

Wednesday Feb 28th

3 pm- 5 pm Registration

6 pm - 9 pm Welcome Reception

Thursday Feb 29th

8 am- 9 am Registration

9.00 -10.30 Session 1: Evolutionary Patterns of Populations

9.00 -9.15 Welcome address by Erik Duboue, Nicolas Rohner, Johanna Kowalko, and Alex Keene

9.15-9.35 Wes Warren: *The relationship between pangenome structural variation and genetic adaptation in the Mexican tetra.*

9.35-9.50 Suzanne McGaugh: *Selection-driven trait loss in independently evolved cavefish populations*

9.50-10.05 Luis Espinasa: *Population size, distribution, underwater drones, and conservation*

10.05-10.20 Riley Kellermeier: *Eyed and eyeless cavefish reveal common origins of eye loss*

10.20-10.30 **short talk:** Abrianna Gutierrez: *Gja8a and gja8b paralogs in Astyanax: Their effect on eye development and condition factor in a hybrid population.*

10.30-11.00 coffee break and vendors

11.00-12.30 Session 2: Behavior

11.00-11.20 Sylvie Rétaux: *Evolution of the olfactory sensory system in Mexican cavefish*

11.20-11.35 Roberto Rodriguez-Morales: *Exploring mechanisms of memory formation in the blind Mexican cavefish*

11.35-11.45 **short talk:** Amruta Swaminathan: *Exploring the role of Cryptochrome-1 in adaptation to subterranean environments*

11.45-11.55 **short talk:** Jordi Espinasa: *Dorsoventral axis angle during wall swimming: Further support for behavioral laterality asymmetries*

11.55-12.10 German Sumbre: *Repurposing of brain computations in the optic tectum of Astyanax cavefish*

12.10-12.25 Carole Hyacinthe: *Genetic basis of temperature preference evolution in Astyanax mexicanus*

12.30-2.00 Lunch

2.00-3.00 **Workshop I: Ecology and Fieldwork** (Panel: David Perez Guerra, Patricia Ornelas-García, Sylvie Rétaux, Suzanne McGaugh, Andy Gluesenkamp, Carole Hyacinthe)

3.00-3.30 coffee break and vendors

3.30-4.30 Session 3: The genetics of traits

3.30-3.45 Josh Gross: *The spatiotemporal patterning and genetic architecture of external taste buds in *Astyanax cavefish**

3.45-4.00 Amanda Powers: *The evolution of tooth patterning differences between cave and surface fish*

4.00-4.15 Charlotte Mulliniks: *Identifying the genetic and developmental underpinnings of eye evolution in cavefish*

4.15-4.25 short talk: Devin Shennard: *Exploring the Genetic Basis of Variation in Eye Evolution in *Astyanax mexicanus**

4.25-4.35 short talk: Jaya Krishnan: *Gene regulatory landscape in the metabolic evolution of cavefish*

4.35-4.50 Patricia Ornelas-García: *Phylogenomics reveals repeated evolution of body shape under similar environmental conditions in the genus *Astyanax* in Mesoamerica*

4.50-5.00 Lightning talks

5.00-7.00 Poster session 1 (Poster boards are 6 feet wide and 4 feet high, please plan for a poster not bigger than 36" x 48")

(**6.30-7.00** optional screening of the movie/documentary titled "Cave of the megafauna, *Astyanax* and Mysids starring Luis Espinasa: <https://www.youtube.com/watch?v=X-q9K14OXGE>)

Friday March 1st

9.00-10.30 Session 4: Immune system and microbiome

9.00-9.15 Esra Sengul: *Understanding the role of prolonged inflammation in heart regeneration*

9.15-9.30 Rita Alonaizon: *Glucose and insulin metabolism regulates the cardiomyocyte cell cycle and heart regeneration in *Astyanax mexicanus* fish*

9.30-9.45 Robert Peuß: *The impact of parasite diversity on the evolution of host immunity*

9.45-10.00 Marc Bauhus: *Genetic and phenotypic characterization of immunological niche conformance in cavefish*

10.00-10.15 Misty Riddle: *Genetic adaptation shapes gut microbiome composition in *Astyanax mexicanus**

10.15-10.25 short talk: Ana Santacruz: *An orchestra of symbiotic interactions in the cavefish *Astyanax mexicanus**

10.30-11.00 coffee break and vendors

11.00-12.30 Session 5: Disease models

11.00-11.20 Bill Jeffery: *Hypoxia as a driver of Sonic Hedgehog dependent trait evolution in *Astyanax cavefish**

11.20-11.35 Brant Weinstein: *TBA*

11.35-11.50 Evan Lloyd: *Elevated DNA damage associated with sleep loss in Mexican cavefish*

11.50-12.05 Masato Yoshizawa: *Metabolic ketosis shifted the gene expression landscape to promote social affinity in a genetically asocial fish population*

12.05-12.20: Ansa Cobham: *Mechanisms of adaptation to altered glucose homeostasis in the blind cavefish*

12.20-12.30: short talk: Nicolas Rohner: *Using Cavefish Cell Lines to Uncover Mechanisms of Starvation Resistance*

12.30-1.30 Lunch

Free afternoon (Pool, Beach, or optional trip to the Everglades with Airboat Tour and Gator Show for \$70 including shuttle to and from the hotel – if interested please email Alex Keene at alexckeene@gmail.com before February 15)

Saturday March 2nd

9.00-10.00 Keynote: Athula Wikramanayake: *Shifting in the Wnt: Did a redeployment of Wnt signaling along the animal-vegetal axis drive the evolution of the Bilateria?*

10.00 -10.30 coffee break and vendors

10.30-12.30 Session 6: Mechanisms of Evolution

10.30-10.45 Ed Rice: *Adaptation to the cave environment in the brain of *Astyanax mexicanus* at single nucleus resolution.*

10.45-11.00 Tathagata Biswas: *Fish(ing) in the Hi(gh)-C(sea)*

11.00-11.15 Hannah Grunwald: *Uncovering cryptic genetic variants that contributed to small eye-size during *Astyanax* evolution*

11.15-11.30 Kaytlin Webster: *Establishing *Astyanax mexicanus* as a model for the evolution of vertebrate sex regulatory networks*

11.30-11.40 short talk: Fanning Xia: *Old questions in new species: Studying reproductive strategies and adaptation in *Astyanax mexicanus**

11.40-11.50 short talk: Stefan Choy: *Investigating the evolution of troglomorphic traits across three *Astyanax mexicanus* cave populations*

11.50-12.00 short talk: Sylvain Bertho: *Exploration of cell autonomy versus non-cell autonomy in *Astyanax mexicanus**

12.00-12.15 Helena Bilandžija: *Recent and ongoing cave colonizations: A case study on teleost fish and isopod crustaceans from a cave in Croatia.*

12.15-12.30: Erik Duboue: *TBA*

12.30-2.00 Lunch (PI-meeting: next meeting location and organizers)

2.00-3.00 Workshop II: Tools, resources, and model development (Panel: Wes Warren, Alex Keene, Johanna Kowalko, Erik Duboue)

3.00-3.30 coffee break and vendors

3.30-4.30 Workshop III: ECR development, DEI, and community development (Panel: Bill Jeffery, Misty Riddle, Roberto Rodríguez-Morales, Rita Alonaizan)

4.30-4.45 Lightning talks

4.45-6.45 Poster session 2 (Poster boards are 6 feet wide and 4 feet high, please plan for a poster not bigger than 36" x 48")

7.00-11.00 Banquet