

Council of Councils

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Aquatic Model Resources Funded by the Division of Comparative Medicine/ ORIP

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DCM / ORIP / DPCPSI / NIH-OD



Office of Research Infrastructure Programs

Division of Comparative Medicine (DCM)

Two important missions of the DCM:

- Provide biomedical researchers with high-quality, disease-free animals and specialized animal research facilities.
- Help the NIH develop strategies to make animal models more useful for both basic and applied research.

Aquatic Model Resources and Resource-Related Research Projects Funded by the DCM

■ Zebrafish:

- Zebrafish International Resource Center (ZIRC)
- Physiology: Atlas of Microanatomy
- Husbandry: Disease Control, Cryopreservation of germplasm
- Transcriptomics, including for drug screening
- Screening: Modeling of human GWAS “hits”
- Regenerative Medicine: Immune compromised fish for cell transplantation

■ Other Aquatic Resources:

- Amphibians (Xenopus and Salamanders), Xiphophorus (Platyfish), Aplysia (Sea Hares), Sea Urchins.

Zebrafish International Resource Center

- Located at the University of Oregon
- Central repository of:
 - mutant, transgenic, and wild-type lines
 - research materials
- Acquire, maintain and redistribute resources
- Rederive animals free of infectious disease
- Provide zebrafish health services
- Develop standards and improve fish biosafety, husbandry and health



Zebrafish International Resource Center

Resources:

- Fish Lines: 19,400
- ESTs/cDNAs: 965
- Monoclonal Antibodies: 37
- Zebrafish Reference Material

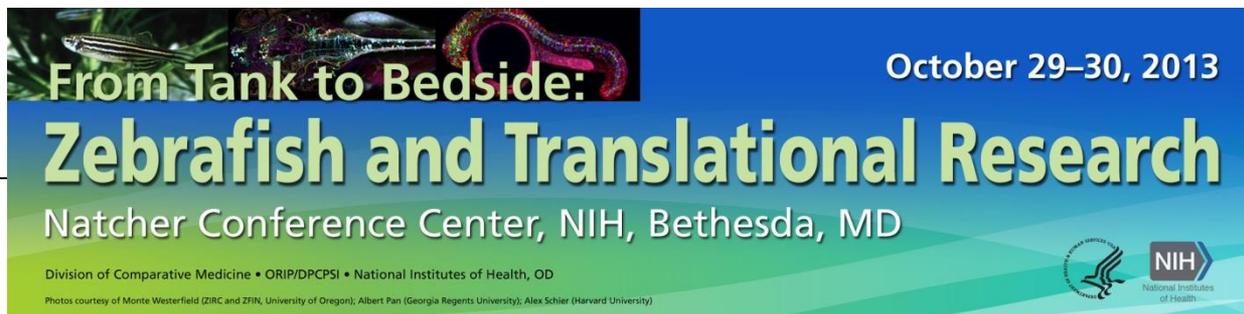


Services:

- Resource Acquisition (**5,800 lines**) & Redistribution (**106,300 embryos/5800 adults**)
- Health Services
- Training: Health, Husbandry, Cryopreservation

Information:

- Consultation, Genotyping & Husbandry Protocols



- **Purpose:**
 - Provide information on the current status of technologies using zebrafish that will impact translational research.
 - Provide recommendations to the NIH for new initiatives.
- **Organizing Committee:** DCM staff (organizers), extramural and intramural thought leaders, co-chairs of the trans-NIH zebrafish coordinating Committee.
- **Recommendations:**
 - Centers for chemical screening and for confirmation of human GWAS “hits,” respectively.
 - New tools that will enhance utility for translational research, e.g., next generation morpholinos, CRISPR/Cas, automation for high throughput screening, etc.
 - Communication and training, e.g. “matchmaking” with clinicians, standardized protocols for phenotyping, workshops, etc.
- **Final Report:**
http://dpcpsi.nih.gov/sites/default/files/orip/document/zebrafish_workshop_final_report_orip_website.pdf

John Postlethwait, Ph.D.

- **Professor of Biology, Institute of Neuroscience, University of Oregon**
 - **Developed the first genetic map of zebrafish and mapped the first mutants**
 - **Genomic duplication in the zebrafish lineage**
 - **Developed models for Fanconi anemia in zebrafish**
- **Fellow of the American Association for the Advancement of Science**
- **Distinguished Alumnus Award, Purdue University**
- **Co-winner of Oregon Health & Science University Medical Research Foundation's 2007 Discovery Award**
- **Author on more than 250 papers**
- **Committed teacher and mentor: author of popular textbooks, including Life, Modern Biology, and Explore Life.**