

Biographical sketch for Donald G. Gilbert

Address

Biology Department, Indiana University, Bloomington, IN 47405 gilbertd@indiana.edu

Education

Post-doctoral, Evolutionary and computational biology, University of Chicago, 1983-1984; Syracuse University, 1981-1983

Ph.D., Evolutionary Biology, Indiana University, 1981

B.S., Biology, 1977, B.S., Psychology, 1974, University of Illinois

Employment

Bioinformatics head, Genome Informatics Lab, IU, 2003 –

Senior Scientist, Bioinformatics, Biology Dept. & Ctr. for Genomics & Bioinformatics, IU, 2000 –

Associated faculty, School of Informatics, Indiana University, 1999-

Senior Bioinformatician, FlyBase genome informatics project, 1992-

Biocomputist and computer manager, Indiana University, 1988-2002

Software developer and consultant, Bloomington, Indiana, 1984-1988

Active bioinformatics projects

IUBio Archive of Biology software and data, ftp and <http://iubio.bio.indiana.edu/>

FlyBase, Database of the Drosophila Genome, <http://flybase.bio.indiana.edu/>

Bio-Mirror project for world distribution of large bioinformatics data sets, <http://www.bio-mirror.net/>

euGenes, Genome Informatics for Model Eukaryotic Organisms, <http://eugen.es.org/>

wFleaBase, Daphnia Genome Database, <http://iubio.bio.indiana.edu/daphnia/>

Generic Model Organism Toolkits, <http://iubio.bio.indiana.edu/gmod/>

Talks

Invited talk, “Toward a Unified Gene Page”, Generic Model Organism Database workshop (Boston), April 2004

Invited talk, “Argos & Genome Directories & LuceGene”, Generic Model Organism Database workshop (Berkeley), September 2003

Invited talk, “wFleaBase Daphnia Genome Database from Common Components”, Daphnia Genome Consortium Workshop (U. New Hampshire), September 2003

Invited talk, “Genomes to Grids - Thoughts on Building Data Grids for Biology”, Globus World Life Sciences Workshop (San Diego), January 2003

Invited talk, I-Light Applications Workshop (Indianapolis), December 2002

Invited talk, Eli Lilly Bioinformatics group (Indianapolis), November 2002

Invited talk, Daphnia Genome Consortium Workshop (Indiana U), September 2002

Invited talk, "SRS - A Backbone for Genome Information and Data Grid Systems", Sequence Retrieval System Workshop, ISMB02 (Edmonton, AB.), August 2002

Invited talk, “Genome database & information systems for Daphnia”, Daphnia Genome Consortium Workshop (Indiana U), September 2002

Invited talk, “Genomes to Grids: Bio Data Distribution for Grid Computing”, Eli Lilly Bioinformatics group (Indianapolis), November 2002

Invited talk, “Genomes to Grids: Bio Data Distribution for Grid Computing” I-Light Applications Workshop (Indianapolis), December 2002
Invited talk, “Genomes to Grids: Thoughts on Building Data Grids for Biology” Globus World Life Sciences Workshop (San Diego), January 2003
Invited talk, DOE conference *Computational Strategies for Whole Genome Analysis*, Argonne Natl. Lab., May 1996
Invited talk, National Center for Biotechnology Information (NCBI), February 1991

Grants

2003-2005 NSF NSDL – 0333623, \$449,563 (D + I), “Project ENABLE: Learning through Associations in a Grid based Bioinformatics Digital Library” (CO-PI)
2002-2004 NIH/NHGRI R01 HG002733-01, \$513,170 (D + I), “Directory and Information System components for genomes”
2001-2004 NSF DBI – 0090782, \$275,000 (D + I), “Integration, access and distribution of genomic and molecular bio-information”
2000-2001 NSF DBI – 9982851, \$67,000, “IUBio Archive and World-Wide High Performance Network Distribution of Bioinformatics Data”

Honors, etc.

Bioinformatics reviewer, Syngenta R&D IS Technical Portfolio Meeting, Nov. 2003
Editorial board, **Briefings in Bioinformatics**, 2002-
IUBio Archive chosen as software repository for **Bioinformatics** journal, 1996 - present
Member of NSF, USDA and DOE review panels for IT Research, Rice, Arabidopsis projects, 1996-1999
Editorial board, **Gene-Combis** and **Journal of Computational Biology**, 1995 - 1997
Internet biology community support for IUBio Archive, 1993
Biological Sciences winner, CERFnet award for excellence in networked applications, 1991
Manuscript reviewer for CABios, Evolution, Science, Genetics, Theoretical & Applied Genetics, and US grant agencies.

Publications

Gilbert, D.G., Yoshihiro Ugawa, Markus Buchhorn, Tan Tin Wee, Akira Mizushima, Hyunchul Kim, Kilnam Chon, Seyeon Weon, Juncal Ma, Yoshihiro Ichianagi, Der-Ming Liou, Somnuk Keretho, and Suhaimi Napis, 2004. Bio-Mirror project for public bio-data distribution. **Bioinformatics**, *in press*. DOI: 10.1093/bioinformatics/bth219
Gilbert, D.G., 2003. Shopping in the genome market with EnsMart. **Briefings in Bioinformatics**, 4(3): 292-296.
Gilbert, D.G., 2003. Protein family alignment annotation. **Briefings in Bioinformatics**, 4(2): 192-196.
Gilbert, D.G., 2002. Pise, software for building bioinformatics webs. **Briefings in Bioinformatics**, 3(4): 405-409.
Gilbert, D.G., 2002. Sequence file format conversion with command-line Readseq. In **Current Protocols in Bioinformatics**, A. Baxevanis and D. Davison, eds. Wiley.
Gilbert, D. G. 2002. BioGridRunner, a preliminary bioinformatics client application for data grid computing. <http://iubio.bio.indiana.edu/grid/>

- Gilbert, D. G. 2002. euGenes, a eukaryote organism genome information service. **Nucleic Acids Res.** 30: 145-148. Also <http://iubio.bio.indiana.edu/eugenesis/>
- Gilbert, D. G. 1999. Readseq version 2, an improved biosequence conversion tool, written in the Java language. Bionet.Software, August, 1999. Also <http://iubio.bio.indiana.edu/soft/molbio/readseq/java/>
- Gilbert, D. G. 1999. Free Software in Molecular Biology for Macintosh and MS Windows Computers. In **Bioinformatics Methods and Protocols**, S. Misener and S. A. Krawetz (eds.), Humana Press, NJ. Also <http://iubio.bio.indiana.edu/soft/molbio/Listings.html>
- Gilbert, D. G. 1997, 1999. Phylodendron, Java software for phylogenetic tree drawing. Bionet.Software, January 1997. See also <http://iubio.bio.indiana.edu/treeapp/>
- Gilbert, D. G. 1996, 1998. SeqPup, biosequence editor and analysis software for molecular biology. Bionet.Software, July 1996. <http://iubio.bio.indiana.edu/soft/molbio/seqpup/>
- Gilbert, D. G. 1996. Portable FlyBase server available for Drosophila data. Bionet.Announce. <http://flybase.bio.indiana.edu/docs/Portable-server/>
- Gilbert, D.G., 1996. Fruit flies in your Java: a Java mapplet for Drosophila genome map browsing. Bionet.Software, Feb 1996. <http://flybase.bio.indiana.edu/maps/java/>
- Gilbert, D.G., 1996. loopDloop in Java, for drawing RNA secondary structure. Bionet.Software, December 1996. <http://iubio.bio.indiana.edu/soft/molbio/java/apps/loops/>
- Gilbert, D. G. 1995. New SRS node at IUBio, Indiana Bionet.Software.SRS. <http://iubio.bio.indiana.edu/srs/>
- Gilbert, D. G. 1995. Genbank searches at IUBio archive. Bionet.Molbio.Genbank, <http://iubio.bio.indiana.edu/Genbank-Sequences/>
- Gilbert, D. G. 1995. SRS-FastA: Similarity searches of Genbank subsets. Bionet.Software. Also <http://iubio.bio.indiana.edu/srsfasta/>
- Gilbert, D.G., 1995. SRS-FastA: Similarity searches of Genbank subsets. Bionet.Software, Sept. 1995. <http://iubio.bio.indiana.edu/srsfasta/>
- Gilbert, D.G., 1995. New SRS node at IUBio, Indiana Bionet.Software.SRS, March 1995. <http://iubio.bio.indiana.edu/srs/>
- Gilbert, D.G., 1993. The Global Library, **Trends in Biochem. Sci.**, 18: 107-108.
- Gilbert, D.G., 1992. Booleans, partial words and other WAIS mods in biology data searches. <ftp://iubio.bio.indiana.edu/util/wais/>
- Gilbert, D.G., 1992. loopDloop, a Macintosh application for drawing and editing RNA secondary structure displays. August 1992. <ftp://iubio.bio.indiana.edu/molbio/loopdloop/>
- Gilbert, D.G., 1992. SeqApp, a biological sequence editor and analysis program for Macintosh computers. <ftp://iubio.bio.indiana.edu/molbio/seqapp/>
- Gilbert, D.G., 1990. GenBank Search, a Hypercard stack for network searching and fetching sequences from the GenBank e-mail server. October 1990. <ftp://iubio.bio.indiana.edu/molbio/mac/gbsearch-ncbi.hqx>
- Gilbert, D.G., 1990. Dot plot sequence comparisons on Macintosh computers. **Comput. Appl. Biosci.** 6: 117.
- Gilbert, D.G., 1990. Two Hypercard calculators for molecular biology. **Comput. Appl. Biosci.** 6: 113-116.

- Gilbert, D.G., 1987. Estimating single gene effects on quantitative traits. III. Test of the single population method with *D. melanogaster*. *Drosophila Information Service*, 66: 65-66
- Gilbert, D.G. and W.T. Starmer, 1985. Statistics of sexual isolation. **Evolution**, 39: 1380-1383
- Gilbert, D.G., 1985. Comment on mutagenesis and competition in *Drosophila*. **Evolution**, 39: 940-941
- Gilbert, D.G., 1985. Estimating single gene effects on quantitative traits. II. Statistical properties of five experimental methods. **Theoretical & Applied Genetics**, 69: 631-636
- Gilbert, D.G., 1985. Estimating single gene effects on quantitative traits. I. A diallel method applied to Est 6 in *D. melanogaster*. **Theoretical & Applied Genetics**, 69: 625-629
- Gromko M.H., D.G. Gilbert and R.C. Richmond, 1984. Sperm transfer and use in the repeat mating system of *Drosophila*. p. 371-426. in *Sperm Competition and the Evolution of Animal Mating Systems* (ed. R.L. Smith). Academic Press, N.Y.
- Gilbert, D.G., W.T. Starmer and M.-A. Lachance, 1983. *Drosophila* collected in south-western Ontario. *Drosophila Information Service*, 59
- Starmer, W.T. and D.G. Gilbert, 1982. A quick and reliable method for sterilizing eggs. *Drosophila Information Service*, 58
- Gilbert, D.G. and R.C. Richmond, 1982. Studies of esterase 6 in *Drosophila melanogaster*. XII. Evidence for temperature selection of Est 6 and Adh alleles. **Genetica** 58: 109-119
- Gilbert, D.G. and R.C. Richmond, 1982. Esterase 6 in *Drosophila melanogaster*: Reproductive function of active and null males at low temperature (series X). **Proceedings of the National Academy of Sciences** 79: 2962-2966
- Gilbert, D.G., 1981. Effects of carbon dioxide versus ether on two mating behavior components of *D. melanogaster*. *Drosophila Information Service* 56: 45-46
- Gilbert, D.G., 1981. Sperm counts and initial sperm storage in *D. melanogaster*. *Drosophila Information Service* 56: 46-47
- Gilbert, D.G., 1981. Studies of esterase 6 in *Drosophila melanogaster*. VIII. Ejaculate esterase 6 and initial sperm use by females. **Journal of Insect Physiology** 27: 641-650
- Gilbert, D.G., R.C. Richmond and K.B. Sheehan, 1981. Studies of esterase 6 in *Drosophila melanogaster*. VII. Remating times of females inseminated by males having active or null alleles. **Behavior Genetics** 11: 195-208
- Gilbert, D.G. and R.C. Richmond, 1981. Studies of esterase 6 in *Drosophila melanogaster*. VI. Ejaculate competitive abilities of males having null or active alleles. **Genetics** 97: 85-94
- Gilbert, D.G., R.C. Richmond and K.B. Sheehan, 1981. Studies of esterase 6 in *Drosophila melanogaster*. V. Progeny production and sperm use in females inseminated by males having active or null alleles. **Evolution** 35: 21-37
- Richmond, R.C., D.G. Gilbert, K.B. Sheehan, M.H. Gromko, F.M. Butterworth, 1980. Esterase 6 and reproduction in *Drosophila melanogaster*. **Science** 207: 1483-1485
- Gilbert, D.G., 1980. Dispersal of yeasts and bacteria by *Drosophila* in a temperate forest. **Oecologia** 46: 135-137

Collaborators (past four years)

W. M. Gelbart (Harvard Univ.), A. de Grey (Univ. of Cambridge), M. Juncai (Chinese Academy of Sciences), T. Kaufman (Indiana Univ.), K. Matthews (Indiana Univ.), A. Mizushima (AFFRC,

Japan), V. Strelets (Indiana Univ.), Y. Ugawa (AFFRC, Japan), T. Tan Wee (National Univ. of Singapore)

Advisor to students

Masters students: Hardik Sheth, Vasanth Signan, (current); Nihar Sheth, Manish Anand, Paul Poole, Danfeng Yao, Lily Han Xu, (past)

Postgraduate Research Associates: Josh Goodman, Paul Poole (current), Edwin Wang (past)

Graduate and Postgraduate Advisors

Rollin Richmond (Indiana Univ.), William T. Starmer (Syracuse Univ.), Russel Lande (Univ. of Chicago)