

Information on the ZF-MODELS project

"ZF-MODELS - Zebrafish Models for Human Development and Disease" is an Integrated Project funded by the European Commission as part of its 6th Framework Programme. The aim of this project is to exploit the advantages of the zebrafish as a model organism for vertebrate development and human disease. A total of 29 groups at 17 different institutions in France, Germany, Italy, the Netherlands, Norway, Switzerland and the United Kingdom will be working together to achieve this aim (see www.zf-models.org/about/partners.html for a full list of participating groups).

The project is coordinated by the Max Planck Institute for Developmental Biology in Tübingen, Germany. Robert Geisler is the project's Scientific Coordinator, Ralf Dahm is the Project Manager and Christiane Nüsslein-Volhard chairs the project's Executive Committee. The project, which will run over a period of five years (1st Jan. 2004 – 31st Dec. 2008) and will receive Euro 12,000,000.– from the European Commission as well as Euro 400,000.– from the Swiss National Science Foundation.

The scientific projects of the ZF-MODELS project are grouped into five work packages:

1. Mutagenesis screening of larval and adult fish to identify novel genes (forward genetics).
2. Analysis of expression patterns by GFP enhancer trap and *in situ* screening as well as by analysing transgenic lines expressing GFP under the control of specific promoter elements.
3. Expression profiling (microarray) and proteomics analysis of mutant and knock-down zebrafish.
4. Generation of targeted knock-out (TILLING) zebrafish mutants for genes of interest.
5. Development of an online database to integrate all project data (with a focus on gene expression data as well as a 4D atlas of the developing zebrafish brain).

For further details, please see the project web site: www.zf-models.org.

Possibilities for European labs, which are not part of the ZF-MODELS consortium, to benefit from the project

The ZF-MODELS consortium aims to share its large-scale resources with scientists outside the consortium on a collaborative basis and to provide an integrative element for all of European zebrafish research. In particular, the following projects and resources are open to interested European parties.

Please note that although all of these projects / resources are open to interested European researchers outside the ZF-MODELS consortium in principle, the possibility to participate in certain projects may be limited by availability.

1. The ZF-MODELS mutagenesis screens

As part of the ZF-MODELS project, there will be two ENU mutagenesis screens. One is organized by the laboratory of Christiane Nüsslein-Volhard at the Max Planck Institute for Developmental Biology, Tübingen (starting in January 2005), the other by the laboratory of Wolfgang Driever at the University of Freiburg (starting in July 2005). In addition to the members of the ZF-MODELS Consortium, there will be the possibility for other European scientists to participate in these screens and to employ their own assays.

Tübingen mutagenesis screen

If you would like to participate in the Tübingen screen, please submit a brief (one page) description of your proposed assay to Brigitte Walderich (brigitte.walderich@tuebingen.mpg.de) by September, 1st 2004.

As the number of screening slots is limited, there will be a review and selection of the assays proposed. Wherever possible, several proposed assays will be combined, such that they can be carried out on the same batch of embryos.

Everyone invited to take part in the screen in principle will be asked to attend a **screen planning meeting** to be held on **Friday, 24th September 2004** at the Max Planck Institute for Developmental

Biology in Tübingen. The final review and selection of the assays as well as the allocation of screening slots will be carried out by the ZF-MODELS Executive Committee during this meeting.

Additionally, from **September 20th - 24th**, the Max Planck Institute for Developmental Biology will host a **workshop** on zebrafish development and mutagenesis screening in preparation of the ZF-MODELS mutagenesis screens. This workshop is primarily aimed at junior scientists with limited experience in working with zebrafish. It is intended to allow those participating in the screening to better assess the morphology of organs / structures they are not familiar with and hence be able to compile more comprehensive and more precise phenotypic descriptions of the mutants identified.

Importantly, the workshop will allow those participating in the Tübingen mutagenesis screen to familiarize themselves with the Tübingen zebrafish facility and to optimise their own assays under “real-world” conditions by participating in a test screen. In order to plan such a test screen (e.g. to have embryos / larvae at the required stage etc.), participants are expected to contact Brigitte Walderich (brigitte.walderich@tuebingen.mpg.de) at least 3 weeks prior to the start of the course.

Please note: We would welcome it if all junior staff with no or limited experience in zebrafish development and mutagenesis screening participating in the Tübingen screen could attend this workshop.

For details on this workshop (contents, tentative schedule, how to apply), please see the separate PDF document ZF-MODELS_screen_workshop.pdf.

For questions regarding the screen, please contact Brigitte Walderich (email: brigitte.walderich@tuebingen.mpg.de or phone: +49-(0)7071-601-466).

Details on the Freiburg mutagenesis screen will be announced at a later stage.

2. Enhancer trap screen

The ZF-MODELS consortium will generate zebrafish enhancer trap lines and perform a screen for lines expressing GFP in tissues / cell types of interest. European researchers are welcome to participate on a collaborative basis in the enhancer trap screen, which is carried out by the laboratory of Tom Becker at

the University of Bergen. Please direct any request regarding this screen to Tom Becker (Tom.Becker@sars.uib.no).

3. Expression profiling

The ZF-MODELS consortium welcomes collaborations on the expression profiling (microarrays) of zebrafish mutants as soon as the initial set-up and validation of the expression profiling pipeline are completed. For details, please contact Robert Geisler (robert.geisler@tuebingen.mpg.de).

4. Targeted knock-out

The ZF-MODELS consortium will perform part of its targeted knock-outs (TILLING) at the request of European scientists outside the ZF-MODELS consortium. Details on the procedures for such requests can be found on our website: www.zf-models.org/KO.

5. Public database

The ZF-MODELS Consortium will create a public database that will focus on gene expression during zebrafish development and will integrate data from inside and outside the consortium. This database will be accessible through the project web site (www.zf-models.org) in the near future.

6. Workshops and satellite sessions at meetings

The ZF-MODELS consortium will host annual workshops that will provide hands-on training for junior researchers. The first such workshop will focus on mutagenesis screening and will be held at the Max Planck Institute for Developmental Biology, Tübingen, from Sept. 20th to Sept. 24th (see separate PDF file ZF-MODELS_screen_workshop.pdf and check back at www.zf-models.org/courses for details).

The second workshop is planned to focus on 'High throughput transgenesis and TILLING' and is to be held at the University of Bergen Sars Centre for Marine Biology in mid-2005. (Please check back at www.zf-models.org/courses for further information in the future.)

In addition to organizing workshops, members of the ZF-MODELS consortium will host satellite sessions, at future conferences to discuss the results of the project. Details on these sessions will also be announced at: www.zf-models.org/courses.

7. Job opportunities

The participating institutes will continuously provide job opportunities and training for technicians, PhD students and postdocs. To find out about current openings, please see the project web site (www.zf-models.org/jobs) or contact the heads of the labs you are interested in directly. Contact details are listed on the project's web site at www.zf-models.org/about/partners.html.

Contact

If you have any general questions regarding the ZF-MODELS project, please contact Ralf Dahm (Project Manager) at:

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