

Assembling the Tree of Life



Drawing by Karen Kitz, 2003-2003

Assembling the Tree of Life -- PI meeting
National Science Foundation
November 19-24, 2004



AToL All Hands PI Workshop Agenda

Friday, November 19th – *The AToL concept and approaches taken by each project*
FDIC - L. William Seidman Center, 3501 Fairfax Drive, Room 3086, Arlington,
Virginia
Main Auditorium

1:00 Welcome: Dr. Michael Willig, Division Director (DEB), Dr. Penny Firth, Acting Division Director, (DEB) and Dr. James Woolley, Program Director (AToL)

1:15 Introduction by Dr. Brent Mishler, University of California, Berkeley

1:20 *Ten minute talks by the main PI (or designate) of each of the main funded projects (22 in all), with three 20 minute break/discussion periods. Each to outline general scientific goals (leaving the details to the poster presentations), plus their group's approaches to project management, coordination, outreach, and training.*

2001 Cohort

Hexapods – *Dr. Mark Clement*

Annelids – *Dr. Damhnait McHugh*

Chloroplast genomics – *Dr. Robert
Jansen*

Arthropods – *Dr. Jerry Regier*

2002 Cohort:

Spiders – *Dr. Ward Wheeler*

Fungi - *Dr. David Hibbett*

Green Plants – *Dr. Charles O'Kelly*

Archosaurs - *Dr. Mark Norell*

Birds – *Dr. Shannon Hackett*

Bacteria – *Dr. Jonathan Eisen*

Nematodes – *Dr. David Fitch*

2003 Cohort:

Hymenoptera – *Dr. John Heraty*

Marine Symbiosis – *Dr. Mary Beth Saffo*

Squamates - *Dr. John Weins*

Amphibians – *Dr. David Cannatella*

Diptera – *Dr. Brian Wiegmann*

Protostomes – *Dr. Gonzalo Giribet*

Phylogenomics Toolbox – *Dr. Mike Sanderson*

2004 Cohort:

Ants - *Dr. Phil Ward*

Cypriniform fishes – *Dr. Richard Mayden*

Angiosperms – *Dr. Mike Donoghue*

Microbial Eukaryotes - *Dr. Laura Katz*



Saturday, November 20th – *Emphasis on informatics*
NSF, Stafford I, *Room 375*



7:30 *Refreshments – Foyer outside of Room 375*

CIPRES in Relation to AToL – *Room 375*

8:00 General introduction to CIPRES by the lead PI Bernard Moret

8:10 The CIPRES database group – *Dr. Dan Miranker*

8:20 The CIPRES simulation group – *Dr. Junhyong Kim*

8:30 The CIPRES algorithm group - *Dr. Tandy Warnow*

8:40 The CIPRES software development group – *Dr. Dave Swofford*

8:50 The CIPRES central resource, San Diego Supercomputer Center

– *Dr. Mark Miller*

9:00 *Break*

9:15 Discussion of how to develop linkages between CIPRES and the individual AToL projects.

10:00 *Break*



Presentations of AToL-associated Informatics Approaches – Room 375

- 10:15 The bioinformatic structure of Assembling the Fungal Tree of Life (AFTOL) - *Drs. Frank Kauff, Cymon Cox and François Lutzoni*
- 10:30 The uBio project - an internet based biological name server and how it can be used to organize information about organisms on the internet. - *Drs. Dave Remsen and David Patterson*
- 10:45 An organellar annotation program (DOGMA) and a Chloroplast Genome database. - *Dr. Robert Jansen*
- 11:00 Bioinformatics at TIGR in support of AToL - *Dr. Jonathan Badger*
- 11:15 Visualizing phylogenetic trees, and linking them to databases – *Dr. Brent Mishler and Rebecca Shapley*
- 11:30 Modeling reticulate evolution - *Dr. Randy Linder*
- 11:45 Digital Library of Vertebrate Morphology (www.DigiMorph.org) - *Dr. Tim Rowe*
- 12:00 *Lunch on your own.*

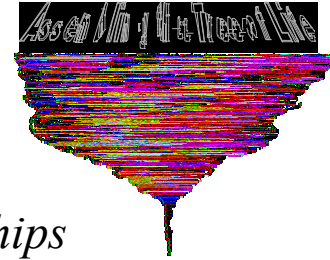


Database Workshop – Room 375

Organizer: Dr. Susanne Schulmeister

Reports on recent workshops held elsewhere, and presentation of existing projects on phylogenetic databasing.

- 1:00 *Dr. Dan Miranker:* Introduction to databases; data standards
- 1:40 *Dr. Frederik Ronquist:* Report on the Tallahassee workshop and its results
- 2:05 *Dr. Reed Beaman:* Report on the Gainesville workshop and software of the
Angiosperm AToL
- 2:30 *Dr. John Heraty:* MorphoNet
- 2:55 *Break*
- 3:10 *Dr. Maureen O'Leary:* MorphoBank
- 3:35 *Dr. Frederik Ronquist:* MorphBank
- 4:00 *Dr. Mark Norell:* A database for the Archosauria AToL
- 4:25 *General Discussion*
- 6:00 *Meeting adjourns for the evening.*



Sunday, November 21st - *Data, analysis, documentation, external relationships*

NSF, Stafford I, 3rd Floor (Rooms 375, 365, 370, and 320)

7:30 *Refreshments – Foyer outside of Room 375*

Data and analysis issues.

*A series of 9 discussions, led and moderated by pairs of people who are interested in the area, yet have different perspectives. Moderators will present short, informal, and provocative points of view, followed by open discussion. A rapporteur will be appointed in each group to record an outline of the discussion and will report to all group in the following plenary session. **Participants will sign up for the groups on Saturday.***

8:00 Integrating morphological, DNA sequence, and genomic data
Moderators: Drs. Dave Cannatella and Paul Wolf

Integrating fossils into phylogenetics

Moderators: Drs. Peter Makovicky and Tim Rowe

Integrating parsimony, likelihood, and Bayesian approaches

Moderators: Drs. Joel Cracraft and Dick Olmstead

9:10 *Break*

9:25 Concatenating analyses done at different phylogenetic scales
Moderators: Drs. Brent Mishler and Mike Sanderson



The effect of horizontal transfer on phylogenetic reconstruction and tree representation Moderators: Drs. Jonathan Eisen and Randy Linder

The effects of convergence and parallelism on phylogenetic reconstruction, and how to include in simulations? Moderators: Drs. Junhyong Kim and Jack Sites

10:35 *Break*

10:50 Interfacing tree of life projects with "traditional" monographic systematics
Moderators: Drs. Shannon Hackett and Phil Ward

New approaches to electronic publishing, and how that will affect ATOL
Moderators: Drs. Susanne Schulmeister and Dina Mandoli

Data-mining for analysis from large databases
Moderators: Drs. Amy Driskell and David Hibbett

12:00 *Lunch on your own.*

Plenary Session: Data Analysis and Issues – Room 375

1:00 Reports from each discussion. Discussion, opportunities for comments and synthesis.



Plenary Session: Management Issues

There will be a series of seven open discussions on selected topics, with attendees asked to share their experiences (good and bad), plans, and expectations. These will be moderated by members of the workshop steering committee (who themselves will be free to participate). A rapporteur will be appointed to record the discussion.

3:40 How best to coordinate an AToL project? What mechanisms work, and what don't? -- moderated by Dr. Dina Mandoli

4:00 How best to coordinate across AToL projects? Do we need a general AToL website (and who will run it!). When should the next meeting be? -- moderated by Dr. Brent Mishler

4:20 How best to accomplish training within the AToL and in the scientific community as a whole? -- moderated by Dr. Paula Mabee



Plenary Session: Management Issues (con't)

4:40 What is or should be the relationship between AToL projects and museums and herbaria (in terms of documentation by vouchers and other physical materials)? -- moderated by Dr. Francois Lutzoni

5:00 How do we involve the public? How do we reach out to under-represented groups in science? -- moderated by Dr. Laura Katz

5:20 How do we reach out to other communities of researchers (i.e., ecology, physiology, genomics?) -- moderated by Dr. Jon Eisen

5:40 How do we further develop relationships with international colleagues? -- moderated by Dr. Gustavo Hormiga

6:00 *Meeting Adjourns.*



Members of the AToL workshop steering committee:

Jonathan Eisen

Gustavo Hormiga

Gail Kampmeier

Laura Katz

Francois Lutzoni

Paula Mabee

Dina Mandoli

Brent Mishler (Chair)

Bernard Moret

Mark Norell