

Naama Wagner

Personal information

The Shmunis School of Biomedicine and Cancer Research
George S. Wise Faculty for Life Sciences
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Education

Ph.D. in Bioinformatics 2023

Advisor: Prof. Tal Pupko

Thesis title: Machine-Learning, Natural Language Processing, and Genomics approaches for type III effectors identification.

M.Sc. in Theoretical and Mathematical Biology, TAU 2019

Final grade: 94.2. (**Magna cum laude**)

Advisor: Prof. Tal Pupko

Thesis title: Machine-Learning approach for bacterial protein annotation: Type III secreted effectors and transcription factors.

B.Sc. in Biology, TAU 2017

Grades average: 87

Publications

1. Geraffi, N.[^], Gupta, P.[^], **Wagner, N.**, Barash, I., Pupko, T., Sessa, G. **2023**. "Comparative sequence analysis of pPATH pathogenicity plasmids in *Pantoea agglomerans* gall-forming bacteria". Frontiers in Plant Science. 14:1198160.
2. **Wagner, N.**, Ben-Meir, D., Teper, D., Pupko, T. **2023**. "Complete genome sequence of an Israeli isolate of *Xanthomonas hortorum* pv. *pelargonii* strain 305 and novel type III effectors identified in *Xanthomonas*". Frontiers in Plant Science. 14:1817.
3. **Wagner, N.**[^], Albuquerque, M.[^], Ecker, N., Dotan, E., Zerah, B., Mendonca Pena, M., Potnis, N., Pupko, T. **2022**. "Natural Language Processing Approach to Model the Secretion Signal of Type III effectors". Frontiers in Plant Science. 13:4339.
4. **Wagner, N.**, Teper, D., Pupko, T. **2022**. "Predicting Type III Effector Proteins Using the Effectidor Web Server". In Bacterial Virulence. 25–36.
5. Liyanapathirana, P.[^], **Wagner, N.**[^], Avram, O., Pupko, T., & Potnis, N. **2022**. Phylogenetic Distribution and Evolution of Type VI Secretion System in the Genus *Xanthomonas*. Frontiers in Microbiology. 13:591.
6. Labes, S., Stupp, D.[^], **Wagner, N.**[^], Bloch, I., Lotem, M., Lahad, E. L., Polak, P., Pupko, T., & Tabach, Y. **2022**. Machine-learning of complex evolutionary signals improves classification of SNVs. NAR Genomics and Bioinformatics. 4(2):lqac025.
7. **Wagner, N.**, Avram, O., Gold-Binshtock, D., Zerah, B., Teper, D., Pupko, T. **2022**. "Effectidor: an automated machine-learning based web server for the prediction of type-III secretion system effectors". Bioinformatics. 38(8):2341–2343.
8. Hada-Neeman, S.[^], Weiss-Ottolenghi, Y.[^], **Wagner, N.**[^], Avram, O., Maor, Y., Sklan, E., Shcherbakov, D., Pupko, T. and Gershoni, J.M. **2021**. "Domain-Scan libraries as a tool for the diagnosis of infectious diseases". Frontiers Immunology. 11:3898.
9. Ruano-Gallego, D.[^], Sánchez-Garrido, J.[^], Kozik, Z., Núñez-Berrueto, E., Cepeda-Molero, M., Mullineaux-Sanders, C., Clark, J.B., Slater, S., **Wagner, N.**, Glegola-Madejska, I., Roumeliotis, T.I., Pupko, T., Fernández, L.A., Rodríguez-Patón, A., Choudhary, J.S., Frankel, G. **2021**. "Type III secretion system effectors form robust and flexible intracellular virulence networks". Science. 371(6534):eabc9531.

10. Guerrero, IJ, Perez-Montano, F., Mateus da Silva, G., **Wagner, N.**, Shkedy, D., Zhao, M., Pizarro, L., Bar, M., Walcott, R., Sessa, G., Pupko, T., Burdman, S. **2019**. "Show me your secret(ed) weapons: a multifaceted approach reveals a wide arsenal of type III-secreted effectors in the cucurbit pathogenic bacterium *Acidovorax citrulli* and novel effectors in the *Acidovorax* genus". Molecular Plant Pathology. 21(1):17–37.

^ - equal contribution.

Presentations in conferences

"Effector: an automated machine-learning based web server for the prediction of type-III secretion system effectors" (Oral presentation).

1. Department seminar, May 31, **2023**, IRD, Montpellier, France.
2. The 14th International Conference on Plant Pathogenic Bacteria (ICPPB), July 4-8, **2022**, Assisi, Italy.
3. The 7th *Xanthomonas* Genomics Conference, June 13-17, **2022**, Clearwater, Florida, USA.
4. The 16th Safra bioinformatics retreat, November 24-25, **2021**, Maagan, Israel.

*"Identification of novel type III-secreted effectors of the cucurbit pathogenic bacterium *Acidovorax citrulli* by a combination of machine learning and transcriptomics approaches"* (Poster).

1. The 14th Safra bioinformatics retreat, May 26-27, **2019**, Maagan, Israel.

Awards and Scholarships

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| 1. Chateaubriand Fellowship, to conduct research in France. | 2023 |
| 2. Safra Center for Bioinformatics fellowship, Tel Aviv University. | 2019-2023 |
| 3. Excellence in teaching award from the Smolarz Graduate School, Tel Aviv University. | 2018,2022 |
| 4. Excellence award from the Shmunis School of Biomedicine and Cancer Research, Tel Aviv University. | 2022 |
| 5. Student travel award from the 7 th <i>Xanthomonas</i> Genomics Conference. | 2022 |
| 6. Manna center for food security fellowship, Tel Aviv University. | 2019 |
| 7. 3 rd best poster award, Safra bioinformatics retreat. | 2019 |
| 8. Schulich Leaders Scholarship for excellent undergraduate students in the STEM fields (one of seven scholars chosen in 2014 at Tel-Aviv University). | 2014-2017 |

Teaching

General genetics (small group teacher)	Fall semesters 2020-2023
Bioinformatics for the Olympics in Biology (teacher)	2022,2023
Introduction to Python for biologists (teacher)	Fall semesters 2018-2020
Introduction to Bioinformatics (exercise grader)	Fall semesters 2017-2019

Volunteering

Math tutor in a project of the Israeli Ministry of Education	2016-2017
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