Guy Shapira

DATA SCIENTIST, AI AND BIOINFORMATICS RESEARCHER

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Employment

Everly Bio
2024 - Present

DIRECTOR OF COMPUTATION
- Developing a novel diagnostic AI model for fertility issues
- Responsible for all computation, from bioinformatic analysis to cloud orchestration

Tel Aviv University
2016 - 2026

RESEARCHER, STUDENT, GRADUATE TEACHING ASSISTANT
- Active academic research, starting as an undergraduate and continuing as a PhD graduate
- Credited for 60 scientific publications in 6 years, with over 780 citations (at the time of writing)
- Filed two patents for technology transfer based on research findings
- Graduate teaching assistant for 4 semesters, 2018-2020

ExoNavis Therapeutics
2025 - Present

STATISTICAL ADVISOR
- Statistical analysis of clinical data, FDA standard complience

Gotsho Ltd.
2018 - 2019

FULL-STACK DEVELOPER
- Developed a computational framework for Laboratory Information Management Systems (LIMS)

Human Impact
2014 - 2016

INFORMATION TECHNOLOGY DEVELOPER
- Family-owned business

Qualifications

2021-2026	**Doctor of Philosophy**: Tel Aviv University Biomedical Sciences	
2018-2020	**Master of Science**: Tel Aviv University Biomedical Sciences	
2014-2017	**Bachelor of Science**: Tel Aviv University Biology	

Achievements & Awards

2023 **Scholarship for Outstanding Research Students**
The Center for Combating Pandemics

2023 **Scholarship for Outstanding Research Students**
Pfizer-Wexler foundation for development and progress

2022 **Fellowship and scholarship**
Edmond J. Safra Center for Bioinformatics

2021 **Academic excellence scholarship**
The Aufzien Family Center for the Prevention and Treatment of Parkinson's

2021 **Award winning study**
Ziva and Chanoch Finklestein research fund

2020 **Research grant**
The Aufzien Family Center for the Prevention and Treatment of Parkinson's
Disease (APPD)

2020 **Research grant**
Adams Super Center for Brain Studies, TAU

Academic contributions

INVOLVEMENT AND ATTENDENCE

- Member of the organizing committee of the Edmond J. Safra Center Biomedical Informatics Entrepreneurs Salon - A bi-monthly forum to promote entrepreneurship at the convergence of biology, medicine, and computing.

- Attended Edmond J. Safra Center for Bioinformatics annual retreat (several years)

- Attended Federation of European Neuroscience Societies (FENS) Forum 2022, Paris, France.

- Attended Human Genome Meeting (HGM) 2020, Perth Australia.

- Attended Computational Genomics Summer Institute (CGSI) 2019 at UCLA.

SCIENTIFIC PUBLICATIONS

1. Pillar, N., Haguel, D., Grad, M., Shapira, G., Yoffe, L., & Shomron, N. (2019). Characterization of MicroRNA and gene expression profiles following ricin intoxication. *Toxins*, *11*(5), 250.

2. Rabinowitz, T., Polsky, A., Golan, D., Danilevsky, A., Shapira, G., Raff, C., Basel-Salmon, L., Matar, R. T., & Shomron, N. (2019). Bayesian-based noninvasive prenatal diagnosis of single-gene disorders. *Genome Research*, *29*(3), 428–438.

3. Weiner, C., Hecht, I., Rotenstreich, Y., Guttman, S., Or, L., Morad, Y., Shapira, G., Shomron, N., & Pras, E. (2020). The pathogenicity of SLC38A8 in five families with foveal hypoplasia and congenital nystagmus. *Experimental Eye Research*, *193*, 107958.

4. Shapira, G., Shomron, N., & Gurwitz, D. (2020). Ethnic differences in alpha-1 antitrypsin deficiency allele frequencies may partially explain national differences in COVID-19 fatality rates. *The FASEB Journal*, *34*(11), 14160.

5. Gutwillig, A., Santana-Magal, N., Farhat-Younis, L., Rasoulouniriana, D., Madi, A., Luxenburg, C., Cohen, J., Padmanabhan, K., Shomron, N., Shapira, G., et al. (2020). Transient cell-in-cell formation underlies tumor resistance to immunotherapy. *bioRxiv*, 2020–2009.

6. Weissman, R., Diamond, E. L., Haroche, J., Pillar, N., Shapira, G., Durham, B. H., Buthorn, J., Cohen, F., Ki, M., Stemer, G., et al. (2020). The contribution of microRNAs to the inflammatory and neoplastic characteristics of erdheim–chester disease. *Cancers*, *12*(11), 3240.

7. Shapira, G., & Shomron, N. (2021). Single-cell transcriptome profiling. In *Deep sequencing data analysis* (pp. 311–325). Springer US New York, NY.

8. Eisenkraft, A., Maor, Y., Constantini, K., Goldstein, N., Nachman, D., Levy, R., Halberthal, M., Horowitz, N., Golan, R., Rosenberg, E., et al. (2020). *Trajectories of key physiological parameters in COVID-19 patients using continuous remote monitoring and health AI*.

9. Preisler, L., Habib, A., Shapira, G., Kuznitsov-Yanovsky, L., Mayshar, Y., Carmel-Gross, I., Malcov, M., Azem, F., Shomron, N., Kariv, R., et al. (2021). Heterozygous APC germline mutations impart predisposition to colorectal cancer. *Scientific Reports*, *11*(1), 5113.

10. Israel-Elgali, I., Hertzberg, L., Shapira, G., Segev, A., Krieger, I., Nitzan, U., Bloch, Y., Pillar, N., Mayer, O., Weizman, A., et al. (2021). Blood transcriptional response to treatment-resistant depression during electroconvulsive therapy. *Journal of Psychiatric Research*, *141*, 92–103.

11. Sheinboim, D., Parikh, S., Parikh, R., Menuchin, A., Shapira, G., Kapitansky, O., Elkoshi, N., Ruppo, S., Shaham, L., Golan, T., et al. (2021). Slow transcription of the 99a/let-7c/125b-2 cluster results in differential MiRNA expression and promotes melanoma phenotypic plasticity. *Journal of Investigative Dermatology*, *141*(12), 2944–2956.

12. Shapira, G., Hamad, R. A., Weiner, C., Rainy, N., Sorek-Abramovich, R., Benveniste-Levkovitz, P., Chaim, A. B., & Shomron, N. (2021). Antibody response to SARS-CoV-2 infection and BNT162b2 vaccine in israel. *medRxiv*, 2021–2007.

13. Belaish, S., Israel-Elgali, I., Shapira, G., Krieger, I., Segev, A., Nitzan, U., Majer, M., Bloch, Y., Weizman, A., Gurwitz, D., et al. (2021). Genome wide analysis implicates upregulation of proteasome pathway in major depressive disorder. *Translational Psychiatry*, *11*(1), 409.

14. Magod, P., Mastandrea, I., Rousso-Noori, L., Agemy, L., Shapira, G., Shomron, N., & Friedmann-Morvinski, D. (2021). Exploring the longitudinal glioma microenvironment landscape uncovers reprogrammed pro-tumorigenic neutrophils in the bone marrow. *Cell Reports*, *36*(5).

15. Eisenkraft, A., Maor, Y., Constantini, K., Goldstein, N., Nachman, D., Levy, R., Halberthal, M., Horowitz, N. A., Golan, R., Rosenberg, E., et al. (2021). Continuous remote patient monitoring shows early cardiovascular changes in COVID-19 patients. *Journal of Clinical Medicine*, *10*(18), 4218.

16. Karmon, G., Sragovich, S., Hacohen-Kleiman, G., Ben-Horin-Hazak, I., Kasparek, P., Schuster, B., Sedlacek, R., Pasmanik-Chor, M., Theotokis, P., Touloumi, O., et al. (2022). Novel ADNP syndrome mice reveal dramatic sex-specific peripheral gene expression with brain synaptic and tau pathologies. *Biological Psychiatry*, *92*(1), 81–95.

17. Poleg, S., Kourieh, E., Ruban, A., Shapira, G., Shomron, N., Barak, B., & Offen, D. (2021). Behavioral aspects and neurobiological properties underlying medical cannabis treatment in Shank3 mouse model of autism spectrum disorder. *Translational Psychiatry*, *11*(1), 524.

18. Nachman, D., Eisenkraft, A., Maor, Y., Constantini, K., Goldstein, G., Levy, R., Halberthal, M., Horowitz, N., Golan, R., Rosenberg, E., et al. (2021). Continuous monitoring of advanced hemodynamic parameters shows early cardiovascular changes in a cohort of 492 COVID-19 hospitalized patients. *European Heart Journal*, *42*(Supplement_1), ehab724–3090.

19. Shapira, K. E., Shapira, G., Schmukler, E., Pasmanik-Chor, M., Shomron, N., Pinkas-Kramarski, R., Henis, Y. I., & Ehrlich, M. (2021). Autophagy is induced and modulated by cholesterol depletion through transcription of autophagy-related genes and attenuation of flux. *Cell Death Discovery*, *7*(1), 320.

20. Admoni-Elisha, L., Feldman, M., Elbaz, T., Chopra, A., Shapira, G., Fry, C. J., Shomron, N., Biggar, K., & Levy, D. (2021). TWIST1 methylation by SETD6 selectively antagonizes LINC-PINT expression in glioblastoma multiforme. *bioRxiv*, 2021–2011.

21. Dolitzky, A., Shapira, G., Grisaru-Tal, S., Hazut, I., Avlas, S., Gordon, Y., Itan, M., Shomron, N., & Munitz, A. (2021). Transcriptional profiling of mouse eosinophils identifies distinct gene signatures following cellular activation. *Frontiers in Immunology*, *12*, 802839.

22. Grad, M., Nir, A., Levy, G., Trangle, S., Shapira, G., Shomron, N., Assaf, Y., & Barak, B. (2022). *Altered white matter and microRNA expression in a murine model related to williams syndrome suggests that miR-34b/c affects brain development via ptpru and dcx modulation. Cells 2022, 11, 158*. s Note: MDPI stays neutral with regard to jurisdictional claims in published ….

23. Dolitzky, A., Shapira, G., Grisaru, S., Hazut, I., Avlas, S., Itan, M., Shomron, N., & Munitz, A. (2022). Transcriptional profiling of mouse eosinophils identifies unique activation signature following polarization. *Journal of Allergy and Clinical Immunology*, *149*(2), AB137.

24. Shapira, G., Abu Hamad, R., Weiner, C., Rainy, N., Sorek-Abramovich, R., Benveniste-Levkovitz, P., Rock, R., Avnat, E., Levtzion-Korach, O., Bar Chaim, A., et al. (2022). Population differences in antibody response to SARS-CoV-2 infection and BNT162b2 vaccination. *The FASEB Journal*, *36*(4), e22223.

25. Admoni-Elisha, L., Abaev-Schneiderman, E., Cohn, O., Shapira, G., Shomron, N., Feldman, M., & Levy, D. (2022). Structure-function conservation between the methyltransferases SETD3 and SETD6. *Biochimie*, *200*, 27–35.

26. Avnat, E., Shapira, G., Gurwitz, D., & Shomron, N. (2022). Elevated expression of RGS2 may underlie reduced olfaction in COVID-19 patients. *Journal of Personalized Medicine*, *12*(9), 1396.

27. Shapira, G., Patalon, T., Gazit, S., & Shomron, N. (2023). Immunosuppression as a hub for SARS-CoV-2 mutational drift. *Viruses*, *15*(4), 855.

28. Admoni-Elisha, L., Elbaz, T., Chopra, A., Shapira, G., Bedford, M. T., Fry, C. J., Shomron, N., Biggar, K., Feldman, M., & Levy, D. (2022). TWIST1 methylation by SETD6 selectively antagonizes LINC-PINT expression in glioma. *Nucleic Acids Research*, *50*(12), 6903–6918.

29. Shapira, G., Weiner, C., Sorek Abramovich, R., Gutwein, O., Rainy, N., Benveniste-Levkovitz, P., Gordon, E., Bar Chaim, A., & Shomron, N. (2022). SARS-CoV-2 evolution and evasion from multiple antibody treatments in a cancer patient. *medRxiv*, 2022–2006.

30. Levert-Levitt, E., Shapira, G., Sragovich, S., Shomron, N., Lam, J. C., Li, V. O., Heimesaat, M. M., Bereswill, S., Yehuda, A. B., Sagi-Schwartz, A., et al. (2022). Oral microbiota signatures in post-traumatic stress disorder (PTSD) veterans. *Molecular Psychiatry*, *27*(11), 4590–4598.

31. Pertzov, B., Shapira, G., Abushkara, S., Cohen, S., Turjeman, A., Kramer, M. R., Gurwitz, D., & Shomron, N. (2022). Lower serum alpha 1 antitrypsin levels in patients with severe COVID-19 compared with patients hospitalized due to non-COVID-19 pneumonia. *Infectious Diseases*, *54*(12), 846–851.

32. Kuznitsov-Yanovsky, L., Shapira, G., Gildin, L., Shomron, N., & Ben-Yosef, D. (2022). Transcriptomic analysis of human fragile x syndrome neurons reveals neurite outgrowth modulation by the TGFβ/BMP pathway. *International Journal of Molecular Sciences*, *23*(16), 9278.

33. Gutwillig, A., Santana-Magal, N., Farhat-Younis, L., Rasoulouniriana, D., Madi, A., Luxenburg, C., Cohen, J., Padmanabhan, K., Shomron, N., Shapira, G., et al. (2022). Transient cell-in-cell formation underlies tumor relapse and resistance to immunotherapy. *Elife*, *11*, e80315.

34. Farberov, L., Ionescu, A., Zoabi, Y., Shapira, G., Ibraheem, A., Azan, Y., Perlson, E., & Shomron, N. (2023). Multiple copies of microRNA binding sites in long 3' UTR variants regulate axonal translation. *Cells*, *12*(2), 233.

35. Gozes, I., Shapira, G., Lobyntseva, A., & Shomron, N. (2023). *Surprising sex differences indicate davunetide-mediated brain protection and clinical efficacy in women suffering from progressive supranuclear palsy*.

36. Leichner, G. S., Schweitzer, I., Dror, S., Levin, L., Geva, P., Golan, T., Zaremba, L., Shapira, G., Parikh, R., Shomron, N., et al. (2023). Primary melanoma miRNA trafficking induces lymphangiogenesis. *Journal of Investigative Dermatology*, *143*(9), 1788–1798.

37. Avnat, E., Shapira, G., Shoval, S., Israel-Elgali, I., Alkelai, A., Shuldiner, A. R., Gonzaga-Jauregui, C., Zidan, J., Maray, T., Shomron, N., et al. (2023). Comprehensive genetic analysis of druze provides insights into carrier screening. *Genes*, *14*(4), 937.

38. Leichner, G., Schweitzer, I., Dror, S., Geva, P., Levin, L., Zaremba, L., Shapira, G., Parik, R., Shomron, N., Barzilai, A., et al. (2023). 1202 melanoma–derived melanosomes induce lymphangiogenesis through miRNAs trafficking. *Journal of Investigative Dermatology*, *143*(5), S206.

39. Shapira, G., Israel-Elgali, I., Grad, M., Avnat, E., Rachmany, L., Sarne, Y., & Shomron, N. (2023). Hippocampal differential expression underlying the neuroprotective effect of delta-9-tetrahydrocannabinol microdose on old mice. *Frontiers in Neuroscience*, *17*, 1182932.

40. Farberov, L., Weissglas-Volkov, D., Shapira, G., Zoabi, Y., Schiff, C., Kloeckener-Gruissem, B., Neidhardt, J., & Shomron, N. (2023). mRNA splicing is modulated by intronic microRNAs. *Iscience*, *26*(10).

41. Gozes, I., Shapira, G., Lobyntseva, A., & Shomron, N. (2023). Unexpected gender differences in progressive supranuclear palsy reveal efficacy for davunetide in women. *Translational Psychiatry*, *13*(1), 319.

42. Shapira, G., Volkov, H., Fabian, I., Mohr, D. W., Bettinotti, M., Shomron, N., Avery, R. K., & Arav-Boger, R. (2023). Genomic markers associated with cytomegalovirus DNAemia in kidney transplant recipients. *Viruses*, *15*(11), 2227.

43. Elisha, L., Abaev-Schneiderman, E., Cohn, O., Shapira, G., Shomron, N., Feldman, M., & Levy, D. (2022). Structure-function conservation between the methyltransferases SETD3 and SETD6. *bioRxiv*, 2022–2003.

44. Zimri, S., Kerem, N., Russek-Blum, N., Thompson, A., Harris, J., Xu, J., Wong, N., Lawless, C., Bachman, M., Sirka, E., et al. (2023). Shifting the paradigm-a biomarker driven approach for studying amyotrophic lateral sclerosis (ALS) therapy activity. *MUSCLE & NERVE*, *68*, S20–S20.

45. Shalmon, G., Ibrahim, R., Israel-Elgali, I., Grad, M., Shlayem, R., Shapira, G., Shomron, N., Youngster, I., & Scheinowitz, M. (2024). Gut microbiota composition positively correlates with sports performance in competitive non-professional female and male runners. *Life*, *14*(11), 1397.

46. Sharon, Y., Ben-David, G., Nisgav, Y., Amarilyo, G., Shapira, G., Israel-Elgali, I., Pillar, S., Pillar, N., Shomron, N., & Kramer, M. (2025). MicroRNAs as biomarkers for uveitis in juvenile idiopathic arthritis. *Ocular Immunology and Inflammation*, *33*(4), 589–595.

47. Shapira, G., Karmon, G., Hacohen-Kleiman, G., Ganaiem, M., Shazman, S., Theotokis, P., Grigoriadis, N., Shomron, N., & Gozes, I. (2025). ADNP is essential for sex-dependent hippocampal neurogenesis, through male unfolded protein response and female mitochondrial gene regulation. *Molecular Psychiatry*, *30*(6), 2696–2706.

48. Shalmon, G., Ibrahim, R., Israel-Elgali, I., Grad, M., Shlayem, R., Shapira, G., Shomron, N., Youngster, I., & Scheinowitz, M. (2024). Differential gut microbiome profiles in long-distance endurance cyclists and runners. *Life*, *14*(12), 1703.

49. Cudkowicz, M., Drory, V., Chio, A., Lunetta, C., Shoesmith, C., Zimri, S., Russek-Blum, N., Shtossel, D., Eijk, R. van, Shapira, G., et al. (2025). Shifting the PARADIGM: PrimeC, an oral candidate for amyotrophic lateral sclerosis, demonstrates safety, efficacy, and target engagement in an 18-month phase 2b trial (S27. 008). *Neurology*, *104*, 3584.

50. Shalmon, G., Shapira, G., Ibrahim, R., Israel-Elgali, I., Grad, M., Shlayem, R., Youngster, I., Scheinowitz, M., & Shomron, N. (2025). Maximal and sub-maximal exercise tests alter PBMC microRNA expression: Insights into sport-and sex-specific variations. *Frontiers in Physiology*, *16*, 1583870.

51. Sher, D., Mastandrea, I., Brosque, A., Levy, G., Ironi, I., Shapira, G., Shomron, N., Barak, B., & Friedmann-Morvinski, D. (2025). Cell-of-origin-specific behavioral deficits in oligodendrocyte-derived glioblastoma. *Cell Reports*, *44*(8).

52. Gozes, I., Shapira, G., LOBYNTSEVA, A., KARMON, G., & Shomron, N. (2025). *Nap for sex-specific treatment of diseases*.

53. Abu-Toamih Atamni, H. J., Shapira, G., Ortenberg, R., Sultan, M., Twito, O., Yoseph-Barzilay, L., Shomron, N., & Rashid, G. (2025). Circulating microRNA signatures as potential biomarkers differentiating diabetic, prediabetic, and healthy individuals. *Frontiers in Endocrinology*, *16*, 1699100.

54. Shalmon, G., Shapira, G., Ibrahim, R., Israel-Elgali, I., Grad, M., Shlayem, R., Youngster, I., Scheinowitz, M., & Shomron, N. (2025). Correction: Maximal and sub-maximal exercise tests alter PBMC microRNA expression: Insights into sport-and sex-specific variations. *Frontiers in Physiology*, *16*, 1674758.

55. Cudkowicz, M., Drory, V. E., Chio, A., Lunetta, C., Shoesmith, C., Zimri, S., Blum, N. R., Shtossel, D., Krauss, Y. R., Kerem, N., et al. (2025). Phase 2b PARADIGM results demonstrate safety, clinical signals, and biomarker engagement of PrimeC in ALS, supporting advancement to phase 3. *MUSCLE & NERVE*, *72*, S97–S97.

56. Shapira, G., Cudkowicz, M., Drory, V., Chio, A., Lunetta, C., Shoesmith, C., Zimri, S., Russek-Blum, N., Kerem, N., Eijk, R. van, et al. (2025). MicroRNA profiling and iron-related modulation as key markers for target engagement in ALS treatment with PrimeC. *NEUROLOGY*, *105*.