

Stanford



Tom Levy

Postdoctoral Scholar, Stem Cell Biology and Regenerative Medicine

Bio

HONORS AND AWARDS

- Gruss Lipper Postdoctoral Fellowship for Biomedical Research, The EGL Charitable Foundation (2021-2023)
- Rothschild Postdoctoral Fellowship, Yad Hanadiv Foundation (2021-2022)
- Vaadia-BARD Postdoctoral Fellowship, US-Israel Binational Agricultural Research and Development Fund (2021-2022)
- Stanford School of Medicine Dean's Postdoctoral Fellowship, Stanford School of Medicine (2021)
- COVID 19 Emergency Postdoctoral Fellowship, Israel Academy of Sciences and Humanities (2020-2022)

PROFESSIONAL EDUCATION

- PhD, Ben-Gurion University of the Negev , Life Sciences - Physiology and Endocrinology (2019)
- MSc (Summa Cum Laude), Ben-Gurion University of the Negev , Life Sciences (2016)
- BSc (Summa Cum Laude), Ben-Gurion University of the Negev , Marine Biology and Biotechnology (2014)

STANFORD ADVISORS

- Ayelet Voskoboinik, Postdoctoral Research Mentor
- Irving Weissman, Postdoctoral Faculty Sponsor

PATENTS

- Tom Levy, Rivka Manor, Amir Sagi. " Patent International Application No. PCT/IL2018/051046, Publication No. WO/2019/058371 Sex-linked genomic marker for crayfish and uses thereof", Sep 17, 2018

Research & Scholarship

LAB AFFILIATIONS

- Irving Weissman (6/14/2021)

Publications

PUBLICATIONS

- **Protandric Transcriptomes to Uncover Parts of the Crustacean Sex-Differentiation Puzzle** *FRONTIERS IN MARINE SCIENCE*
Levy, T., Zupo, V., Mutalipassi, M., Somma, E., Ruocco, N., Costantini, M., Abehsera, S., Manor, R., Chalifa-Caspi, V., Sagi, A., Aflalo, E. D. 2021; 8
- **Two Homogametic Genotypes - One Crayfish: On the Consequences of Intersexuality.** *iScience*
Levy, T., Ventura, T., De Leo, G., Grinshpan, N., Abu Abayed, F. A., Manor, R., Savaya, A., Sklarz, M. Y., Chalifa-Caspi, V., Mishmar, D., Sagi, A.

2020; 23 (11): 101652

- **The IAG-Switch and Further Transcriptomic Insights Into Sexual Differentiation of a Protandric Shrimp** *FRONTIERS IN MARINE SCIENCE*

Levy, T., Tamone, S. L., Manor, R., Aflalo, E. D., Sklarz, M. Y., Chalifa-Caspi, V., Sagi, A.

2020; 7

- **The "IAG-Switch"-A Key Controlling Element in Decapod Crustacean Sex Differentiation** *FRONTIERS IN ENDOCRINOLOGY*

Levy, T., Sagi, A.

2020; 11: 651

- **The protandric life history of the Northern spot shrimp Pandanus platyceros: molecular insights and implications for fishery management** *SCIENTIFIC REPORTS*

Levy, T., Tamone, S. L., Manor, R., Bower, E. D., Sagi, A.

2020; 10 (1): 1287

- **Production of WW males lacking the masculine Z chromosome and mining the Macrobrachium rosenbergii genome for sex-chromosomes** *SCIENTIFIC REPORTS*

Levy, T., Rosen, O., Manor, R., Dotan, S., Azulay, D., Abramov, A., Sklarz, M. Y., Chalifa-Caspi, V., Baruch, K., Shechter, A., Sagi, A.

2019; 9: 12408

- **Sex Control in Cultured Decapod Crustaceans** *SEX CONTROL IN AQUACULTURE, VOL I AND II*

Levy, T., Aflalo, E. D., Sagi, A., Wang, H. P., Piferer, F., Chen, S. L.

2019: 691–704

- **The gene encoding the insulin-like androgenic gland hormone in an all-female parthenogenetic crayfish** *PLOS ONE*

Levy, T., Rosen, O., Simons, O., Alkalay, A., Sagi, A.

2017; 12 (12): e0189982

- **All-female monosex culture in the freshwater prawn Macrobrachium rosenbergii - A comparative large-scale field study** *AQUACULTURE*

Levy, T., Rosen, O., Eilam, B., Azulay, D., Zohar, I., Aflalo, E. D., Benet, A., Naor, A., Shechter, A., Sagi, A.

2017; 479: 857–62

- **A Single Injection of Hypertrophied Androgenic Gland Cells Produces All-Female Aquaculture** *MARINE BIOTECHNOLOGY*

Levy, T., Rosen, O., Eilam, B., Azulay, D., Aflalo, E. D., Manor, R., Shechter, A., Sagi, A.

2016; 18 (5): 554–63

- **Regulation of early spermatogenesis in the giant prawn Macrobrachium rosenbergii by a GCL homolog.** *Biology of reproduction*

Molcho, J., Albagly, D., Levy, T., Manor, R., Aflalo, E. D., Alfaro-Montoya, J., Sagi, A.

2024

- **Monosex Populations of the Giant Freshwater Prawn Macrobrachium rosenbergii-From a Pre-Molecular Start to the Next Generation Era.** *International journal of molecular sciences*

Wahl, M., Levy, T., Ventura, T., Sagi, A.

2023; 24 (24)

- **Stocking density affects culture performance and economic profit of adult all-female Chinese mitten crabs<i>(Eriocheir</i><i>sinensis</i></i> reared in earthen ponds** *AQUACULTURE*

Zhang, G., Jiang, X., Zhou, W., Chen, W., Levy, T., Wu, X.

2024; 581

- **All-female crayfish populations for biocontrol and sustainable aquaculture** *AQUACULTURE*

Shaked, S. A., Levy, T., Moscovitz, S., Wattad, H., Manor, R., Ovadia, O., Sagi, A., Aflalo, E. D.

2024; 580

- **CANDIDATE STEM CELL ISOLATION AND TRANSPLANTATION IN HEXACORALLIA**

Talice, S., Barkan, S. K., Snyder, G. A., Ottolenghi, A., Eliachar, S., Ben-Romano, R., Oisher, S., Sharoni, T., Lewandowska, M., Sultan, E., Goldstein, O., Levy, T., Aharoni, et al
ELSEVIER SCI LTD.2023

- **Ferroptosis precedes apoptosis to facilitate specific death signalling by fatty acids.** *Proceedings. Biological sciences*

Zupo, V., Costantini, M., Aflalo, E. D., Levy, T., Chalifa-Caspi, V., Obayomi, O., Mutualipassi, M., Ruocco, N., Glaviano, F., Somma, E., Nieri, P., Sagi, A.

2023; 290 (2009): 20231327

- **Correlation between metabolomic profile and proliferation of *Macrobrachium rosenbergii* primary embryonic cell culture** *FRONTIERS IN MARINE SCIENCE*

Sudarshan, G., Weil, S., Jasinska, W., Manor, R., Goldstein, O., Aflalo, E. D., Ofir, R., Zimin, S. V., Levy, T., Rosental, B., Brotman, Y., Sagi, A. 2023; 10

- **Multiple Forms of Neural Cell Death in the Cyclical Brain Degeneration of A Colonial Chordate.** *Cells*

Anselmi, C., Caicci, F., Bocci, T., Guidetti, M., Priori, A., Giusti, V., Levy, T., Raveh, T., Voskoboinik, A., Weissman, I. L., Manni, L. 2023; 12 (7)

- **On genome editing in embryos and cells of the freshwater prawn *Macrobrachium rosenbergii*** *AQUACULTURE*

Molcho, J., Manor, R., Shamsian, M., Sudarshan, G., Ofir, R., Parker, D., Weil, S., Wattad, H., Hayun, E., Levy, T., Aflalo, E. D., Hendel, A., Sagi, et al 2022; 558

- **Genes Encoding the Glycoprotein Hormone GPA2/GPB5 and the Receptor LGR1 in a Female Prawn.** *Frontiers in endocrinology*

Wahl, M., Levy, T., Manor, R., Aflalo, E. D., Sagi, A., Aizen, J. 2022; 13: 823818

- **Botryllus schlosseri as a Unique Colonial Chordate Model for the Study and Modulation of Innate Immune Activity.** *Marine drugs*

Goldstein, O., Mandujano-Tinoco, E. A., Levy, T., Talice, S., Raveh, T., Gershoni-Yahalom, O., Voskoboinik, A., Rosental, B. 2021; 19 (8)

- **From sporadic single genes to a broader transcriptomic approach: Insights into the formation of the biomineralized exoskeleton in decapod crustaceans** *JOURNAL OF STRUCTURAL BIOLOGY*

Shaked, S. A., Abehsera, S., Levy, T., Chalifa-Caspi, V., Sagi, A. 2020; 212 (2): 107612

- **Ovarian development pattern and vitellogenesis of ridgetail white prawn, *Exopalaemon carinicauda*** *CELL AND TISSUE RESEARCH*

Wang, L., Guo, Q., Levy, T., Chen, T., Wu, X. 2020; 382 (2): 367–79

- **The IAG gene in the invasive crayfish *Procambarus clarkii* - towards sex manipulations for biocontrol and aquaculture** *MANAGEMENT OF BIOLOGICAL INVASIONS*

Savaya, A., De Leo, G., Aalto, E., Levy, T., Rosen, O., Manor, R., Aflalo, E. D., Tricarico, E., Sagi, A. 2020; 11 (2): 237–58

- **Three generations of prawns without the Z chromosome: Viable WW *Macrobrachium rosenbergii* all-female populations in polyculture with *Oreochromis niloticus*** *AQUACULTURE*

Molcho, J., Levy, T., Benet, A., Naor, A., Savaya, A., Manor, R., Abramov, A., Aflalo, E. D., Shechter, A., Sagi, A. 2020; 515

- **Identification and Characterization of an Insulin-Like Receptor Involved in Crustacean Reproduction** *ENDOCRINOLOGY*

Sharabi, O., Manor, R., Weil, S., Aflalo, E. D., Lezer, Y., Levy, T., Aizen, J., Ventura, T., Mather, P. B., Khalaila, I., Sagi, A. 2016; 157 (2): 928–41

PRESENTATIONS

- Germline stem cell competition in chimeras of the colonial tunicate *Botryllus schlosseri* – a mechanism of natural selection - The North American Comparative Immunology Workshop (6/5/2022 - 6/8/2022)
- The science behind the IAG-switch and the genome of the giant freshwater prawn *Macrobrachium rosenbergii* - Giant Prawn 2019 Conference (11/15/2019 - 11/18/2019)
- WW neo-males, sex chromosomes and all-female aquaculture in crustaceans - The 12th International Marine Biotechnology Conference (9/9/2019 - 9/13/2019)
- All-female redclaw crayfish aquaculture - The 12th International Marine Biotechnology Conference (9/9/2019 - 9/13/2019)
- Biotechnology for all-female prawns – first time in crustacean aquaculture - The International Symposium of Genetics in Aquaculture (7/15/2018 - 7/20/2018)
- Germline stem cell competition in a marine tunicate: a reproductive mechanism highlighting natural selection at the cellular scale - Western Society of Naturalists - 104th Annual Meeting (11/9/2023 - 11/12/2023)
- Do WW homogametic female redclaw crayfish exist? - The International Symposium of Genetics in Aquaculture (7/15/2018 - 7/20/2018)

- Novel biotechnology for all-female prawn aquaculture by a single injection of hypertrophied androgenic gland cells - The 15th Asia-Pacific Biotechnology Congress (7/20/2017 - 7/22/2017)
- Sexual differentiation during the life history of a protandric shrimp - The Society for Integrative and Comparative Biology (1/4/2017 - 1/8/2017)
- A single injection of hypertrophied androgenic gland cells produces all-female aquaculture - The 11th International Marine Biotechnology Conference (8/29/2016 - 9/2/2016)
- The Colonial Tunicate Botryllus schlosseri - A Marine Model for Germline Stem Cells Competition - The North American Comparative Immunology Workshop (6/4/2023 - 6/8/2023)
- Pandanus platyceros – a protandric shrimp as a model to explore the IAG-switch and crustacean sexual plasticity - The 10th International Crustacean Congress (5/22/2023 - 5/26/2023)
- Androgenic gland in neo-male prawns lacking male chromosomes – where does it come from and how is it possible? - The 10th International Crustacean Congress (5/22/2023 - 5/26/2023)
- Unlocking Secrets of Germline Stem Cells Through the Fascinating World of Marine Tunicates - 2023 Israeli Association of Aquatic Sciences Annual Meeting (2/11/2024 - 2/11/2024)