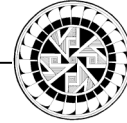


**Santa Fe Institute
Working Group/Workshop Proposal**



Workshop Title: Nucleic Acids: The First Billion Years

Workshop Date(s): June 19 – 22, 2007

Workshop Location(s): Santa Fe Institute

Workshop Organizer(s):

Eric Smith, Santa Fe Institute <desmith@santafe.edu>

Harold Morowitz, George Mason University <morowitz@gmu.edu>

Shelley Copley, University of Colorado at Boulder <shelley@cires.colorado.edu>

Proposed Total Cost: ~ \$50,000

Description of workshop:

This workshop is dedicated to a subset of topics supported by NSF FIBR grant No.0526747: "From geochemistry to the genetic code" In this second workshop under the grant, we are gathering world experts on a range of topics including: the metabolism of pentoses, purines and pyrimidines, the catalytic role of small nucleotides, RNA replication, the RNA world, the first viruses, catalytic RNAs, the emergence of the code, tRNAs, and the emergence of ribosomes. One purpose of the meeting is to bridge the gap between early metabolism and the RNA world. A second related purpose is to understand the relations between nucleotide synthesis, amino acid metabolism and sugar metabolism. We continue the discussion of the earliest metabolism with emphasis on the role of cofactors and the stability properties of metabolic networks. The subject matter is referenced to the first workshop.

Proposed schedule and topics:

The format is four days, 16 major presentations and adequate time for discussion. One evening will be set aside for interaction with student attendees. Another evening will be a planning session for FIBR grant members.

Proposed participant roster: (must include participant affiliation, field of research, and email address:

Eric Smith – SFI – physics, <desmith@santafe.edu>

Harold Morowitz – George Mason University, SFI, biology <morowitz@gmu.edu>

Shelley Copley - University of Colorado – chemistry <shelley@cires.colorado.edu>

George Cody - Carnegie Institute of Washington – geophysics <g.cody@gl.ciw.edu>

VijayaSarathy Srinivasan– George Mason University – chemistry <vsriniva@gmu.edu>

Nigel Goldenfeld - University of Illinois – physics <nigel@uiuc.edu>

Zaida Luthey Shulten - University of Illinois – chemistry <zan@uiuc.edu>

Carlos Castillo-Chavez - Arizona State University – math. biology <chavez@math.la.asu.edu>

John Baross - University of Washington – biological oceanography

<jbaross@u.washington.edu>

David Bartel - Whitehead Institute: MIT – chemistry <dbartel@wi.mit.edu>

Harry Noller - UC Santa Cruz – molecular and cellular biology <noller@biology.ucsc.edu >

Richard Cramer – Tripos – chemistry , cramer@tripos.com

Steve Benner – University of Florida – chemistry <benner@chem.ufl.edu>

Steen Rasmussen – LANL – self-organizing systems <steen@santafe.edu>

Ken Dejong, George Mason, A.I. and complex adaptive systems, kdejong@gmu.edu

James Trefil, George Mason, physics, jtrefil@gmu.edu

Scott Strobel, Yale University, molecular biophysics and biochemistry, scott.strobel@yale.edu

David Prangishvilli, Pasteur Institute, virology, prangish@pasteur.fr

Ronald Breaker, molecular biology, Yale University, Ronald.breaker@yale.edu

Jean-Michel Claverie, biomedical bioinformatics, University of Mediterranee,

jmc@igs.cmrs.mrs.fr

Gerald Joyce, chemistry, Scripps Research Institute, gjoyce@scripps.edu

Patrick Forterre, microbiology, Pasteur Institute, Patrick.forterre@igmors.u-psud.fr

Michael Yarus, biochemistry, University of Colorado, yarus@stripe.colorado.edu

Jack Szostak, genetics, Harvard University, szostak@molbio.mgh.harvard.edu

Albert Eschenmoser, organic chemistry, Swiss Federal Institute, eschenmoser@org.chem.ethz.ch

Paul Schimmel, Scripps Institute, biochemistry, schimmel@scripps.edu

In addition we will continue to provide for students and post Docs working on the FIBR grant as well as students from under represented groups. This amount will be funded by a separate FIBR budget.

Itemized Budget

Transportation and lodging for participants not local residents

Airfare:	19 domestic @ \$600/ea	13,200
	4 international @ \$1200	3,600
<i>Subtotal airfare</i>	24	\$16200

Ground transportation RT ABQ-Santa Fe-ABQ	1200
24@ \$50/ea	
Parking at or transportation to airport of departure 24@ \$80/ea	1920

<i>Subtotal transportation</i>		19,320
Hotel	24 people x 5 nights x \$181/nite =	21720
	3 long term housing pro rated for workshop dates	1000
<i>Subtotal housing</i>		\$22,720

Catering

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Breakfast/lunch/breaks for 28: 28 x 4 days x \$40/daypp		4480	
	28 x		
Group dinner for 28 people:	\$65/ea	2600	
<i>Subtotal catering</i>			7,080
TOTAL			\$49,120

Proposed source of funding:

Primary and exclusive source of funding is NSF FIBR grant No. 0526747