

Tom Levy

Postdoctoral Research Fellow – Stanford University

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Education:

- June 2021- Present: Postdoctoral researcher, Stanford University, School of Medicine, Stem cell Institute, Hopkins Marine Station. Mentor: Prof. Irving Weissman.
- 2019-2021: Postdoctoral researcher, Ben-Gurion University, Faculty of Natural Sciences, Department of Life Sciences. Mentor: Prof. Amir Sagi.
- 2014-2019: PhD studies, Ben-Gurion University, Faculty of Natural Sciences, Department of Life Sciences. Supervised by Prof. Amir Sagi.
- 2016: M.Sc., Ben-Gurion University, Faculty of Natural Sciences, Department of Life Sciences. Supervised by Prof. Amir Sagi. Graduated *summa cum laude*.
- 2011-2014: B.Sc. Marine Biology and Biotechnology, Department of Life Sciences, Ben Gurion University. Graduated *summa cum laude*.

Honors, Awards and Fellowships:

- 2023- The North American Comparative Immunology Workshop- Travel award.
- 2023- The North American Comparative Immunology Workshop- Best Presentation award.
- 2022- The North American Comparative Immunology Workshop- DEI Excellence award.
- 2021- Gruss Lipper Postdoctoral Fellowship for Biomedical Research, EGL Foundation (2021-2024).
- 2021- Rothschild Postdoctoral Fellowship, Yad Hanadiv Foundation (2021-2022).
- 2021- Vaadia-BARD Postdoctoral Fellowship, US-Israel BARD Fund (2021-2022).
- 2021- Stanford School of Medicine Dean's Postdoctoral Fellowship.
- 2020- COVID 19 Emergency Postdoctoral Fellowship, Israel Academy of Sciences and Humanities (2020-2022).
- 2020- COVID 19 Emergency Postdoctoral Fellowship, Ben-Gurion University (2020-2021).
- 2019- Kreitman School of Advanced Graduate Studies Postdoctoral Fellowship, Ben-Gurion University.
- 2019- Life Sciences Department prize for exceptional PhD students, Ben-Gurion University.
- 2018- Israel Ministry of Science and Technology- Travel Grant for International Conference.
- 2018- US-Israel Binational Agricultural Research and Development Fund- Graduate Student Fellowship.
- 2018- The Crustacean Society- Fellowship in Graduate Studies.
- 2018- US-Israel Binational Science Foundation (BSF)- Prof. Rahamimoff Travel Grant for Young Scientists.
- 2018- International Association for Genetics in Aquaculture (IAGA)- Symposium Travel Grant.
- 2017- The Israel Academy of Sciences and Humanities- Aharon and Ephraim Katzir Study and Travel Grant.
- 2016- Graduated M.Sc. degree *summa cum laude*, as part of direct PhD track, Ben-Gurion University.
- 2016- The Society for Integrative and Comparative Biology (SICB)- Charlotte Magnum Student Support Grant.
- 2015- Life Sciences Department prize for research graduate students, Ben-Gurion University.
- 2014- Darom Fellowship for outstanding students in the direct PhD track, Ben-Gurion University (2014-2019).
- 2014- Graduated B.Sc. degree *summa cum laude*.
- 2014- Life Sciences Head of Department prize for exceptional undergraduate students, Ben-Gurion University.
- 2014- Ben-Asher prize (1st place) for exceptional research projects in marine biology for undergraduate students.
- 2013- Life Sciences Department Certificate of Distinction for academic achievements, Ben-Gurion University.
- 2012- Dkalim Fellowship for outstanding students towards graduate studies, Ben-Gurion University (2012-2014).
- 2012- Life Sciences Department Certificate of Distinction for academic achievements, Ben-Gurion University.

Publications:

1. Anselmi, C., Caicci, F., Bocci, T., Guidetti, M., Priori, A., Giusti, V., **Levy, T.**, Raveh, T., Voskoboynik, A., Weissman, I. L. and Manni, L. (2023) "Multiple Forms of Neural Cell Death in the Cyclical Brain Degeneration of A Colonial Chordate." *Cells* **12**(7):1041.
2. Molcho, J., Manor, R., Shamsian, M., Sudarshan, G., Ofir, R., Weil, S., Wattad, H., Hayun, E., **Levy, T.**, Aflalo, E. D., Hendel, A. and Sagi, A. (2022) "On genome editing in embryos and cells of the freshwater prawn *Macrobrachium rosenbergii*." *Aquaculture* **558**: 738391.
3. Wahl, M., **Levy, T.**, Manor, R., Aflalo, E. D., Sagi, A. and Aizen, J. (2022) "Genes encoding the glycoprotein hormone GPA2/GPB5 and the receptor LGR1 in a female prawn." *Frontiers in Endocrinology* **13**: 823818.
4. **Levy, T.**, Zupo, V., Mutalipassi, M., Somma, E., Ruocco, N., Costantini, M., Abehsera, S., Manor, R., Chalifa-Caspi, V., Sagi, A. and Aflalo, E. D. (2021) "Protandric transcriptomes to uncover parts of the crustacean sex-differentiation puzzle." *Frontiers in Marine Science* **8**: 745540.
5. Goldstein, O., Mandujano-Tinoco, E. A., **Levy, T.**, Talice, S., Raveh, T., Gershoni-Yahalom, O., Voskoboynik, A. and Rosental, B. (2021) "*Botryllus schlosseri* as a unique colonial chordate model for the study and modulation of innate immune activity." *Marine Drugs* **19**(8): 454.
6. **Levy, T.**, Tamone, S. L., Manor, R., Aflalo, E. D., Sklarz, M. Y., Chalifa-Caspi, V. and Sagi, A. (2020) "The IAG-switch and further transcriptomic insights into sexual differentiation of a protandric shrimp." *Frontiers in Marine Science* **7**: 587454.
7. **Levy, T.**, Ventura, T., De Leo, G., Grinshpan, N., Amterat Abu Abayed, F., Manor, R., Savaya, A., Sklarz, M. Y., Chalifa-Caspi, V., Mishmar, D. and Sagi, A. (2020) "Two homogametic genotypes – one crayfish: on the consequences of intersexuality." *iScience* **23**(8): 101652.
***This article yielded a patent application.**
8. **Levy, T.** and Sagi, A. (2020) "The 'IAG-switch' – a key controlling element in decapod crustacean sex differentiation." *Frontiers in Endocrinology* **11**: 651.
9. Shaked, S. A., Abehsera, S., **Levy, T.**, Chalifa-Caspi, V. and Sagi, A. (2020) "From sporadic single genes to a broader transcriptomic approach: insights into the formation of the biomineralized exoskeleton in decapod crustaceans." *Journal of Structural Biology* **212**: 107612.
10. **Levy, T.**, Tamone, S. L., Manor, R., Bower, E. D. and Sagi, A. (2020) "The protandric life history of the Northern spot shrimp *Pandalus platyceros*: molecular insights and implications for fishery management." *Scientific Reports* **10**(1): 1-11.
11. Molcho, J., **Levy, T.**, Benet, A., Naor, A., Savaya-Alkalay, A., Manor, R., Abramov, A., Aflalo, E. D., Shechter, A. and Sagi, A. (2020) "Three generations of prawns without the Z chromosome: Viable WW *Macrobrachium rosenbergii* all-female polyculture with *Oreochromis niloticus*." *Aquaculture* **15**: 734531.
12. Wang, L., Guo, Q., **Levy, T.**, Chen, T. and Wu, X. (2020) "Ovarian development pattern and vitellogenesis of ridgetail white prawn, *Exopalaemon carinicauda*" – *Cell and Tissue Research* **382**(2): 367-379.
13. Savaya-Alkalay, A., De Leo, G., Aalto, E., **Levy, T.**, Rosen, O., Manor, R., Aflalo, E. D., Tricarico, E. and Sagi, A. (2020) "The IAG gene in the globally cultured invasive crayfish *Procambarus clarkii* – towards sex manipulations for aquaculture and biocontrol." *Management of biological invasions* **11**(2): 237-258.
14. **Levy, T.**, Rosen, O., Manor, R., Dotan, S., Azulay, D., Abramov, A., Sklarz, M. Y., Chalifa-Caspi, V., Baruch, K., Shechter, A. and Sagi, A. (2019). "Production of WW males lacking the masculine Z chromosome and mining the *Macrobrachium rosenbergii* genome for sex-chromosomes." *Scientific Reports* **9**(1): 1-11.
***This article featured in "Single-Sex Snail Fighters" in Scientific American 321(6): 21.**
15. **Levy, T.**, Aflalo, E. D. and Sagi, A. (2018). "Sex control in cultured decapod crustaceans." In: *Sex Control in Aquaculture* 689-704. Wang, H. P., Piferrer, F. and Chen, S. (Eds). ISBN: 978-1-119-12726-0. Wiley-Blackwell.
16. **Levy, T.**, Rosen, O., Simons, O., Savaya Alkalay, A. and Sagi, A. (2017). "The gene encoding the insulin-like androgenic gland hormone in an all-female parthenogenetic crayfish". *PLoS ONE* **12**(12): e0189982.
17. **Levy, T.**, Rosen, O., Eilam, B., Azulay, D., Zohar, I., Aflalo, E. D., Benet, A., Naor, A., Shechter, A. and Sagi, A. (2017). "All-female monosex culture in the freshwater prawn *Macrobrachium rosenbergii* – a comparative large-scale field study". *Aquaculture* **479**: 857-862.

18. **Levy, T.**, Rosen, O., Eilam, B., Azulay, D., Aflalo, E. D., Manor, R., Shechter, A. and Sagi, A. (2016). "A single injection of hypertrophied androgenic gland cells produces all-female aquaculture." *Marine Biotechnology* **18**(5): 554-563.
19. Sharabi, O., Manor, R., Weil, S., Aflalo, E. D., Lezer, Y., **Levy, T.**, Aizen, J., Ventura, T., Mather, P. B., Khalaila, I. and Sagi, A. (2016). "Identification and characterization of an insulin-like receptor involved in crustacean reproduction." *Endocrinology* **157**(2): 928-941.

Patent Applications:

- **Levy T.**, Manor R. and Sagi, A. (2019) "Sex-linked genomic marker for crayfish and uses thereof." Application number: PCT/IL2018/051046. Publication number: WO/2019/058371.

Teaching and Mentoring:

- 2023: "OCEAN 74/BIOHOPK 74H Sustainability in Marine Organisms, learning from the evolutionary survivors", Stanford University, Co-Instructor.
- 2019-2021: Jusidman Science Center for Youth, Ben-Gurion University, Instructor.
- 2018-2020: Mentor for a graduate student and an undergraduate student in Marine Biology at the University of Alaska Southeast.
- 2018: "Biology 393 Special Topics: Molecular Techniques" for B.Sc. students, University of Alaska Southeast, Instructor.
- 2017-2019: "Laboratory in Animal Physiology" for 3rd year B.Sc. students, Ben-Gurion University, Instructor.
- 2015-2021: Mentor for 3rd year undergraduate research project students (5 students in total), Ben-Gurion University.
- 2015-2016: "Laboratory in Animal Physiology" for 3rd year B.Sc. students, Ben-Gurion University, Lecturer.
- 2014: "Laboratory in Animal Physiology" for 3rd year B.Sc. students, Ben-Gurion University, Instructor.

Oral presentation in Conferences:

1. *The North American Comparative Immunology Workshop, Auburn, USA, 2023. **Best Presentation Award**
2. The 10th International Crustacean Congress, Wellington, New-Zealand, 2023. **Symposium Organizer**
3. *The North American Comparative Immunology Workshop, Banff, Canada, 2022.
4. Giant Prawn Conference, Shanghai, China, 2019.
5. *The 12th International Marine Biotechnology Conference, Shizuoka, Japan, 2019.
6. *The International Symposium of Genetics in Aquaculture, Cairns, Australia, 2018.
7. The 15th Asia-Pacific Biotechnology Congress, Melbourne, Australia, 2017.
8. *The Society for Integrative and Comparative Biology, New Orleans, USA, 2017.
9. The 11th International Marine Biotechnology Conference, Baltimore, USA, 2016.

*Travel grant was awarded to attend this conference.

Invited Seminar Presentations:

1. The Interuniversity Institute for Marine Sciences, Eilat, Israel, 2019.
2. Shanghai Ocean University by Prof. Xugan Wu, Shanghai, China, 2019.
3. University of the Sunshine Coast, Center for BioInnovation, Sippy Downs, Australia, 2017.