered
JEREMY A DODSWORTH	DEPARTMENT OF MICROBIOLOGY, UW-SEATTLE	Poster Presenter	Registered
JESSIE L. DUNCAN	NORTHERN ARIZONA UNIVERSITY	Poster Presenter	Registered
MIKE DYALL-SMITH	UNIVERSITY OF MELBOURNE	Discussion Leader	Registered
JERRY EICHLER	BEN GURION UNIVERSITY	Poster Presenter	Registered
CHRISTIANE ELIE	UNIVERSITÉ PARIS SUD	Speaker	Registered
HARALD ENGELHARDT	MAX-PLANCK-INSTITUT FUER BIOCHEMIE	Speaker	Registered
THIJS TJG ETTEMA	WAGENINGEN UNIVERSITY	Poster Presenter	Registered
JAMES G FERRY	PENN STATE UNIVERSITY	Speaker	Registered
MICHAEL W FINN	THE OHIO STATE UNIVERSITY	Poster Presenter	Registered
PATRICK FORTERRE	UNIVERSITE PARIS- SUD	Discussion Leader	Registered
LUCIA FORZI	MAX-PLANCK-SOCIETY	Poster Presenter	Registered
BRUNO FRANZETTI	CNRS-INTITUT OF STRUCTURAL BIOLOGY	Poster Presenter	Registered
ROGER GARRETT	UNIVERSITY OF COPENHAGEN	Speaker	Registered

LUIS PG GONCALVES	INSTITUTO TECNOLOGIA QUIMICA E BIOLOGICA	Poster Presenter	Registered
AMBER GOODCHILD	UNIVERSITY OF NEW SOUTH WALES	Poster Presenter	Registered
ANDREA GORRELL	PENNSYLVANIA STATE UNIVERSITY	Poster Presenter	Registered
GERHARD GOTTSCHALK	INSTITUT FUER MIKROBIOLOGIE UND GENETIK	Speaker	Registered
DOROTHEE K GOTZ	CENTRE FOR BIOMOLECULAR SCIENCES	Poster Presenter	Registered
BEATRICE A GRABOWSKI	CARB	Attendee	Registered
DAVID E GRAHAM	UNIVERSITY OF TEXAS AT AUSTIN	Poster Presenter	Registered
DENNIS W GROGAN	UNIVERSITY OF CINCINNATI	Poster Presenter	Registered
HENRI GROSJEAN	CNRS	Poster Presenter	Registered
ROBERT P GUNSALUS	UCLA	Speaker	Registered
RAMESH GUPTA	SOUTHERN ILLINOIS UNIVERSITY	Attendee	Registered
ADAM M GUSS	UNIVERSITY OF ILLINOIS AT URBANA CHAMPAIGN	Poster Presenter	Registered
CHRISTOPH HAGEMIER	MPI FOR TERRESTRIAL MICROBIOLOGY	Poster Presenter	Registered
NICHOLAS J HAND	UNIVERSITY OF PENNSYLVANIA	Poster Presenter	Registered
PATRICIA HARTZELL	UNIVERSITY OF IDAHO	Speaker	Registered
ISABELL HEINICKE	PHILIPPS-UNIVERSITY MARBURG	Poster Presenter	Registered
ERIK L HENDRICKSON	UNIVERSITY OF WASHINGTON	Poster Presenter	Registered
GRISelda HERNANDEZ	WADSWORTH CENTER - NYS DEPT. OF HEALTH	Poster Presenter	Registered
MICHAEL J. HOHN	UNIVERSITY OF REGENSBURG	Attendee	Registered
YA-MING HOU	THOMAS JEFFERSON UNIVERSITY	Poster Presenter	Registered
DAVID HOUGH	UNIVERSITY OF BATH	Speaker	Registered
HAROLD HUBER	UNIVERSITY OF REGENSBURG	Speaker	Registered
ROBERT HUBER	UNIVERSITY OF REGENSBURG	Attendee	Registered
YOSHIZUMI ISHINO	DEPT. GENET. RESOURCES TECH., KYUSHU UNIVERSITY	Speaker	Registered
KEN F JARRELL	QUEENS UNIVERSITY	Speaker	Registered
MELANIE JONUSCHEIT	DARMSTADT UNIVERSITY OF TECHNOLOGY	Poster Presenter	Registered
ELIZABETH A KARR	SOUTHERN ILLINOIS UNIVERSITY	Attendee	Registered
ZVI KELMAN	CENTER FOR ADVANCED RESEARCH IN BIOTECHNOLOGY	Speaker	Registered
PETER J KENNELLY	VIRGINIA POLYTECHNIC INSTITUTE & STATE UNIVERSITY	Poster Presenter	Registered
UNMI KIM	UCLA	Poster Presenter	Registered
YOSUKE KOGA	UNIV. OF OCCUPATIONAL AND ENVIRONMENTAL HEALTH	Poster Presenter	Registered
EUGENE KOONIN	NIH	Speaker	Registered
JOSEPH A KRZYCKI	OHIO STATE UNIVERSITY	Speaker	Registered
NORIO KUROSAWA	SOKA UNIVERSITY	Poster Presenter	Registered
MEI-CHIN LAI	NATIONAL CHUNG-HSING UNIVERSITY	Poster Presenter	Registered
SI-HOUY LAO	MRC	Poster Presenter	Registered
SARAH H LAWRENCE	THE PENNSYLVANIA STATE UNIVERSITY	Poster Presenter	Registered
SUNG-JAE LEE	UNIVERSITY OF KONSTANZ	Poster Presenter	Registered
JOHN A LEIGH	UNIVERSITY OF WASHINGTON	Speaker	Registered
DAVID LEMASTER	WADSWORTH CENTER-NYSDOH & SUNY-ALBANY	Poster Presenter	Registered
KATHRYN J. LEYVA	MIDWESTERN UNIVERSITY	Poster Presenter	Registered
GEORG LIPPS	UNIVERSITY OF BAYREUTH	Poster Presenter	Registered
PAOLA LONDEI	UNIVERSITY OF ROME	Speaker	Registered
MAGNUS LUNDGREN	UPPSALA UNIVERSITY	Poster Presenter	Registered
STUART A MACNEILL	UNIVERSITY OF EDINBURGH	Attendee	Registered
DENNIS L MAEDER	COMB/UMBI	Poster Presenter	Registered
ANIRBAN MAHAPATRA	OHIO STATE UNIVERSITY	Poster Presenter	Registered
TIFFANY A MAJOR	UNIVERSITY OF GEORGIA	Attendee	Registered
KIRA S MAKAROVA	NATIONAL CENTER FOR BIOTECHNOLOGY INFORMATION	Poster Presenter	Registered
ADAM T MCGEOCH	MRC CCU	Poster Presenter	Registered
WILLIAM W METCALF	UNIVERSITY OF ILLINOIS	Speaker	Registered
MOSHE MEVARECH	TEL-AVIV UNIVERSITY	Attendee	Registered
SHIGENOBU MITSUZAWA	JAPAN MARINE SCIENCE & TECHNOLOGY CENTER	Poster Presenter	Registered

MARCO MORACCI	INSTITUTE OF PROTEIN BIOCHEMISTRY	Speaker	Registered
VOLKER MUELLER	UNIVERSITY OF FRANKFURT	Poster Presenter	Registered
BISWARUP MUKHOPADHYAY	VIRGINIA TECH	Poster Presenter	Registered
SANDY Y.M. NG	QUEEN'S UNIVERSITY	Poster Presenter	Registered
ULF NIESS	PHILIPPS-UNIVERSITY MARBURG	Poster Presenter	Registered
TAKURO NUNOURA	JAPAN MARINE SCIENCE AND TECHNOLOGY CENTER	Poster Presenter	Registered
DIETER OESTERHELT	MAX PLANCK SOCIETY	Discussion Leader	Registered
ARINA OMER	UNIVERSITY OF BRITISH COLUMBIA	Speaker	Registered
AHARON OREN	INSTITUTE OF LIFE SCIENCES	Speaker	Registered
MOHAMED OUHAMMOUCH	UNIVERSITY OF CALIFORNIA, SAN DIEGO	Attendee	Registered
ERIC V PATRIDGE	PENNSYLVANIA STATE UNIVERSITY	Poster Presenter	Registered
FRANCINE PERLER	NEB	Poster Presenter	Registered
FELICITAS PFEIFER	TU DARMSTADT	Speaker	Registered
MECHTHILD POHLSCHRODER	UNIVERSITY OF PENNSYLVANIA	Speaker	Registered
IRIS PORAT	UNIVERSITY OF GEORGIA	Poster Presenter	Registered
DAVID PRANGISHVILI	UNIVERSITY OF REGENSBURG	Speaker	Registered
MATTHEW A PRITCHETT	UNIV. OF ILLINOIS, DEPT. OF MICROBIOLOGY	Poster Presenter	Registered
JOHN N REEVE	OHIO STATE UNIVERSITY	Discussion Leader	Registered
ANNA-LOUISE REYSENBACH	PORTLAND STATE UNIVERSITY	Speaker	Registered
FRANK T ROBB	UNIVERSITY OF MARYLAND	Speaker	Registered
CHARLES E ROBERTSON	UNIVERSITY OF COLORADO	Attendee	Registered
NICK ROBINSON	MRC CANCER CELL UNIT	Speaker	Registered
MICHAEL ROTHER	UNIVERSITY OF ILLINOIS	Poster Presenter	Registered
VINCENZO SALERNO	INSTITUTE OF PROTEIN BIOCHEMISTRY, CNR	Poster Presenter	Registered
KATHLEEN SANDMAN	OHIO STATE UNIVERSITY	Attendee	Registered
RUTH A SCHMITZ	UNIVERSITY OF GOETTINGEN	Poster Presenter	Registered
PETER SCHOENHEIT	UNIVERSITY OF KIEL	Speaker	Registered
IMKE SCHROEDER	UCLA	Poster Presenter	Registered
RICHARD F SHAND	NORTHERN ARIZONA UNIVERSITY	Chair	Registered
HOLLY SIMON	UNIVERSITY OF WISCONSIN-MADISON	Speaker	Registered
DAVID M. SMITH	UNIV OF IDAHO	Poster Presenter	Registered
LUCAS SOIZICK	INSTITUT GENETIQUE ET MICROBIOLOGIE	Poster Presenter	Registered
DIETER SOLL	YALE UNIVERSITY	Attendee	Registered
JOERG SOPPA	GOETHE-UNIVERSITY	Poster Presenter	Registered
MAURICE W SOUTHWORTH	NEW ENGLAND BIOLABS	Poster Presenter	Registered
KEVIN R SOWERS	UNIVERSITY OF MARYLAND BIOTECHNOLOGY INSTITUTE	Poster Presenter	Registered
KENNETH M STEDMAN	PORTLAND STATE UNIVERSITY	Poster Presenter	Registered
REINHARD STERNER	UNIVERSITY OF KOELN	Speaker	Registered
KARL O STETTER	UNIVERSITY OF REGENSBURG	Speaker	Registered
ALEXANDER STOJANOWIC	MAX-PLANCK-SOCIETY	Poster Presenter	Registered
ZALAN SZABO	UNIVERSITY OF GRONINGEN	Poster Presenter	Registered
KEN TAKAI	JAPAN MARINE SCIENCE & TECHNOLOGY CENTER	Poster Presenter	Registered
RUDOLF K THAUER	MARBURG UNIVERSITY	Attendee	Registered
MICHAEL THOMM	UNIVERSITAT REGENSBURG	Speaker	Registered
STEPHANE S THORE	EUROPEAN MOLECULAR BIOLOGY LABORATORY	Poster Presenter	Registered
JOHN VAN DER OOST	WAGENINGEN UNIVERSITY	Discussion Leader	Registered
KATHARINA K VEIT	UNIVERSITY OF GOETTINGEN	Poster Presenter	Registered
DAVID A WALSH	DEPT. OF BIOCHEMISTRY, DALHOUSIE UNIVERSITY	Poster Presenter	Registered
DONALD WARD	GENENCOR INTERNATIONAL	Attendee	Registered
PAULA V WELANDER	UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN	Poster Presenter	Registered
MALCOLM F WHITE	ST ANDREWS UNIVERSITY	Speaker	Registered
YUNWEI XIE	OHIO STATE UNIVERSITY	Poster Presenter	Registered
JOSEPH ZACCAI	INSTITUTE OF BIOLOGY STRUCTURE CEA-CNRS	Speaker	Registered

Archaea: Ecology, Metabolism & Molecular Biology

August 3-8, 2003

Proctor Academy

Andover, NH

Chair: [Richard F Shand](#)

Vice Chair: [Stephen D Bell](#)

SUNDAY

2:00 pm - 9:00 pm	Arrival and check-in
6:00 pm	Dinner
7:30 pm - 9:30 pm	KEYNOTE ADDRESS AND PHYSIOLOGY OF METHANOGENS
	Discussion Leader: John Reeve (The Ohio State University)
7:30 pm - 7:35 pm	Greg Ferry (Pennsylvania State University, University Park) Presentation of Keynote speaker: Gerhard Gottschalk
7:35 pm - 8:25 pm	Gerhard Gottschalk (Institute of Microbiology and Genetics, Göttingen) Keynote Address: "Studies on <i>Methanosarcina</i> , from Cytochromes to Genomes"
8:25 pm - 8:30 pm	Discussion
8:30 pm - 8:55 pm	John Leigh (University of Washington, Seattle). "Nitrogen Regulation in <i>Methanococcus maripaludis</i> : Genetic, Genomic, and in vitro Studies."
8:55 pm - 9:00 pm	Discussion
9:00 pm - 9:25 pm	Rob Gunsalus (University of California, Los Angeles) "Osmoregulation in the <i>Methanosarcina</i> "
9:25 pm - 9:30 pm	Discussion
9:45 pm	Reception

MONDAY

7:30 am - 8:30 am	Breakfast
8:30 am	Photo
9:00 am - 12:30 pm	ARCHAEAL ECOLOGY AND DIVERSITY
	Discussion Leader: Karl Stetter (University of Regensburg)
9:00 am - 9:25 am	Ed DeLong (Monterey Bay Aquarium Research Institute) "Oceanic Archaea: Physiological Ecology and Genomics"
9:25 am - 9:30 am	Discussion
9:30 am - 9:55 am	Aharon Oren (The Hebrew University of Jerusalem) "The Halobacteriaceae (Archaea) and <i>Salinibacter</i> (Bacteria): Convergent Evolution toward Adaptation to Life at Saturating Salt Concentrations"
9:55 am - 10:00 am	Discussion
10:00 am - 10:25 am	Anna-Louise Reysenbach (Portland State University) "The Emerging View of Archaeal Diversity in High Temperature Ecosystems"
10:25 am - 10:30 am	Discussion
10:30 am - 10:45 am	Coffee Break
10:45 am - 11:10 am	Harald Engelhardt (Max Plank Institute of Biochemistry, Martinsried) "Studying Archaea by Electron Tomograph"
11:10 am - 11:15 am	Discussion
11:15 am - 11:40 am	Holly Simon (University of Wisconsin, Madison) "New Insights into the Biology of Mesophilic Soil and Root-Associated Crenarchaeota"
11:40 am - 11:45 am	Discussion
11:45 am - 12:10 pm	Harald Huber (University of Regensburg) "The Novel Phylum "Nanoarchaeota": Insights into the Physiology, Molecular Biology and Distribution of a Unique Archaeal Group"
12:10 pm - 12:15 pm	Discussion

12:15 pm - 12:30 pm Summary and Discussion

12:30 pm Lunch

1:30 pm - 4:30 pm Free Time

4:30 pm - 6:00 pm POSTER SESSION I

6:00 pm Dinner

7:30 pm - 9:30 pm **FUNCTIONAL GENOMICS**

Discussion Leader: **Dieter Oesterhelt** (Max Plank Institute for Biochemistry, Martinsried)

7:30 pm - 7:55 pm **Rolf Bernander** (Uppsala University)

"Functional Genomics of *Sulfolobus solfataricus* and *Sulfolobus acidocaldarius*"

7:55 pm - 8:00 pm Discussion

8:00 pm - 8:25 pm **Nitin Baliga** (Institute for Systems Biology, Seattle WA)

"Systems Analysis of Purple Membrane Biogenesis in *Halobacterium* sp."

8:25 pm - 8:30 pm Discussion

8:30 pm - 8:55 pm **Mike Adams** (University of Georgia, Athens)

"Functional Genomics of *Pyrococcus furiosus*"

8:55 pm - 9:00 pm Discussion

9:00 pm - 9:25 pm **Greg Ferry** (Pennsylvania State University)

"Genomic Contributions towards Understanding the Major Pathway for Methanogenesis"

9:25 pm - 9:30 pm Discussion

TUESDAY

7:30 am - 8:30 am Breakfast

9:00 am - 12:30 pm **INSIGHTS INTO ENZYME STABILITY AND FUNCTION FROM STRUCTURAL STUDIES**

Discussion Leader: **Michael Danson** (University of Bath)

9:00 am - 9:25 am **Reinhard Sterner** (University of Koeln)

"Thermal Stability and Catalytic Activity of Enzymes from Amino Acid Biosynthesis"

9:25 am - 9:30 am Discussion

9:30 am - 9:55 am **Rick Cavicchioli**, University of New South Wales, Australia

"Cold Adapted Enzymes"

9:55 am - 10:00 am Discussion

10:00 am - 10:25 am **Joseph Zaccai** (Institute of Structural Biology, CEA-CNRS)

"Adaptation to Extreme Environments: Neutron Scattering Studies of Dynamics-Stability Relations in Archaeal Proteins"

10:25 am - 10:30 am Discussion

10:30 am - 10:45 am Coffee Break

10:45 am - 11:10 am **David Hough** (University of Bath)

"Structural Determinants of Enzyme Thermoactivity"

11:10 am - 11:15 am Discussion

11:15 am - 11:40 am **Peter Schönheit** (University of Kiel)

"Unusual Pathways and Enzymes in Sugar Degradation of Hyperthermophilic Archaea"

11:40 am - 11:45 am Discussion

11:45 am - 12:10 pm **Marco Moracci**, Institute of Protein Biochemistry - CNR, Naples, Italy

"Engineering Structure and Function of Glycosyl Hydrolases from Hyperthermophiles"

12:10 pm - 12:15 pm Discussion

12:15 pm - 12:30 pm Summary and Discussion

12:30 pm Lunch

1:30 pm - 4:30 pm Free Time

4:30 pm - 6:00 pm POSTER SESSION II

6:00 pm Dinner

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

Discussion Leader: **Jerry Eichler** (Ben Gurion University of the Negev, Israel)

7:30 pm - 7:55 pm	Joe Krzycki (The Ohio State University) "Pyrrolysine, the Twenty-Second Genetically Encoded Amino Acid"
7:55 pm - 8:00 pm	Discussion
8:00 pm - 8:25 pm	Paola Londei (University of Rome) "Evolution of the Translation Apparatus: New Insights from the Archaea on the Conserved Features of Translation Initiation"
8:25 pm - 8:30 pm	Discussion
8:30 pm - 8:55 pm	Arina Omer (University of British Columbia) "Small, Methylation Guide RNPs in Archaea"
8:55 pm - 9:00 pm	Discussion
9:00 pm - 9:25 pm	Mecky Pohlschröder (University of Pennsylvania) "Protein Translocation Across Haloarchaeal Cytoplasmic Membranes"
9:25 pm - 9:30 pm	Discussion

WEDNESDAY

7:30 am - 8:30 am	Breakfast
9:00 am - 12:30 pm	TRANSCRIPTION AND GENE REGULATION
	Discussion Leader: John van der Oost (Wageningen University)
9:00 am - 9:25 am	Frank Robb (Center of Marine Biotechnology, Baltimore, MD) "Adaptive Heat Shock Responses in <i>Pyrococcus</i> Species: Gene Regulation and Chaperonin Function"
9:25 am - 9:30 am	Discussion
9:30 am - 9:55 am	Michael Thomm (University of Regensburg) "Transcription and Regulation of Transcription in <i>Pyrococcus</i> "
9:55 am - 10:00 am	Discussion
10:00 am - 10:25 am	Kelly Bidle (Rider University) "Examination of Salinity-Mediated Gene Regulation in <i>Haloferax volcanii</i> "
10:25 am - 10:30 am	Discussion
10:30 am - 10:45 am	Coffee Break
10:45 am - 11:10 am	Mohamed Ouhammouch (University of California, San Diego) "An in vitro System for Positively Regulated Archaeal Transcription"
11:10 am - 11:15 am	Discussion
11:15 am - 11:40 am	Felicitas Pfeifer (Darmstadt University of Technology) "Interaction of the Two Regulatory Proteins GvpD and GvpE of <i>Haloferax mediterranei</i> "
11:40 am - 11:45 am	Discussion
11:45 am - 12:10 pm	Ken Jarrell (Queen's University) "Structure and Genetics of Flagellation in <i>Methanococcus</i> "
12:10 pm - 12:15 pm	Discussion
12:15 pm - 12:30 pm	Summary and Discussion
12:30 pm	Lunch
1:30 pm - 4:30 pm	Free Time
4:30 pm - 6:00 pm	POSTER SESSION III
6:00 pm	Dinner
7:30 pm - 9:30 pm	ARCHAEAL GENOMES
	Discussion Leader: Chuck Daniels (The Ohio State University)
7:30 pm - 7:55 pm	Shil DasSarma (Center of Marine Biotechnology, Baltimore, MD) "Comparative Genomics of Haloarchaea"
7:55 pm - 8:00 pm	Discussion
8:00 pm - 8:25 pm	Eugene Koonin (The National Institutes of Health, Bethesda, MD) "Potential Determinants of the Hyperthermophilic Phenotype Identified by Genome Comparison"
8:25 pm - 8:30 p	Discussion
8:30 pm - 8:55 pm	Roger Garrett (University of Copenhagen)

	" <i>Sulfolobus</i> Genomes and their Evolution"
8:55 pm - 9:00 pm	Discussion
9:00 pm - 9:25 pm	Karl Stetter (University of Regensburg) "Predictions from the Genome Sequence of <i>N. equitans</i> : A Missing Link in Cell Evolution"
9:25 pm - 9:30 pm	Discussion

THURSDAY

7:30 am - 8:30 am	Breakfast
9:00 am - 12:30 pm	REPLICATION, REPAIR AND RECOMBINATION
	Discussion Leader: Patrick Forterre (University of Paris - Sud)
9:00 am - 9:25 am	Nick Robinson (Cambridge University) "In vivo and in vitro Characterization of an Origin of Replication in <i>Sulfolobus solfataricus</i> "
9:25 am - 9:30 am	Discussion
9:30 am - 9:55 am	Zvi Kelman (University of Maryland Biotechnology Institute) "Biochemical analysis of the <i>Methanothermobacter thermautotrophicus</i> MCM complex"
9:55 am - 10:00 am	Discussion
10:00 am - 10:25 am	Christiane Elie (University of Paris - Sud) " <i>Sulfolobus</i> Rad50-Mre11 Complex and its Protein Partners"
10:25 am - 10:30 am	Discussion
10:30 am - 10:45 am	Coffee Break
10:45 am - 11:10 am	Yosi Ishino (Kyushu University) "Structure and Function of the Novel Endonuclease Involved in Replication-Coupled Repair in Archaea"
11:10 am - 11:15 am	Discussion
11:15 am - 11:40 am	Malcolm White (St. Andrew's University) "Archaeal nucleotide excision repair"
11:40 am - 11:45 am	Discussion
11:45 am - 12:10 pm	Thorsten Allers (University of Nottingham, UK) "Genetic Analysis of Homologous Recombination in the Archaea: DNA Double-Strand Break Repair and Gene Conversion in <i>Haloferax volcanii</i> "
12:10 pm - 12:15 pm	Discussion
12:15 pm - 12:30 pm	Summary and Discussion
12:30 pm	Lunch
1:30 pm - 4:00 pm	Free Time
4:00 pm - 4:30 pm	Business Meeting
4:30 pm - 6:00 pm	POSTER SESSION IV
6:00 pm	Dinner
7:30 pm - 9:30 pm	GENETIC SYSTEMS, VIRUSES AND ARCHAEOGLOBUS
	Discussion Leader: Mike Dyll-Smith (University of Melbourne)
7:30 pm - 7:55 pm	Trish Hartzell , University of Idaho, Moscow "How does <i>Archaeoglobus</i> , an anaerobe, survive exposure to oxygen?"
7:55 pm - 8:00 pm	Discussion
8:00 pm - 8:25 pm	Bill Metcalf (University of Illinois) "Genetic Analysis of Methylophilic Methanogenesis in <i>Methanosarcina acetivorans</i> "
8:25 pm - 8:30 pm	Discussion
8:30 pm - 8:55 pm	Paul Blum (University of Nebraska, Lincoln) "Gene Replacement and Functional Genomics in the Hyperthermophilic Archaeon <i>Sulfolobus solfataricus</i> "
8:55 pm - 9:00 pm	Discussion
9:00 pm - 9:25 pm	David Prangishvili (University of Regensburg) "Novel Viruses of Crenarchaeota"
9:25 pm - 9:30 pm	Discussion

FRIDAY

7:30 am - 8:30 am Breakfast

9:00 am Departure

