***IZMC important information:***

* *Inside the fish facilities, the use of FFP2 masks, gloves and foot protection are obligatory. Gloves and foot protection will be provided by the course, please bring your own FFP2 mask. It is NOT allowed to enter the fish facilities with jackets and bags. The course supervisors will show where they can be stored safely. All watches and wristbands must be removed and only shirts with short sleeves will be permitted inside the fish rooms.*
* *For the statistics practical section, it is necessary that each participant has access to a computer or iPad running the MS Excel program. It is advisable that each participant brings their own device. However, in case this is not possible, please let the IZMC administration know in advance (at least 1 week before the start of the in-presence course) and the administration will then provide you with a device for this practical.*

***Monday***

 Building x Room y

9:00 – 9:30 Registration and Opening / Organizational affairs

 *Christine Blattner / Daniela Vallone*

9:30 – 10:00 Zebrafish and Medaka as biomedical models

 *Sepand Rastegar*

10:00 – 11:00 Medaka husbandry and breeding, Biology of Medaka

 *Felix Loosli*

 11:00 – 11:15 break

 11:15 – 12:00 Biology of zebrafish

 *Thomas Dickmeis*

12:00 – 13:30 Lunch break

13:30 – 14:15 Zebrafish husbandry and breeding

 *Thomas Dickmeis*

14:15 – 14:45 History and ethics of animal experimentation

 *Lennart Hilbert*

14:45 – 15:15 Animal welfare, the 3R and Alternative Methods

 *Lennart Hilbert*

15:15-15:30 break

15:30 – 16:15 Health monitoring, quarantine

*Robert Geisler*

16:15 – 16:45 Demo on Zebrafish Sperm Freezing and In-vitro Fertilization

 & Shipping embryos and adult fish

 *Robert Geisler*

**Tuesday**

Fish facilities in B223

|  |  |  |
| --- | --- | --- |
| Gruppe 1Zebrafisch HausB223-Z | **9:00 -10:45*** Breeding Zebrafish
* Collection, cleaning and microinjection in Zebrafish
* Microscopy and staging of zebrafish eggs.

***Supervisor: Christelle Etard*** | **10:45 -12:30*** Setting up a breeding colony of snails.
* Feeding Zebrafish.
* Keeping track of fish and recognizing sick fish.
* Anaesthesia, Fin clipping and Euthanasia

 ***Supervisor: Nadine Borel***  |

|  |  |  |
| --- | --- | --- |
| Gruppe2Zebrafisch HausB223-Z  | **9:00 -10:45*** Setting up a breeding colony of snails.
* Feeding Zebrafish.
* Keeping track of fish and recognizing sick fish.
* Anaesthesia, Fin clipping and Euthanasia

***Supervisor: Nadine Borel***  | **10:45 -12:30*** Züchtung von Zebrafischen
* Einsammeln und Säubern von Zebrafisch-Eiern und Mikroinjektion
* Mikroskopie und Bestimmung von Entwicklungsstadien von Zebrafisch-Eiern

***Supervisor: Christelle Etard*** |

|  |  |
| --- | --- |
| Gruppe 3Medaka HausB223-M  | **9:00 -12:30*** Tour Fish facility.
* Breeding Medaka/ setting up crosses for injection
* Collection and cleaning of medaka eggs.
* Bleaching eggs.
* Artemia preparation
* Microscopy and staging of medaka eggs
* Demonstration of microinjection

***Supervisor: Nathalie Geyer***  |

|  |  |
| --- | --- |
| Gruppe 4Medaka HausB223-M  | **9:00 -12:30*** Tour Fish facility.
* Breeding Medaka/ setting up crosses for injection
* Collection and cleaning of medaka eggs.
* Bleaching eggs.
* Artemia preparation
* Microscopy and staging of medaka eggs
* Demonstration of microinjection

***Supervisor: Cathrin Herder***  |

12:30 – 13:30 Lunch break

 Building xRoom y

13:30 – 14:15 Recognition of pain, suffering and distress

*Almut Köhler*

14:15 - 15:00 EU Direktive 2010/63

**(Mandatory for international Participants. Not mandatory for participants working in Germany)**

*Almut Köhler*

15:00 – 15:15 break

15:15 – 17:15 Regulatory aspects of animal experimentation and writing an application in Germany

 **(Not Mandatory for Participants working outside Germany)**

*Almut Köhler*

**Wednesday**

Fish facilities in B223

|  |  |  |
| --- | --- | --- |
| Gruppe 3Zebrafisch HausB223-Z | **9:00 -10:45*** Breeding Zebrafish
* Collection, cleaning and microinjection in Zebrafish
* Microscopy and staging of zebrafish eggs.

***Supervisor: Christelle Etard***  | **10:45 -12:30*** Setting up a breeding colony of snails.
* Feeding Zebrafish.
* Keeping track of fish and recognizing sick fish.
* Anaesthesia, Fin clipping and Euthanasia

***Supervisor: Nadine Borel***  |

|  |  |  |
| --- | --- | --- |
| Gruppe 4Zebrafisch HausB223-Z  | **9:00 -10:45*** Setting up a breeding colony of snails.
* Feeding Zebrafish.
* Keeping track of fish and recognizing sick fish.
* Anaesthesia, Fin clipping and Euthanasia

***Supervisor: Nadine Borel*** | **10:45 -12:30*** Breeding Zebrafish
* Collection, cleaning and microinjection in Zebrafish
* Microscopy and staging of zebrafish eggs.

***Supervisor: Christelle Etard***  |

|  |  |
| --- | --- |
| Gruppe 1Medaka HausB223-M  | **9:00 -12:30*** Tour Fish facility.
* Breeding Medaka/ setting up crosses for injection
* Collection and cleaning of medaka eggs.
* Bleaching eggs.
* Artemia preparation
* Microscopy and staging of medaka eggs
* Demonstration of microinjection

***Supervisor: Nathalie Geyer***  |

|  |  |
| --- | --- |
| Group 2Medaka HausB223-M  | **9:00 -12:30*** Tour Fish facility.
* Breeding Medaka/ setting up crosses for injection
* Collection and cleaning of medaka eggs.
* Bleaching eggs.
* Artemia preparation
* Microscopy and staging of medaka eggs
* Demonstration of microinjection

***Supervisor: Cathrin Helder***  |

12.30 – 13.30 Lunch break

 Building x Room y

13:30 - 14:00 Statistics

 *Markus Reischl / Andre Orth*

14:00 – 15:00 Statistics exercises

*Markus Reischl / Andre Orth*

15:00 – 15.15 break

15:15 – 16:15 Virtual tour of the Screening Center: Fish as model organism

 for drug discovery and testing.

 *Ravindra Peravali*

16:15 – 17:00 Tour in the Screening Center (Not mandatory)

**Thursday**

Building x Room y

9.00 -9.45 Transgenesis and Mutagenesis

 *Sepand Rastegar*

9.45 – 10:45 Anestehesia and Euthanasia

 *Thomas Dickmeis/Thomas Braunbeck*

10:45 – 11:00 Brake

11:00 – 12:00 Fish and toxicology

  *Thomas Dickmeis/Thomas Braunbeck*

12:00 – 13:30 Lunch break

13:30 – 14:15 Other Fish Species as model for Biomedicine

 *Nicholas Foulkes*

14:15 -1 4:30 Multiple choice examination

 *Daniela Vallone, Christine Blattner, Christina Bauer*

15:15 Results of examination, questions and final discussion

 Feedback for the course

*Daniela Vallone, Christine Blattner*

15:30 Possible oral examination

*Daniela Vallone, Christine Blattner, Christina Bauer*

***Location – KIT Campus North***

Anmeldung

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Lectures (bd. 419)

Canteen

Fish house

(bd. 223)

***PLEASE ENTER KIT CAMPUS NORD HERE, via its South Gate***

***Hermann-von-Helmholtz-Platz 1***

***76344 Eggenstein-Leopoldshafen***

***KIT Shuttle at Campus South***

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***Further information***

***Registration***

If you do not come from KIT you have to register at the reception („Anmeldung“) with your passport on the first day of the course. You will get an ID-Card for one week entrance to Campus North.

***Canteen***

You can go to our canteen for lunch. Unfortunately, you cannot pay at our canteen with cash, however you can pay with a guest card. If you want a guest card you can buy it from the Cafeteria, the Café bar, or the SB market (2,50€ lending fee). You can charge and recharge the card at the automats in the canteen foyer. This card you can also return at the automats. Then you will get back your 2,50€.

If there are problems with the automats or your card you can contact Ms. Strey (corridor service point, room: 111 Tel: 0721 608- 25448)

**Canteen opening hours:**

Monday -Friday

07:00 - 10:00 AM

11:30AM - 2:15 PM

Cafeteria

7:30AM - 6:30 PM

Food until 6:00 PM

Upper floor

11:30AM – 2:15PM

(costs: approx. 5-6€ per meal)

***Hotels***

A list of the hotels near to the Campus can be found on our website (navigation point: registration) <https://izmc.ezrc.kit.edu/62.php>

***W-LAN***

There is the possibility to get W-LAN access (SSID: KIT) username and password will be provided at the venue