Zebrafish and Other Fish Models: Description of Extrinsic Environmental Factors for Rigorous Experiments and Reproducible Results

Workshop Agenda

MONDAY, SEPTEMBER 11, 2017

7:30 – 8:30: Registration

INTRODUCTION TO THE WORKSHOP

8:30 – 8:35: Welcome – Malgorzata M Klosek, Director DCI/ORIP/DPCPSI/OD/NIH

8:35 – 8:45: ORIP’s Support for Animal Models and Animal Facilities - Infrastructure for Innovation – Franziska Grieder, Director ORIP/DPCPSI/OD/NIH

8:45 – 8:55: Rigor, Reproducibility, and Animal Model Research – Stephanie Murphy, Director DCM/ ORIP/DPCPSI/OD/NIH

8:55 – 9:05: Meeting Logistics – Malgorzata M Klosek


PLENARY SESSION

9:15 – 10:05: Water Chemistry – Discussion Leader: George Sanders

Jim Burris, Stephen Ekker, Steven Ripp, & George Sanders:

9:15 – 9:35:
Basic Information from Zebrafish Facilities Represented by the Water Chemistry Group

9:35 – 9:50:
Effects of Water Chemistry on Zebrafish and Research Endeavors

9:50 – 10:05:
Q&As

10:05 – 10:20: Break

10:20 – 11:10: Physical Environment – Discussion Leader: Ronald Walter

Robert Gerlai:
Zebrafish Husbandry and Breeding Require Careful Consideration of Environmental Conditions: The Growing Need for Systematic Studies on a Large Number of Factors

Christian Lawrence:
Physical Factors Impacting Zebrafish Experiments: What Are They and How Do You Measure Them?

Mary Halloran:
Physical Environmental Parameters Affecting Experiments: Neural/Behavioral Studies as an Example

Ronald Walter:
Establishment and Maintenance of Genetic Homeostasis: Light effects on Zebrafish Gene Expression

11:00 – 11:10: Q&As
11:10 – 12:10: **Nutrition** – Discussion Leader: Lilianna Solnica-Krezel

11:10 – 11:20: **Maurine Hobbs:** Standardization Feed SOPs - Food Delivery Methods and Feed Types Across Different Institutions

11:20 – 11:30: **Lauren Pandolfo:** Bcs and Larvae vs Adults Needs and Diets

11:30 – 11:40: **Stephen Watts:** Nutrition and What Is Done in Other Model Organisms

11:40 – 11:50: **Lilianna Solnica-Krezel:** What Data is or Should Be Collected?

11:50 – 12:00: **Mark Masino:** Chromium-contaminated Adult Zebrafish Diet Negatively Impacts the Viability of Larval Progeny

12:00 – 12:10: Q&As

12:10 – 1:10: Lunch Break

1:10 – 2:10: **Health Monitoring and Biosafety** – Discussion Leader: Susan Farmer

1:10 – 1:20: **Katrina Murray:** Biosecurity, Importation, and Exportation

1:20 – 1:30: **Susan Farmer:** Health Surveillance: How Often and What Is Available

1:30 – 1:40: **Joseph Schech:** Finding Meaning in Zebrafish Sick Reports

1:40 – 1:50: **Heather Shive:** Physical Appearance / Lesions: Identifying Sick Fish and Diseases

1:50 – 2:00: **Christopher Whipps:** Impacts of Diseases (such as Pseudoloma and Mycobacterial Diseases): Which Pathogens Should Be Reported?

2:00 – 2:10: Q&As

2:10 – 3:10: **Welfare and Behavior** – Discussion Leader: Michael Kent

2:10 – 2:20: **Marnie Halpern:** Behavioral Assays: Reproducibility and Rigor

2:20 – 2:30: **Brant Weinstein:** Egg Production and Fertility

2:30 – 2:40: **Brian Link:** Parameters Affecting Variation and Reproducibility when Using Zebrafish to Model Disease: Implications for Disease Modeling

2:40 – 2:50: **Michael Kent:** Effects of Sub-Clinical Infections

2:50 – 3:00: **Rebecca Van Beneden:** Accepting and Implementing Reporting Procedures

3:00 – 3:10: Q&As

3:10 – 3:30: Break & Group Photo

3:30 – 5:30: **Commercial Equipment and Data Formats** – Discussion Leader: Stephen Ekker

3:30 – 3:50: **Mark Francis:** Design for Success: ‘Smart’ Data Collection and Analysis

3:50 – 4:10: **Massimo Ferrari:** Aquatic Systems: Technical Feasibility & Practicality

4:10 – 4:30: **Priscilla Shirley:** Lab Feeds

4:30 – 4:50: **Nick King:** Creating a Health Management Program for Aquatic Establishments

4:50 – 5:10: **Marcus Crim:** Health Monitoring and Health Status Reporting for Zebrafish Colonies

5:10 – 5:30: **David Weintraub:** Efficient and Effective Data Collection to Support and Connect the Zebrafish Research Community

**CONCLUSIONS AND SET-UP FOR THE NEXT DAY**

5:30 – 5:45: Questions and Issues for the Break-out Groups, Part I:

Steering Committee, Discussion Leaders, and all other participants
TUESDAY, SEPTEMBER 12, 2017
PLENARY SESSION

8:30 – 8:35: Plans for the Day: MM Klosek

8:35 – 9:45: **Data Collection and Sharing** – Discussion Leader: Michael Hucka

8:35 – 8:45: Cory Brayton: *Current Status of Guidelines for Minimal Information Reporting*

8:45 – 8:55: Allan Kalueff: *A Neuroscientist’s Perspective on Tools for Data Collection and Sharing: The Researchers Need*

8:55 – 9:05: Zoltan M Varga: *Husbandry Data Collection and Environmental Data Monitoring at the Zebrafish International Resource Center*

9:05 – 9:15: Timothy Mason: *Data Collection at the University of Oregon Zebrafish Facility*

9:15 – 9:35: Yuk Fai Leung & Michael Hucka: *Data Formats and Data Sharing: Minimal Information Model and its Potential for Growth and Integration*

9:35 – 9:45: Q&As


Gina Alvino: *Comments from an Editor of PLOS ONE*

Cory Brayton: *Comments from an Editor/EB/ERB member and reviewer*

Ida Chow: *Comments from a Director of the Society for Developmental Biology*

Dante D’India: *Zebrafish Husbandry Association: A Learning Community Focused on Advancing Standardization of Zebrafish Research*

Dustin Graham: *Comments from an editor of LabAnimal, Nature Research*

10:15 – 10:30: Break

10:30 – 10:45: **Questions and Issues for the Break-out Groups, Part II:** Steering Committee, Discussion Leaders, and all other participants

10:45 – 10:50: Break-out Groups Set-up

BREAK-OUT GROUPS

10:50 – 12:30: **Break-out Groups Discussions:** Open Issues, Recommendations and Further Actions

12:30 – 1:30: Lunch Break

PLENARY SESSION

1:30 – 2:00: **Reports from Break-out Groups:** Discussion Leaders

2:00 – 2:30: **White Paper:** Steering Committee

2:30 – 3:00: **Recommendations for ORIP:** Steering Committee and Discussion Leaders

3:00 – 3:15: **Dissemination of Outcomes, Feedback from the Research Community, and Future Actions:** All Participants

3:15 – 3:30: **Wrap-up - Workshop adjourns**