

Unit Name

Developmental Neurobiology Unit

Research Personnel

Jan 2023 - Present	Paula Niejenhuis, Research Unit Technician
Jan 2022 - Apr 2024	Taichi Kawakami, Research Unit Technician
May 2019 - Present	Luis Carretero Rodriguez, Staff Scientist Wei-Chieh Chiang, Staff Scientist
Jan 2018 - Present	Mamoru Fujiwara, Research Unit Technician
Sep 2017 - Present	Yuki Takeuchi, Staff Scientist
Sep 2016 - Present	Tetsuya Harakuni, Research Unit Technician
Sep 2006 - Present	Yuko Nishiwaki, Senior Staff Scientist

Mentorship / Supervision

Sep 2024 - Present	Mentor, Chloe Hamelin, OIST Student
May 2024 - Dec 2024	Host (RI, SRS, VRS, VS), Timofei Bulgakov, Research Intern
Sep 2023 - Present	Mentor, Yutei Takahashi, OIST Student Thesis Supervisor, Tatsuo Izawa, OIST Student
Sep 2023 - Apr 2024	Host (RI, SRS, VRS, VS), Mariia Beketova, Research Intern Host (RI, SRS, VRS, VS), Flor Emerald Barza Martinez, Research Intern
Jan 2022 - Present	Thesis Supervisor, Mariia Pavelchenko, OIST Student
Sep 2021 - Present	Mentor, Esteban Gabriel Fregoso, OIST Student
Jan 2021 - Present	Thesis Supervisor, Akira Kawano, OIST Student
Sep 2019 - Present	Mentor, Deviana Lidya David, OIST Student Thesis Supervisor, Darshini Ravishankar, OIST Student
Sep 2019 - Aug 2024	Thesis Supervisor, Dongpeng Hu, OIST Student
Sep 2018 - Apr 2024	Thesis Supervisor, Hung-Ju Chiang, OIST Student
Sep 2018 - Present	Thesis Supervisor, Bidesh Chatterjee, OIST Student
Sep 2016 - Apr 2024	Mentor, Soumen Jana, OIST Student

Scholarly Contributions and Creative Productions

Journal Article

Completed/Published

Hu, D.; Masai, I. Dscamb Regulates Cone Mosaic Formation in Zebrafish via Filopodium-Mediated Homotypic Recognition. *Nature communications* **2025**, *16*, 2501.

Sugiyama, Y.; Murthy, V. V.; Mbogo, I.; Morohashi, Y.; Masai, I.; Lovicu, F. J. Concave-to-Convex Curve Conversion of Fiber Cells Correlates with Y-Shaped Suture Formation at the Poles of the Rodent Lens. *Experimental Eye Research* **2024**, 248.

O'Shaughnessy, L.; Izawa, T.; Masai, I.; Shaevitz, J. W.; Stephens, G. J. Dynamics of Dominance in Interacting Zebrafish. *PRX Life* **2024**.

Chiang, H.-J.; Nishiwaki, Y.; Chiang, W.-C.; Masai, I. Male Germ Cell-Associated Kinase Is Required for Axoneme Formation during Ciliogenesis in Zebrafish Photoreceptors. *DMM Disease Models and Mechanisms* **2024**, 17.

Presentation at Conference

Completed/Published

Takeuchi, Y.; Masai, I. FGF3 and FGF8a Function as a Mediator That Coordinate Lens and Retinal Development in Zebrafish.. *XXVI Biennial Meeting of the International Society of Eye Research* **2024**.

Scholarly Contributions (by Unit Members)

Term 3 2024

Tatsuo Izawa, Seminars, Dynamics of dominance: maneuvers, contests, and assessment in the posture-scale movements of interacting zebrafish., Osaka Medical and Pharmaceutical University, 2024-08-22, Completed/Published

Luis Carretero Rodriguez, Seminars, Zebrafish MeCP2 mutation produce behavioral alterations reminiscent of Rett Syndrome., Osaka Medical and Pharmaceutical University, 2024-08-22, Completed/Published

Dongpeng Hu, Presentation at Conference, Dscamb regulates cone mosaic formation in zebrafish through apical filopodia-mediated homotypic self-avoidance., Gordon Research Conference – Visual system development, 19-24 May 2024, Completed/Published

Dongpeng Hu, Presentation at Conference, Dscamb regulates cone mosaic formation in zebrafish through apical filopodia-mediated homotypic self-avoidance, 18th International Zebrafish Conference (IZFC), 17-21 August 2024, Completed/Published

Luis Carretero Rodriguez, Presentation at Conference, MeCP2 mutation cause alterations in the amygdala-like Dorsal medial region of the telencephalon of zebrafish, leading to behavioral defects reminiscent of Rett Syndrome, 18th International Zebrafish Conference (IZFC), 17-21 August 2024, Completed/Published

Yuko Nishiwaki, Poster Presentation at Conference, PDE6C mutations in zebrafish cause defects in structural integrity and survival of cone photoreceptors which depend on CNGA3, but not GNAT2, 18th International Zebrafish Conference (IZFC), 17-21 August 2024, Completed/Published

Mariia Pavelchenko, Poster Presentation at Conference, The role of mechanosensory cues in promoting efficient mating in zebrafish, 18th International Zebrafish Conference (IZFC), 17-21 August 2024, Completed/Published

Wei-Chieh Chiang, Poster Presentation at Conference, Deficiency in EMC disturbs ER proteostasis leading to protein aggregation and oxidative stress during retinal degeneration, 18th International Zebrafish Conference (IZFC), 17-21 August 2024, Completed/Published

Darshini Ravishankar, Poster Presentation at Conference, Microglia change metabolic states across the course of chronic photoreceptor degeneration and associated regeneration caused by PDE6c dysfunction, 18th International Zebrafish Conference (IZFC), 17-21 August 2024, Completed/Published

Yuki Takeuchi, Poster Presentation at Conference, Fgf3 and Fgf8a function as a mediator that coordinates lens and retinal development in zebrafish, 18th International Zebrafish Conference (IZFC), 17-21 August 2024, Completed/Published

Darshini Ravishanker, Poster Presentation at Conference, Microglia change metabolic states across the course of chronic photoreceptor degeneration and associated regeneration caused by pde6c dysfunction in zebrafish, EMBO workshop – Microglia in health and disease, 21-24 May 2024, Completed/Published

Term 1 2024

Yuko Nishiwaki, Presentation at Conference, PDE6C mutations in zebrafish cause defects in structural integrity and survival of cone photoreceptors which depend on CNGA3, but not GNAT2, XXVI Biennial Meeting of the International Society of Eye Research, 20-24 October 2024, Completed/Published

Term 2 2025

Luis Carretero Rodriguez, Presentation at Conference, Zebrafish MeCP2 mutation produce behavioral alterations reminiscent of Rett Syndrome, OIST-JST Act-X Joint Mini Symposium, 27th January 2025, Completed/Published

External Service

Sep 2023 - Present	Editorial Board member (Associate Editor), Frontiers in Cell and Developmental Biology
Sep 2020 - Present	Editorial Board member, Development, Growth & Differentiation (DGD)
Sep 2008 - Present	Referee member for Researcher fellowship for Japanese society of promotion scienceReferee member for Researcher fellowship, MEXT

Workshops and Seminars (Organized and Hosted by Faculty/Units)

May 2024	Katia DeRio-Tsonis (Miami University, Oxford), Understanding the regenerative powers of ocular pigment epithelium, OIST Main camous
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