NESCent

National Evolutionary Synthesis Center
Our mission

To promote the synthesis of information, concepts and knowledge to address significant, emerging, and novel questions in evolutionary science and its applications.

We accomplish this by supporting research and education across disciplinary, institutional, geographic, and demographic boundaries.
Sponsored science

- Short-term visitors (2 wks – 3 mos)
- Graduate fellows (1 semester)
- Postdoctoral fellows (2-3 yrs)
- Sabbatical scholars (6 months – 1 yr)
- Working groups (2 yrs, ~12 individuals)
- Catalysis meetings (1 time, ~30 individuals)

Education and Outreach

- NESCent Academy for researchers and teachers
- Darwin Day
- Journalists-in-residence
- Promoting participation by under-represented groups

Informatics...
Custom tools for sponsored scientists

Maximal bodysizes throughout evolutionary history (bodysize.nescent.org)

Synthesis of primate life history data (plhd.nescent.org)

Visualizing geophylogenetic data (GeoPhyloBuilder)

J. Payne, J. Stempien, M. Kowalewski

S. Alberts

D. Kidd
Genome databases for evolutionary models

Owen McMillan
Evolutionary model organisms

- Compelling biology
- Sequence & map data
- Stocks
  - Natural diversity
  - Phenotypic mutants
  - Mapping populations
  - Clones, microarrays, etc.
- Protocols
- Community
  - Web database

Images: BioMedia Assoc. (Saccoglossus), UBC Bot. Gard. (Aquilegia), C. Farmer (Mimulus), N. Patel (Paryhale), P. Burton (Nematostella), C. Darwin (Geospiza), NY State Dept. of Environmental Conservation (Gasterosteus), A. Monteiro (Bicyclus), J. Selier & J. Peterson (Populus), J. Good - NPS (Peromyscus)
Cyberinfrastructure initiatives

• Need within the evolutionary biology community.
• Impact on facilitating synthetic science
• Impact across disciplines
• Feasibility and cost-effectiveness.
• Strength of the match to the capabilities and of the center.
• Success requires the involvement of a national center.
GMOD user support

Welcome to GMOD

GMOD is the Generic Model Organism Database project, a collection of open source software tools for creating and managing genome-scale biological databases. You can use it to create a small laboratory database of genome annotations, or a large web-accessible community database. GMOD tools are in use at many large and small community databases.

How do I Get Started?

For a project overview see GMOD for the Biologist. For an introduction to specific GMOD components see the list of the most popular tools at the right, or visit GMOD Components for a comprehensive list of GMOD tools. If GMOD looks promising for your needs consider sending someone to the 2008 GMOD Summer School.

How do I Get Support?

GMOD support is available from several different sources. Finding Support introduces each support option (this web site, GMOD Mailing Lists, and the GMOD Help Desk) and offers guidance on which one is the most appropriate for your question.

How do I Get Involved?

As an open source project GMOD relies on the donation of time and software by groups and individuals. Contribution of new tools, adoption of existing ones, and improving the documentation are all welcome. Existing and potential users are encouraged to provide feedback via mailing lists or the help desk. The GMOD Project Page lists projects in need of ideas and developers.

You can also attend project meetings. See November 2007 GMOD Meeting and Hackathon 2007 info for summaries of the two most recent meetings.

Contributing Organizations

[Image of logos]
Ontologies for evolutionary data

**entity: scale**

source: Teleost Anatomy Ontology

- pharyngeal tooth plate
- pharyngo-branchial tooth plate
- postcleithrum
- posttemporal
- posttemporal-supracleithrum
- præmaxilla
- præopercle
- præopercle horizontal limb
- præopercle vertical limb
- preopercle-supraopercle-supracleithrum
- mesial plate

**Properties**

Synonyms: scales (exact)

Definition: Dermal bone that is thin, flexible, and platelike, and that develops in overlapping skinfolds that cover the body and often the head of fish and the bases of the fins.

ID: TAO.0000277

**Relationships (about)**

- is part of: dermal superficial region
- is a type of: dermal bone
- has subtype: otocincus scale, lateral line scale
- may have part: cincus, focus, radius

**Data in the Knowledgebase**

- Comparative phenotype annotations
- Gene phenotype annotations
- Comparative publications
• Data archived as part of publication
• Easy submission process
• Peer review of data
• Persistent link from paper to data
• Support for data citations
• Data in public domain
• Option to embargo
• Deep data indexing and searching
• Updatable datafiles
• File format migration
• Governed and sustained by journals

http://datadryad.org
Promoting open-source evoinformatics

Courses

Internships

Conferences
Hackathons

- Promote interoperability, add new functionality to existing community resources, nurture collaborations, build a cohesive developer community

Comparative phylogenetic methods in R

GMOD tools for evolutionary biology

Idea for a hackathon? Submit a whitepaper
when I whip out my tool gun, a mass of text yells at me.

All of my weapons work and shoot, but when I shoot them a ERROR text pops out the side and bounces around on the floor. They used to all not do that until I got on about a week ago and they did. The weapons that came with gmod don't shoot big ERRORS from the side but now only some of the downloaded ones don't.

I click the fire button the blue beam comes out but it has no effect on the prop or anything else, and without your physics gun you simply can't play the game because you can't build anything you can't move anything it's so frustrating, so please answer this message and give me some feedback and help so I can't solve this issue. So please help me I am so desperate to get it working again and you are my last resort no one else has responded.
You have reached the help desk for the Generic Model Organism Database (http://gmod.org). You want the other GMod, Garry's Mod (http://www.garrysmod.com/). Garry's Mod has two support channels:

1. Email - support@garrysmod.com

Regards,

Dave C.
Oh, I'm so sorry! Haha. I bet you guys get alot of e-mails from people referring to garry's mod. Good luck databasing generic organism models! (or whatever it is you guys do)

So Gmod and Garry's mod are completely different?

P.S - I finally took a look at the Garry's MOD webpages. It actually looks kinda cool..