

# CURRICULUM VITAE

***Jeffrey L. Boore***

## PERSONAL

Born February 17, 1958, Cumberland, Maryland. Married to Susan I. Fuerstenberg

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2800 Mitchell Drive  
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Web: <http://www.jgi.doe.gov>, Evolutionary Genomics link

## CURRENT POSITION

Evolutionary Genomics Department Head, DOE Joint Genome Institute (JGI)  
University of California Scientist, Lawrence Berkeley National Laboratory  
Associate Adjunct Professor, University of California, Berkeley

DUTIES: Develop the comparative genomics program of the JGI and oversee its operation, provide scientific and managerial leadership for the JGI Evolutionary Genomics Department, serve as a member of the senior management committee of the JGI to provide direction for large-scale sequencing efforts, represent JGI with external organizations and funding agencies, communicate results through scientific publications and presentations, provide training in the methods and concepts of comparative genomics, develop collaborations and manage proposals with researchers outside of the JGI, provide outreach to increase public understanding of genomics

## PREVIOUS SCIENTIFIC POSITIONS

2000-2002 Comparative Genomics / Genomic Diversity Group Leader, DOE JGI  
1996-2000 Visiting Research Scientist, University of Michigan Department of Biology  
1992-1996 NIH Postdoctoral Fellow, University of Minnesota Department of Cell Biology and Neuroanatomy

## EDUCATION

1992-96 Postdoctoral training, University of Minnesota  
1992 Ph.D., Biology, University of Michigan  
1982-84 Graduate study, Wichita State University (non-degree)  
1980 B.S., Biology, Pennsylvania State University

COURSE WORK: Areas emphasized include Genetics, Molecular Biology, Biochemistry, Cell and Developmental Biology, Population Genetics, Evolutionary Biology, Genome Evolution, Biology of Invertebrates, and Theory and Methods of Systematics.

## EVOLUTIONARY GENOMICS GROUP

**Permanent staff:** J. Robert Macey (Ph.D. scientist), Mónica Medina (Ph.D. scientist), Pilar Francino (Ph.D. scientist), Jeff Froula (senior research associate; SRA), Jenna Morgan (SRA), Jennifer Kuehl (RA), David Engle (RA), Jonathan Fong (RA). **Postdoctoral scholars:** Brian Simison, Richard Baker, Martha Lucia-Posada, Paramvir Dehal, Jim Parham. **Guest researchers:** Dan Mulcahy, Wes Savage, Ron Bonett. **Graduate students:** Kirsten Lindstrom, Rachel Mueller, Yvonne Vallès. **Other dissertation committees:** Stacia Wyman, Scott Fay. **Current exam committees:** Hua Chen. **Undergraduate:** Tori Takaoka. **ALUMNI: Past graduate students:** Kevin Helfenbein (Ph.D. September 2002, postdoctoral scholar at Columbia U), Corrie Saux (M.S. 2003, Ph.D. student at Harvard U). Other dissertation/exam committees: Dennis Lavrov, Russell Watkins, Renfu Shao. **Past postdocs:** Susan Masta, Douda Bensasson. **Past staff:** H. Matthew Fourcade (SRA). **Past guest researchers:** Prof. Axel Meyer (U of Konstanz, 3 months), Inaki Ruiz-Trillo (U of Barcelona, 3 months), Prof. Jim Garey (U of South Florida, 1 week), Prof. Eric Knox (Rutgers U, 3 weeks), Allen Haim (software developer, 9 months), Dr. Marty Wojciechowski (Berkeley, 3 months), Alek Bituin (Berkeley, 3 months), Dr. William Eddie (U of Texas, 3 months), Renfu Shao (U of Queensland, 2 months), Dr. Marco Passamonti (U of Bologna, 9 months), Dr. Mike Atkins (Woods Hole Marine Biology Lab, 1 month), Karen Slon (U of Connecticut, 1 month), David DeGusta (Berkeley, 6 months), Martin Jaekel (Berkeley, 1 year), Dr. Hsiao-Pei Yang (UC Davis, 4 months), Lisa Lee (U Southern California, 4 months), Prof. Richard Thomas (Natural History Museum, London, 6 months), Stacia Wyman (U of Texas, 3 months), Prof. Hiroshi Akashi (Penn State U, 2 weeks), Nikoletta Danos (UC Berkeley, 1 year), Dr. Marcos Perez-Losada (Brigham Young U, 2 weeks), Dr. Kelly Ivors (UC Berkeley, 2 weeks), Rebekah Andrus (Utah State U, 1 week), Romey Haberle (U of Texas, 3 weeks), Dr. Yau-Wen Yang (Academia Sinica, Taiwan, 6 months) Ernesto Recuero (UNAM, 2 months), Dr. Gabriela Parra (UNAM, 1 month).

## PROFESSIONAL ORGANIZATIONS

Society for Molecular Biology and Evolution  
 Society for Systematic Biology  
 American Society for Microbiology

## PROFESSIONAL EXPERIENCE, SERVICE, FELLOWSHIPS, AND HONORS

2002-present	Advisor to the All Species Foundation
2002-present	Steering Committee for “New Academic Initiatives”, UC Berkeley
2002	Advisory Board on Technology Development to the All Species Foundation
2001-present	Lawrence Berkeley National Laboratory Institutional Biosafety Committee
2002	Search committee, Department of Plant and Microbial Biology, UC Berkeley
2001-present	Editorial Board for <i>Genome Letters</i>
2001	External examiner for dissertation defense of Russell Watkins, Simon-Frazer University, Burnaby, British Columbia, Canada
2001-present	Planning committee for Bay Area Biosystematists Group
2000	Advisory board to the NSF Tree of Life Initiative, Austin, TX
1999	Planned and led a symposium on “Mitochondrial Genomics” at the annual meetings of the Society for Molecular Biology and Evolution and the Genetics Society of Australia, Brisbane, Australia
1999	Gordon Research Conference Travel Fellowship to Japan
1992-96	NIH Postdoctoral Fellowship, three years, University of Minnesota
1995	NSF-Sponsored Travel Fellowship to Japan
1991	Rackham Dissertation Fellowship, grad school tuition and stipend for 1 year
1989-91	University of Michigan Competitive Graduate Student Grants, nine awards
1987-90	NIH Genetics Traineeship, tuition and stipend, four years
1976-80	Air Force Reserve Officers Training Scholarship, tuition and stipend

## GRANTS AND FUNDING

- \$306,690. National Science Foundation FIBR program, P.I. on this subaward from “Genomic Resources for the Crustacean Daphnia”. Project Director Michael Lynch, total funding \$5,000,000. 09/01/03-08/31/04. (total grant period until 08/31/08)
- \$750,000. National Institute of General Medical Sciences (NIH), “Genomics, Cis-Regulation and Genetic Variation (Comparative Genome Analysis and Interpretation)”. Co-P.I., Project Director Richard Karp. 7/01/03-6/30/06.
- \$743,000. Department of Energy, “Evolutionary Genomics Studies”. 10/01/02-10/01/03.
- \$1,789,842. U.S. Department of Agriculture. P.I. on “Genome Sequence of *Phakopsora pachyrhizi* and *Phakopsora meibomiae*”. 10/01/02-12/31/04.
- \$186,000. NASA. P.I. on this subaward from “Microbial Life at Low Temperatures”, Project Director James Tiedje. 10/01/01-9/30/04.
- \$1,848,000. National Science Foundation/U.S. Department of Agriculture. P.I. on this subaward from “Genome Sequence of *Phytophthora sojae*”, Project Director Brett Tyler, total funding \$2,350,000. 10/01/02-9/30/03. Further, P.I. on DoE supplemental funding of approximately \$1,500,000 for sequencing of the related *Phytophthora ramorum*.
- \$98,264. National Institutes of Health, Sponsor for National Research Service Award (postdoctoral study) for Rick Baker, “Phylogenomics of Head Development Genes in Diopsid Flies”. 4/01/03-3/31/05.
- \$142,163. National Science Foundation. P.I. on this subaward from “The Molluscan Mitochondrial Genome Project: Phylogenetic Analysis, Evaluation, and Enrichment”, Project Director David Lindberg, total funding \$285,900. 06/01/02-05/31/04.
- \$551,476. National Science Foundation. P.I. on this subaward from “A Combined Strategy for Resolving Difficulties in Basal Green Plant Phylogeny”, Project Director Charles O’Kelly, total funding \$2,945,292. 10/01/02-9/30/06.
- \$936,000. Department of Energy, intramural funds for “Genomic Diversity Studies”. 10/01/01-10/01/02.
- \$201,109. National Science Foundation. P.I. on this subaward from “Wormnet: Reconstructing the Early Evolution of Segmented Annelid Worms”, Project Director K. Halanych, total funding \$1,350,000. 9/15/01-9/15/06.
- \$404,777. National Science Foundation. P.I. on this subaward from “Comparative Chloroplast Genomics: Integrating Computational Methods, Molecular Evolution, and Phylogeny”, Project Director R. Jansen, total funding \$1,350,000. 9/15/01-9/15/06.
- \$276,640. Department of Energy, intramural funds for “Mitochondrial Genomics”. 10/01/00-10/01/01.
- \$281,390. Department of Energy, intramural funds for “Evolution of Gene Families”. 10/01/00-10/01/01.
- \$200,000. National Science Foundation DEB-9807100. “A Phylogeny of Major Metazoan Radiations”. 9/01/98-09/01/01. Co-P.I. with Wesley Brown.
- \$21,669. Rackham Research Partnership Program. 09/91-09/92.

## TEACHING EXPERIENCE

EVOLUTION OF MITOCHONDRIAL GENOMES, UC Berkeley, Winter 2002.

EVOLUTION (IB 160) UC Berkeley, Fall 2003, with Craig Moritz and Kevin Padian.

GSI, U of Michigan, GENETICS (winter 1991) and EVOLUTION (Fall 1990).

**Formal training in instructional methods:** In preparation for my assignment as an Air Force instructor in 1982, I received formal training in teaching theory and methods, including many critiqued exercises. I performed daily instruction both in the classroom and in practical, hands-on settings, teaching such diverse topics as electronics, space physics, and management theory. I wrote hundreds of pages of instructional materials, workbooks, and tests.

## MANAGEMENT TRAINING AND EXPERIENCE

### Scientific

- 1996-present Lead a scientific team, currently ~20 researchers, targeting over 25 different scientific projects
- 2000-present Serve on the Joint Genome Institute Senior Management Committee
- 2001-2002 Training program in Management Principles sponsored by the JGI

### Military (Air Force and Air National Guard)

- 1976-1980 Reserve Officer Training Corps, Pennsylvania State University. 18 credit hours in Management Principles and Leadership Training. Cadet Corps Leader for the largest ROTC unit in the country.
- 1981-1984 Deputy Commander, then Commander, of a nuclear ICBM site and the Commander of the Base Alternate Command Post. Responsible for a nine-story underground complex, crew, oversight of missile complex maintenance and repair, nuclear employment, safety, and surety.
- 1982-1984 Officers' Leadership and Management Seminar Program
- 1982-1984 Squadron Officers' School, a course in communication, management theory, and political science considered to be the equivalent of a Master's degree
- 1985-1986 Flight training class leader (66 students)
- 1986 Survival training class leader (200 students)
- 1990-1994 Commander of one branch of aircraft maintenance for an F-16 fighter squadron, supervising about 100 highly skilled technicians of diverse specialties. Officer-in-charge for several international deployments
- 1995-1997 Air Command and Staff College, an advanced course in communication, management theory, and political science considered to be the equivalent of a Master's degree
- 1998-2000 Flight Commander and Chief Navigator, supervising about 20 officers

## LEGAL CONSULTING EXPERIENCE

Expert witness in the case of "People of the State of Michigan vs. Kevin Holtzer", judicial (i.e., Frye) hearing to determine the admissibility of mitochondrial DNA forensic evidence in the state of Michigan.

Expert witness in the case of "People of the State of Michigan vs. Kevin Holtzer", trial for the murder of Kaylee Bruce, including the first use of mitochondrial DNA forensic evidence in the state of Michigan.

Expert witness in the case of "People of the State of Maryland vs. Hadden Clark", judicial hearing to determine the admissibility of mitochondrial DNA forensic evidence in the state of Maryland.

Expert witness in the case of "People of the State of Maryland vs. Russell Wagner".

## PUBLICATIONS

1. Hoffmann, R. J., J. L. Boore and W. M. Brown, 1992 A novel mitochondrial genome organization for the Blue Mussel, *Mytilus edulis*. *Genetics* **131**: 397-412.
2. Boore, J. L. and W. M. Brown, 1994 Mitochondrial genomes and the phylogeny of mollusks. *Nautilus* **108** (suppl. 2): 61-78.
3. Boore, J. L. and W. M. Brown, 1994 The complete DNA sequence of the mitochondrial genome of the Black Chiton *Katharina tunicata*. *Genetics* **138**: 423-443.
4. Boore, J. L., T. M. Collins, D. Stanton, L. L. Daehler and W. M. Brown, 1995 Deducing arthropod phylogeny from mitochondrial DNA rearrangements. *Nature* **376**: 163-165.
5. Boore, J. L. and W. M. Brown, 1995 The complete DNA sequence of the mitochondrial genome of the annelid worm *Lumbricus terrestris*. *Genetics* **141**: 305-319.
6. Yost, H. J., C. R. Phillips, J. L. Boore, J. Bertman, B. Whalen and M. V. Danilchik, 1995 Relocation of mitochondrial RNA to the prospective dorsal midline during *Xenopus* embryogenesis. *Developmental Biology* **170**: 83-90.
7. Boore, J. L., 1996 Ancient patterns of arthropod evolution are recorded in mitochondrial genome rearrangements, in: Current Topics on Molecular Evolution: Proceedings of the U.S.-Japan Workshop on Molecular Evolution (M. Nei and N. Takahata, eds.). pp. 69-78.
8. Boore, J. L., 1997 Transmission of mitochondrial DNA—Playing favorites? *Bioessays* **19**(9): 751-753.
9. Boore, J. L., D. Lavrov and W. M. Brown, 1998 Gene translocation links insects and crustaceans. *Nature* **392**: 667-668.
10. Boore, J. L., and W. M. Brown, 1998 Big trees from little genomes: Mitochondrial gene order as a phylogenetic tool. *Curr. Opinion Genet. Dev.* **8**(6): 668-674.
11. Boore, J. L., L. L. Daehler and W. M. Brown, 1999 Complete sequence, gene arrangement and genetic code of mitochondrial DNA of the cephalochordate *Branchiostoma floridae* ("Amphioxus"). *Mol. Biol. Evol.* **16**(3): 410-418.
12. Boore, J. L., 1999 Animal mitochondrial genomes. *Nucl. Acids Res.* **27**(8): 1767-1780.
13. Boore, J. L. and S. I Fuerstenberg, 1999 *Entamoeba histolytica*—A derived mitochondrial eukaryote? *Trends in Microbiology* **7**(11): 426-428.
14. Boore, J. L., 1999 *Phylogenies derived from rearrangements of the mitochondrial genome*. Proceedings of the International Institute for Advanced Studies Symposium on Biodiversity (N. Saitou, ed.), Kyoto, Japan, pp. 9-20.
15. Boore, J. L., and W. M. Brown, 2000 Mitochondrial genomes of *Galathealinum*, *Helobdella*, and *Platynereis*: Sequence and gene arrangement comparisons indicate that Pogonophora is not a phylum and Annelida and Arthropoda are not sister taxa. *Mol. Biol. Evol.* **17**(1): 87-106.
16. Lavrov, D., J. L. Boore and W. M. Brown, 2000 The complete mitochondrial DNA sequence of the horseshoe crab *Limulus polyphemus*. *Mol. Biol. Evol.* **17**(5): 813-824.
17. Boore, J. L., 2000 The duplication/random loss model for gene rearrangement exemplified by mitochondrial genomes of deuterostome animals, pp. 133-147 in Comparative Genomics (D. Sankoff and J. Nadeau, eds.) Computational Biology Series vol 1, Kluwer Academic Publishers, Dordrecht, Netherlands.

18. Lavrov, D., W. M. Brown, and J. L. Boore 2000 A novel type of RNA editing occurs in the mitochondrial tRNAs of the centipede *Lithobius forficatus*. *Proc. Natl. Acad. Sci USA* **97(25)**: 13738-13742.
19. Nickisch-Rosenegk, M. von, W. M. Brown and J. L. Boore, 2001 Sequence and structure of the mitochondrial genome of the tapeworm *Hymenolepis diminuta*: Gene arrangement indicates that platyhelminths are derived eutrochozoans. *Mol. Biol. Evol.* **18(5)**: 721-730.
20. Boore, J. L., 2001 Complete mitochondrial genome sequence of the polychaete annelid *Platynereis dumerilii*. *Mol. Biol. Evol.* **18(7)**: 1413-1416.
21. Helfenbein, K. G., W. M. Brown and J. L. Boore, 2001 The complete mitochondrial genome of a lophophorate, the brachiopod *Terebratalia transversa*. *Mol. Biol. Evol.* **18(9)**: 1734-1744.
22. Wollscheid-Lengeling, E., J. L. Boore, W. M. Brown, and H. Wägele, 2001 The phylogeny of Nudibranchia (Opisthobranchia, Gastropoda, Mollusca) reconstructed by three molecular markers. *Organisms, Diversity and Evolution* **1(4)**: 241-256.
23. Boore, J. L., and J. Staton, 2002 The mitochondrial genome of the sipunculid *Phascolopsis gouldii* supports its association with Annelida rather than Mollusca. *Mol. Biol. Evol.* **19(2)**: 127-137.
24. Lavrov, D. V., J. L. Boore and W. M. Brown, 2002 Complete mtDNA sequences of two millipedes suggest a new model for mitochondrial gene rearrangements: Duplication and non-random loss. *Mol. Biol. Evol.* **19(2)**: 163-169.
25. Dehal, P., Y. Satou, R. Campbell, J. Chapman, B. Degnan, A. DeTomaso, B. Davidson, A. DiGregorio, M. Gelpke, D. Goodstein, N. Harafuji, K. Hastings, I. Ho, K. Hotta, W. Huang, T. Kawashima, P. Lemaire, D. Martinez, I. Meinertzhagen, S. Necula, M. Nonaka, N. Putnam, S. Rash, H. Saiga, M. Satake, A. Terry, L. Yamada, H.-G. Wang, S. Awazu, K. Azumi, J. L. Boore, M. Branno, S. Chin-bow, R. DeSantis, S. Doyle, P. Francino, D. Keys, S. Haga, H. Hayashi, K. Hino, K. Imai, K. Inaba, S. Kano, K. Kobayashi, M. Kobayashi, B.-I. Lee, K. Makabe, C. Manohar, G. Matassi, M. Medina, Y. Mochizuki, S. Mount, T. Morishita, S. Miura, A. Nakayama, S. Nishizaka, H. Nomoto, F. Ohta, K. Oishi, I. Rigoutsos, M. Sano, A. Sasaki, Y. Sasakura, E. Shoguchi, T. Sin-I, A. Spagnuolo, D. Stainier, M. Suzuki, O. Tassy, N. Takatori, M. Tokuoka, K. Yagi, F. Yoshizaki, S. Wada, C. Zhang, P. D. Hyatt, F. Larimer, C. Detter, N. Doggett, T. Glavina, T. Hawkins, P. Richardson, S. Lucas, Y. Kohara, M. Levine, N. Satoh and D. Rokhsar, 2002 The draft Genome of *Ciona intestinalis*: Insights into chordate and vertebrate origins. *Science* **298 (5601)**: 2157-2167.
26. Nardi, F., G. Spinsanti, J. L. Boore, A. Carapelli, R. Dallai and F. Frati, 2003 Hexapod origins, monophyletic or paraphyletic? *Science* **299**: 1887-1889.
27. Passamonti, M., J. L. Boore and V. Scali, 2003 Molecular evolution and recombination in gender-associated mitochondrial DNAs of the Manila clam *Tapes philippinarum*. *Genetics* **164**: 603-611.
28. Santini, S., J. L. Boore and A. Meyer, 2003 Evolutionary conservation of regulatory elements in vertebrate HOX gene clusters. *Genome Research* **13**: 1111-1122.
29. Nardi, F., G. Spinsanti, J. L. Boore, A. Carapelli, R. Dallai and F. Frati, 2003 Technical Comment: Response to Comment on "Hexapod Origins: Monophyletic or Paraphyletic?", *Science* **301**: 1482e.
30. Wyman, S. K., and J. L. Boore, 2003 Annotating animal mitochondrial tRNAs: An experimental evaluation of four methods. pp. 44-46 in Proc. European Conf. Computational Biol. (ECCB).

31. Lavrov, D., W. M. Brown and J. L. Boore, 2004 Phylogenetic position of the Pentastomida and (pan)crustacean relationships. *Proceedings of the Royal Society of London B* **271(1538)**: 537-544.
32. Helfenbein, K. G., and J. L. Boore, 2004 The mitochondrial genome of *Phoronis architecta*—Comparisons demonstrate that phoronids are lophotrochozoan protostomes. *Mol. Biol. Evol.* **21(1)**: 153-157.
33. Bensasson, D., J. L. Boore and K. M. Nielsen, 2004 Genes without frontiers? *Journal of Heredity*, in press.
34. Boore, J. L., M. Medina and L. A. Rosenberg, 2004 Complete sequences of two highly rearranged molluscan mitochondrial genomes, those of the scaphopod *Graptacme eborea* and of the bivalve *Mytilus edulis*. *Mol. Biol. Evol.*, in press.
35. Masta, S. E., and J. L. Boore, 2004 The complete mitochondrial genome sequence of the spider *Habronattus oregonensis* reveals rearranged and extremely truncated tRNAs. *Mol. Biol. Evol.*, in press.
36. Place, A. R., X. Feng, C. R. Steven, H. M. Fourcade and J. L. Boore, 2004 Genetic markers in blue crabs (*Callinectes sapidus*) II: Complete mitochondrial genome sequence and characterization of genetic variation. Meeting proceedings, in press.
37. Ruiz-Trillo, I., M. Riutort, H. M. Fourcade, J. Baguñà and J. L. Boore, 2004 Mitochondrial genome data support the basal position of Acoelomorpha and the polyphyly of the Platyhelminthes. *Mol. Phylogenet. Evol.*, in press.
38. Macey, J. R., T. J. Papenfuss, J. V. Kuehl, H. M. Fourcade and J. L. Boore, 200x Phylogenetic relationships among amphisbaenian reptiles based on complete mitochondrial genome sequences. Submitted (to *Mol. Phylogenet. Evol.*).
39. Medina, M., H. M. Fourcade, J. C. Detter, P. Richardson and J. L. Boore, 200x Rolling circle amplification of complete mitochondrial genomes from marine organisms. Submitted (to *Marine Biotechnology*).
40. Helfenbein, K. G., H. M. Fourcade, R. G. Vanjani and J. L. Boore, 200x The mitochondrial genome of *Paraspadella gotoi* is highly reduced and reveals that chaetognaths are basal protostomes. Submitted (to *Proc. Natl. Acad. Sci. USA*).
41. Boore, J. L., 200x Complete mitochondrial genome sequence of *Urechis caupo*, a representative of the phylum Echiura. Submitted (to *BMC Genomics*).
42. Dehal, P., and J. L. Boore, 200x Mode and tempo of gene duplication during chordate evolution. Submitted (to *Science*).

## MILITARY SERVICE

Branch:	US Air Force, Air National Guard
Rank:	Lieutenant Colonel (retired)
Dates of service	October 1980-December 1984 (USAF) January 1985-August 2000 (ANG)
Aeronautical rating:	Senior Navigator
Most recent position:	Flight Commander, Chief Navigator
Security clearance:	Top Secret

### Career Highlights:

- Flight Commander and Chief Navigator, Selfridge ANGB, MI, 1/98-8/00  
Air Command and Staff College, by correspondence, 3/95-5/97  
C-130 Navigator, Selfridge ANGB, MI, 1/95-8/00  
C-130 Training, Little Rock AFB, AR, 9/94-12/94, Distinguished Graduate  
Officer-in-Charge, F-16 Fighter Aircraft Maintenance, Selfridge ANGB, MI, 7/90-8/94,  
Supervising approx. 100 technicians, Officer-in-Charge for several international  
deployments  
Aircraft Maintenance Officer School, Chanute AFB, IL, 5/90-6/90, Distinguished Graduate  
Operated the F-4 Phantom II fighter in its role as an air defense interceptor, Weapon Systems  
Officer, Tactics Officer, Selfridge ANGB, MI, 8/86-6/90  
F-4 Fighter-Interceptor Training, Kingsley Field, OR, 3/86-8/86  
Tactical Navigation Training, Mather AFB, CA, 8/85-9/85, "Top Gun" Trophy  
Undergraduate Navigator Training, Mather AFB, CA, ATC Commander's Trophy, Ira Husik  
Memorial Trophy, Distinguished Graduate  
Squadron Officers' School, by correspondence, 12/82-3/84  
Missile Crew Commander, McConnell AFB, KS, 2/84-11/84, Responsible for a nine-story  
underground complex, nuclear employment, safety and surety  
Missile Launch Officer Instructor, McConnell AFB, KS, 12/82-11/83, Teaching electronics,  
space physics, management theory, nuclear safety and surety requirements  
Deputy Missile Crew Commander, McConnell AFB, KS, 3/82-12/82  
Missile Launch Officer Training, Sheppard AFB, TX, Vandenberg AFB, CA, 8/81-3/82  
4-year Air Force Scholarship, Pennsylvania State University, 1976-1980

## INVITED TALKS / PRESENTATIONS WITH PUBLISHED ABSTRACTS

### LAST THREE YEARS

(Primary presenter underlined)

- 1) Boore, J. L., 2001 Comparative Genomics at the Joint Genome Institute. Lawrence Livermore National Laboratory—Invited speaker.
- 2) Boore, J. L., 2001 Comparative Genomics at the Joint Genome Institute. University of California, Berkeley—Invited speaker.
- 3) Boore, J. L., 2001 Comparative Genomics at the Joint Genome Institute. University of California, Davis—Invited speaker.
- 4) Boore, J. L., 2001 Comparative Genomics at the Joint Genome Institute. Iowa State University, Ames, IA—Invited speaker.
- 5) Boore, J. L., 2001 Comparative Genomics at the Joint Genome Institute. Special meeting of the Bay Area Biosystematists—Invited speaker.
- 6) Boore, J. L., H. M. Fourcade, A. Haim, K. G. Helfenbein, J. R. Macey, S. Masta, M. Medina, M. Passamonti, D. Rokhsar, and I. Ruiz-Trillo, 2001 Sampling Animal Diversity with Mitochondrial Genomics. Cold Spring Harbor Laboratory meeting on “Genome Sequencing and Biology” (poster presentation).
- 7) Boore, J. L., 2001 Comparative Genomics at the Joint Genome Institute—Molecular Evolution at 20 Million Nucleotides per day. Institute for Theoretical Physics, Santa Barbara, CA—Invited speaker.
- 8) Boore, J. L., 2001 Comparative Genomics at the Joint Genome Institute—Molecular Evolution at 20 Million Nucleotides per day. Lawrence Livermore National Laboratory Program Series—Invited speaker.
- 9) Boore, J. L., 2001 Comparative Genomics at the Joint Genome Institute—Molecular Evolution at 20 Million Nucleotides per day. Simon-Fraser University, Burnaby, Canada—Invited speaker.
- 10) Boore, J. L., 2001 Comparative Genomics at the Joint Genome Institute—Molecular Evolution at 20 Million Nucleotides per day. Annual meeting of the Society for the Study of Evolution, Knoxville, TN.
- 11) Boore, J. L., 2001 The Comparative Genomics Program at the Joint Genome Institute. Monterey Bay Aquarium Research Institute (MBARI), Moss Landing, CA—Invited speaker.
- 12) Boore, J. L., D. DeGusta, H. M. Fourcade, A. Haim, K. G. Helfenbein, K. Lindstrom, J. R. Macey, S. Masta, M. Medina, R. Mueller, M. Passamonti, R. Shao and Y. Vallès, 2001 Sampling Diversity with Mitochondrial Genomics. Genome Sequencing and Analysis Conference (GSAC), San Diego, CA (poster presentation).
- 13) Boore, J. L., 2001 Sampling Organismal Diversity with Organelle Genomics. Meeting on “Evolutionary Genomics—A New Paradigm for the 21st Century”. Atami, Japan.
- 14) Boore, J. L., N. Danos, D. DeGusta, H. M. Fourcade, L. Gershwin, A. Haim, K. G. Helfenbein, M. Jaekel, K. Lindstrom, J. R. Macey, S. Masta, M. Medina, R. Mueller, M. Passamonti, C. Saux, R. Shao and Y. Vallès, 2002 Sampling Diversity with Mitochondrial Genomics. Pacific Biocomputing Conference, Kauai, Hawaii (poster presentation).

- 15) Boore, J. L., N. Danos, D. DeGusta, H. M. Fourcade, L. Gershwin, A. Haim, K. G. Helfenbein, M. Jaekel, K. Lindstrom, J. R. Macey, S. Masta, M. Medina, R. Mueller, M. Passamonti, C. Saux, R. Shao and Y. Vallès, 2002 Sampling Diversity with Mitochondrial Genomics. DOE Genome Contractors and Grantees Meeting, Oakland, CA (poster presentation).
- 16) Boore, J. L., 2002 The Comparative Genomics Program at the Joint Genome Institute. UC Berkeley Paleontology Group—Invited speaker.
- 17) Boore, J. L., 2002 The Comparative Genomics Program at the Joint Genome Institute. Utah State University, Logan, UT—Invited speaker.
- 18) Boore, J. L., 2002 PEET, Organismal Biology, and High-Throughput Genome Centers. PEET IV, Berkeley, CA—Invited speaker.
- 19) Boore, J. L., 2002 The Genome of *Ciona intestinalis*, an Outgroup to the Vertebrata. University of Chicago, IL—Invited speaker.
- 20) Boore, J. L., S. Lucas, D. Rokhsar and T. Hawkins 2002 The genome sequence of the primitive chordate *Ciona intestinalis*. Society for Molecular Biology and Evolution, Sorrento, Italy.
- 21) Passamonti, M., J. L. Boore and V. Scali, 2002 Mitochondrial DNA recombination in Doubly Uniparental Systems: New insights from *Tapes philippinarum* (Mollusca, Bivalvia, Veneridae). Society for Molecular Biology and Evolution, Sorrento, Italy (poster presentation).
- 22) Francino, M. P., S. Lucas, D. Rokhsar, S. Stilwagen, F. Larimer, J. Boore and T. Hawkins, 2002 Phylogenetic Placement of Environmentally Important Bacterial Species Sequenced at the Joint Genome Institute (JGI) Based on Translation-Related Proteins. Society for Molecular Biology and Evolution, Sorrento, Italy (poster presentation).
- 23) Medina, M., Y. Vallès, H. M. Fourcade and J. L. Boore, 2002 Evolution of Crown Gastropods: Insight from Mitochondrial Gene Order Data. Society for Molecular Biology and Evolution, Sorrento, Italy (poster presentation).
- 24) Helfenbein, K. G., and J. L. Boore, 2002 The Mitochondrial Genome of the Chaetognath *Paraspadella gotoi*: Phylogenetics and Molecular Evolution. Society for Molecular Biology and Evolution, Sorrento, Italy (poster presentation).
- 25) Haberle, R. C., S. K. Wyman, W. M. Eddie, J. L. Boore and R. Jansen 2002 Evolutionary implications of the complete sequence of the *Trachelium caeruleum* (Campanulaceae) chloroplast genome. Botany 2002, Madison, WI (poster presentation).
- 26) Medina, M., Y. Vallès, T. Gosliner, H. M. Fourcade and J. L. Boore 2002 Mitochondrial gene order versus sequence data in heterobranch gastropods. 68th Annual Meeting of the American Malacological Society, Charleston, SC.
- 27) Boore, J. L., 2002 The Role of Genome Centers for the Future of Molecular Evolution. University of Siena—Invited speaker.
- 28) Boore, J. L., 2002 The Evolutionary Genomics Program at the JGI. Lawrence Berkeley Lab Science Seminar Series—Invited speaker.
- 29) Boore, J. L., S. Lucas, P. Richardson, D. Rokhsar and E. Rubin 2002 Genomic approaches soon to be available for understanding sudden oak death, Meeting on Sudden Oak Death Syndrome, Monterey, CA (poster presentation).

- 30) Boore, J. L., 2003 The Phytophthora genome sequencing project, Meeting on Molecular Genetics of Phytophthora, Asilomar, CA—Invited keynote speaker.
- 31) Boore, J. L., 2003 Data gathering for new research initiatives. Natural Science Collections Alliance, Berkeley, CA—Invited speaker.
- 32) Bensasson, D., J. Chapman, S. Lucas, P. Richardson, D. Rokhsar, B. Tyler, J. L. Boore, 2003 Comparison of the whole genome draft sequences of two plant blights. Society for the Study of Evolution, Chico, CA. (poster presentation)
- 33) Bensasson, D., J. L. Boore and K. M. Nielsen, 2003 Genes without frontiers. Society for the Study of Evolution, Chico, CA.
- 34) Boore, J. L., and R. H. Baker, 2003 Molecular evolution of the wingless gene in stalk-eyed flies. Society for the Study of Evolution, Chico, CA.
- 35) Boore, J. L., and S. K. Wyman, 2003 An experimental evaluation of four methods for identifying animal mitochondrial tRNAs. Society for the Study of Evolution, Chico, CA.
- 36) Boore, J. L., and Y. Valles, 2003 Are all annelids polychaetes? Society for the Study of Evolution, Chico, CA. (poster presentation)
- 37) Boore, J. L., H. M. Fourcade, R. K. Jansen, R. Haberle and S. Wyman, 2003 Structure and evolution of two highly rearranged chloroplast genomes in the Campanulaceae. Society for the Study of Evolution, Chico, CA.
- 38) Boore, J. L., D. Bensasson, S. Lucas, P. Richardson, J. Chapman, D. Rokhsar, B. Tyler, 2003 Comparing the whole genome sequences of two oomycetes - *Phytophthora sojae* and *P. ramorum*. Society for the Study of Evolution, Chico, CA.
- 39) Boore, J. L., H. M. Fourcade, R. K. Jansen, T. W. Chumley, P. Caile, J. Mower and J. Palmer, 2003 Evolutionary implications of the highly rearranged chloroplast genome of *Pelargonium* (Geraniaceae). Society for the Study of Evolution, Chico, CA.
- 40) Engle, D. K., M. Medina and J. L. Boore, 2003 Evolution of scleractinian corals by analysis of complete mitochondrial genomes. Society for the Study of Evolution, Chico, CA. (poster presentation)
- 41) Fourcade, H. M., S. Bench, O. Ryder, R. Feldman and J. L. Boore, 2003 High throughput sequencing of mammalian mitochondrial genomes. Society for the Study of Evolution, Chico, CA.
- 42) Francino, M. P., and J. L. Boore, 2003 Bacterial phylogeny and genome evolution. Society for the Study of Evolution, Chico, CA. (poster presentation)
- 43) Frati, F., F. Nardi, A. Carapelli, J. L. Boore, G. Spinsanti and R. Dallai, 2003 Mitochondrial genomics: new data for the phylogeny of hexapods. Society for the Study of Evolution, Chico, CA.
- 44) Helfenbein, K. G., R. G. Vanjani, H. M. Fourcade and J. L. Boore, 2003 The mitochondrial genome of the chaetognath *Paraspadella gotoi*. Society for the Study of Evolution, Chico, CA. (poster presentation)
- 45) Kuehl, J., H. M. Fourcade and J. L. Boore, 2003 Amplifying the mitochondrial genome using RCA. Society for the Study of Evolution, Chico, CA. (poster presentation)
- 46) Macey, J. R., J. L. Boore, R. M. Bonett and P. T. Chippindale, 2003 Evolution of complete mitochondrial genomes in salamanders of the *Eurycea multiplicata* complex. Society for the Study of Evolution, Chico, CA. (poster presentation)

- 47) Masta, S. E., and J. L. Boore, 2003 Inferring systematics and molecular evolution in arachnids using mitochondrial genomes. Society for the Study of Evolution, Chico, CA.
- 48) Medina, M., D. K. Engle, J. L. Boore, T. L. Takaoka, C. Marroquin, J. Kuehl, 2003 New mitochondrial genomes of unrepresented metazoan phyla. Society for the Study of Evolution, Chico, CA. (poster presentation)
- 49) Medina, M., J. L. Boore, H. M. Fourcade, T. L. Takaoka, Y. Valles, 2003 Evolution of opisthobranch gastropods based on complete mitochondrial genome comparisons. Society for the Study of Evolution, Chico, CA. (poster presentation)
- 50) Mueller, R., J. R. Macey, H. M. Fourcade, J. V. Kuehl, M. Jaekel, D. B. Wake and J. L. Boore, 2003 Phylogeny of plethodontid salamanders inferred from mitochondrial genomes. Society for the Study of Evolution, Chico, CA.
- 51) Passamonti, M., J. L. Boore, V. Scali, 2003 How old is doubly uniparental inheritance: New data from Veneridae and Mytilidae (Mollusca Bivalvia). Society for the Study of Evolution, Chico, CA.
- 52) Warnow, T. J., J. L. Boore, H. M. Fourcade, R. K. Jansen, R. Haberle, T. W. Chumley, L. Raubeson, S. Wyman, C. dePamphilis, B. Moret, D. Bader and W. Miller, 2003 Comparative chloroplast genomics of seed plants: integrating computational methods, phylogeny, and molecular evolution. Society for the Study of Evolution, Chico, CA.
- 53) Bensasson, D., J. Chapman, S. Lucas, P. Richardson, D. Rokhsar, B. Tyler, J. L. Boore, 2003 Comparison of the whole genome draft sequences of two plant blights. Society for Molecular Biology and Evolution, Newport Beach, CA. (poster presentation)
- 54) Dehal, P., and J. L. Boore, 2003 Dynamics of gene duplication revealed by comparing complete genomes of a tunicate, fish, mouse, and man. Society for Molecular Biology and Evolution, Newport Beach, CA.
- 55) Engle, D., C. Marroquín, T. Takaoka, J. V. Kuehl, J. L. Boore and M. Medina, 2003 Evolution of scleractinian corals based on complete mitochondrial genomes. Society for Molecular Biology and Evolution, Newport Beach, CA. (poster presentation)
- 56) Francino, M. P., and J. L. Boore, 2003 Bacterial phylogeny and genome evolution. Society for Molecular Biology and Evolution, Newport Beach, CA. (poster presentation)
- 57) Froula, J. L., J. R. Macey, C. Amemiya, S. Edwards, J. L. Boore, 2003 BAC libraries for five Reptilia: Genomic resources for comparative biology of amniotes. Society for Molecular Biology and Evolution, Newport Beach, CA.
- 58) Froula, J. L., M. Medina, M. Passamonti, J. R. Macey, J. V. Kuehl, D. K. Engle, J. L. Boore, H. M. Fourcade, 2003 Amplifying mitochondrial genomes using RCA. Society for Molecular Biology and Evolution, Newport Beach, CA. (poster presentation)
- 59) Macey, J. R., T. J. Papenfuss, J. Kuehl, H. M. Fourcade, J. L. Boore, 2003 Phylogenetic relationships among amphisbaenian reptiles based on complete mitochondrial genomic sequences. Society for Molecular Biology and Evolution, Newport Beach, CA. (poster presentation)
- 60) Macey, J. R., T. J. Papenfuss, J. Kuehl, H. M. Fourcade, J. L. Boore, 2003 Socotra Island, the forgotten fragment of Gondwana: evidence from complete mitochondrial genomic sequences of chameleons and amphisbaenian reptiles. Society for Molecular Biology and Evolution, Newport Beach, CA. (poster presentation)
- 61) Masta, S. E., and J. L. Boore, 2003 The mitochondrial genome of a spider: Evolution of tRNAs and minimal genome size. Society for Molecular Biology and Evolution, Newport Beach, CA.

- 62) Medina, M., D. K. Engle, J. L. Boore, T. L. Takaoka, C. Marroquin, J. Kuehl, 2003 New mitochondrial genomes of unrepresented metazoan phyla. Society for Molecular Biology and Evolution, Newport Beach, CA. (poster presentation)
- 63) Mueller, R., J. R. Macey, M. Jaekel, M. H. Fourcade, J. V. Kuehl, D. B. Wake and J. L. Boore, 2003 Evolution of salamander mitochondrial genomes: Duplication, rearrangement, and phylogenetic implications. Society for Molecular Biology and Evolution, Newport Beach, CA.
- 64) Passamonti, M., J. L. Boore, V. Scali, 2003 Doubly uniparental inheritance in the manila clam *tapes philippinarum*: Molecular evolution and recombination in gender-associated mitochondrial DNAs. Society for Molecular Biology and Evolution, Newport Beach, CA.
- 65) Takaoka, T. L., Y. Valles, H. M. Fourcade, J. L. Boore, M. Medina, 2003 Evolution of opisthobranch gastropods based on complete mitochondrial genome comparisons. Society for Molecular Biology and Evolution, Newport Beach, CA. (poster presentation)
- 66) Valles, Y., and J. L. Boore, 2003 Are all annelids polychaetes? Society for Molecular Biology and Evolution, Newport Beach, CA. (poster presentation)
- 67) Boore, J. L., 2003 Sequencing and bioinformatics for the *Daphnia pulex* genome. Daphnia Genome Consortium, Manchester, NH—Invited speaker.
- 68) Boore, J. L., 2003 Why evolutionary biology and genome sciences need each other. Lawrence Livermore National Laboratory seminar series—Invited speaker.
- 69) Boore, J. L., 2004 Will your favorite genome be sequenced? Plant and Animal Genomes Conference, San Diego, CA—Invited speaker.
- 70) Boore, J. L., 2004 Using genome level features for phylogenetic inference. Gordon Conference on Structural, Functional, and Evolutionary Genomics, Ventura, CA—Invited speaker.