

(a) Education and Training

The Hebrew University of Jerusalem	Animal Sciences	B.S.	1996
The Hebrew University of Jerusalem	Genetics	Ph.D.(High-Excellence)	2002
The University of Michigan	Genomics and Biochemistry	postdoc	2002-2005

(b) Research and Professional Experience

Senior researcher (A), Institute of Plant Sciences, ARO Volcani (2014- present)
 Senior Lecturer, RH Smith Institute for Plant Sciences and Genetics, Faculty of Agriculture, The Hebrew University of Jerusalem, Rehovot (2005- 2014)

(c) Teaching experience

Introduction to Evolutionary Biology	Faculty of Agriculture, HUJI	2006-2013
Biology of the Plant Cell	Faculty of Agriculture, HUJI	2011-2013
Plant Biotechnology	Plant Sciences, TAU	2017

(d) Publications**Past 5 years:**

41. Chang, W., **Fridman, E.**, Mascher, M., Himmelbach, A., Schmid, K.J. (2022) Physical geography, isolation by distance and environmental variables shape genomic variation of wild barley (*Hordeum vulgare L. ssp. spontaneum*) in the Southern Levant. 128:107-119
40. Prusty, MR*, Bdolach, E. *, Yamamoto, E. Tiwari, LD, Silberman, R. Doron-Feigenbaum, A., Neyhart, JL, Bonfil, D., Kashkush, K., Pillen, K., Smith, KP, and **Fridman, E.** (2021) Genetic loci mediating circadian clock output plasticity and crop productivity under barley domestication. *New Phytologist* 230(5):1787-1801.
39. Alegria Terrazas R, Balbirnie-Cumming K, Morris J, Hedley PE, Russell J, Paterson E, Baggs EM, Fridman E, Bulgarelli D (2020) A footprint of plant eco-geographic adaptation on the composition of the barley rhizosphere bacterial microbiota. *Sci Rep.* 2020 Jul 31;10(1):12916.
38. Lazar S, Prusty MR, Bishara K, Sherman A, Fridman E (2020) RECAS9: Recombining wild species introgression via mitotic gene editing in barley. *bioRxiv.* doi: <https://doi.org/10.1101/2020.01.07.897280>
37. Ronen, M., Sela, H., **Fridman, E.**, Perl-Treves, R., Kopahnke, D., Moreau, A., Ben-David, R., Harel, A. (2019) Characterization of the barley Net Blotch pathosystem at the center of origin of host and pathogen. *Pathogens* 8: 275.
36. Bdolach, E., M. Prusty, Faigenboim-Doron, A, Filichkin, T., Helgerson, L., Schmid, K.J., Greiner, S. **Fridman, E.** (2019) Thermal plasticity of the circadian clock is under nuclear and cytoplasmic control in wild barley. *Plant Cell & Environment* 2(11):3105-3120.
34. Galkin, E., Dalal, A., Evenko, A., **Fridman, E.**, Kan, I. Wallach, R., Moshelion, M. (2018) Risk-management strategies and transpiration rates of wild barley in uncertain environments. *Physiologia Plantarum* 164:412-428.
33. Merchuk-Ovnat*. L., Silberman*, R., Laiba, E., Maurer, A., Pillen, K. Faigenboim, A., **Fridman, E.** (2018) Genome scan identifies flowering-independent effects of barley *HsDry2.2* locus on yield traits under water deficit. *J Exp Bot.* 69:1765-1779.
32. Dakhiya Y, Hussien D, **Fridman E**, Kiflawi M, Green R (2017) Correlations between Circadian Rhythms and Growth in Challenging Environments. *Plant Physiol* 173: 1724–1734.

Selected publications before:

- Nida, H., Blum, S., Eposito, D., Srivastava, D., Elbaum, R., Xin, Z., Erlich, Y., **Fridman, E.***, Shental, N.* (2016) Highly efficient de novo mutant identification in a Sorghum bicolor TILLING population using the ComSeq approach. *Plant J* 86(4):349-59. (* Corresponding authors).
- Laiba, E., Glikait, I., Levy, Y., Pasternak, Z., and **Fridman, E.** (2016) Genome scan for non-additive heterotic trait loci reveals mainly underdominant effects in *Saccharomyces cerevisiae*. *Genome* 59:231-242.
- Li, X., Li, X., **Fridman, E.**, Tesso, T.T., and J. Yu* (2015) Dissecting repulsion linkage in the Dw3 gene region for sorghum plant height provides insights into heterosis. *Proceedings of National Academy of Sciences USA* 112(38): 11823-11828.

- Bedada, G., Westerbergh, A., Müller, T., Galkin, E., Bdolach, E., Moshelion, M., **Fridman, E.**, Schmid, K.J. (2014) Transcriptome sequencing of two wild barley (*Hordeum spontaneum* L.) ecotypes differentially adapted to drought stress reveals ecotype-specific transcripts. BMC Genomics 19;15:995.
- Hübner, S., Bdolach, E., Ein-Gedi, S., Korol, A., Schmid, K. and **Fridman, E.*** (2013) Phenotypic landscapes: phenological patterns in wild and cultivated barley. J Evol Biol 26(1):163-174.
- Ben-Israel, I.^s, Nida, H., Kilian, B., and **Fridman, E. *** (2012) Heterotic trait locus (HTL) mapping identifies intra-locus interactions that underlie reproductive hybrid vigor in *Sorghum bicolor*. PLoS One (DOI 10.1371/journal.pone.0038993)
- Fridman, E. *** (2015) Consequences of hybridization and heterozygosity on plant vigor and phenotypic stability Plant Sci 232: 35-40.
- Hübner, S., Günther, T., Flavell, A., Graner, A., **Fridman, E.**, Korol, A., and Schmid, K. (2012) Islands and streams: Clusters and gene flow in wild barley populations from the Levant. Mol Ecol 21:1115-1129.
- Yu, G., Nguyen, T.H., Guo, Y., Schauvinhold, I., Auldridge, M., Bhuiyan, N., Ben-Israel, I., Iijima, Y., **Fridman, E.**, Noel, J.P., Pichersky, E. (2010) Enzymatic functions of wild tomato *Solanum habrochaites glabratum* methylketone synthases 1 and 2. Plant Phys 154:67-77.
- Hübner, S., Höffken, M., Oren, E., Haseneyer, G., Stein, N., Graner, A., Schmid, K., and **Fridman, E. *** (2009) Strong correlation of wild barley (*Hordeum spontaneum*) population structure with temperature and precipitation variation. Mol Ecol 18:1523-1536.
- Cover:** Ben-Israel, I., Geng, Y., Adato, A., Auldridge, M., Nguyen, T., Yu, G., Nguyen, T., Schauvinhold, I., Aharoni, A., Noel, J., Pichersky, E., and **Fridman, E.*** (2009) Multiple biochemical and morphological factors underlie the production of methylketones in tomato trichomes. Plant Phys 151(4): 1952-1964.
- Cover:** Koeduka, T. *, **Fridman, E. ***, Gang, D.R. *, Vassão, D.G., Jackson, B.L.^S, Kish, C.M., Orlova, I., Spassova, S.M., Lewis, N.G., Noel, J.P., Baiga, T.J.^C, Dudareva, N., Pichersky, E. (2006) Eugenol and isoeugenol, characteristic aromatic constituents of spices, are biosynthesized via reduction of a coniferyl alcohol ester. Proc Natl Acad Sci USA 103: 10128-10133.
- Fridman, E.**, Wang, J., Iijima, Y., Froehlich, J.E., Gang, D.R., Ohlrogge, J. and Pichersky, E. (2005) Metabolic, genomic and biochemical analyses of glandular trichome from the wild tomato species *Lycopersicon hirsutum* identify a key enzyme in the methylketone biosynthetic pathway. Plant Cell 17: 1252-1267.
- Iijima, Y., Wang, G., **Fridman, E.** and Pichersky, E. (2005) Analysis of the enzymatic formation of citral in the glands of sweet basil. Arch. Biochem. Biophys. 448: 141-149.
- Fridman, E. ***, Carrari, F. *, Liu, Y.S., Fernie, A. and Zamir, D. (2004) Zooming-in on a quantitative trait for tomato yield using wild species introgression lines. Science 305: 1786-1789.
- Iijima, Y., Davidovich-Rikanati, R., **Fridman, E.**, Gang, D.R., Bar, E., Lewinsohn, E. and Pichersky, E. (2004) The biochemical and molecular basis for the divergent patterns in the biosynthesis of terpenes and phenylpropanes in the peltate glands of three cultivars of basil (*Ocimum basilicum*). Plant Phys. 136: 3724-3736.
- Fridman, E.** and Zamir, D. (2003) Functional divergence of a syntenic invertase gene family in tomato, potato and *Arabidopsis*. Plant Phys. 131: 603-609.
- Fridman, E.**, Liu, Y.S., Carmel-Goren, L., Gur, A., Shoshitaishvili, M., Pleban, T., Eshed, Y. and Zamir, D. (2002) Two tightly linked QTLs modify tomato sugar content via distinct physiological pathways. Mol. Genet. Genomics 266: 821-826.
- Fridman, E.**, Pleban, T. and Zamir, D. (2000) A recombination hotspot delimits a wild species QTL for tomato sugar content to 484-bp within an invertase gene. Proc Natl Acad Sci USA 97: 4718-4723.

(d) Patents

- Zamir, D., Pleban, T., and **Fridman, E.** (2000) Cultivated tomato plant having increased brix value and methods of producing the same. Patent application in the US No.09/477,380.
- Pichersky, E., **Fridman, E.**, Yu, G., Nguyen, T.T.H., Noel, J.P., Ben-Israel, I., (2010) Methylketone Synthase, Production of Methylketones in Plants and Bacteria. Patent application in the US (US 20110289632 A1).

(e) Selected awarded grants

Year	Agency	Years	Role*	Title (short)	Total (US\$)
2006	ISF	3	PI	Phenylpropane in plants	330,000
2006	BARD	3	PI	Tomato methylketones	300,000

2008	GIF	1	PI	Natural biodiversity of barley	35,000
2011	BARD	1	CI	ComSeq allele mining	100,000
2012	BARD	3	PI	Heterosis mapping in sorghum	300,000
2014	ERA CAP	3	LPI	BARLEY HEB-NAM	244,000
2017	ISF	3	PI	Circadian clock canalization	225,000
2018	Chief Sci.	3	PI	RECAS9: Mapping by CRISPR	150,000
2020	Horizon2020	4	LPI	CAPITALISE: Utilizing Natural diversity for enhanced photosynthesis	300,000
2021	BSF-NSF	4	PI	Nano RECAS9 mapping	275,000
2021	BARD	3	PI	Cytonuclear barley breeding	310,000
2021	ISF	3	PI	Plasticity of barley circadian clock	195,000
2022	MOST	2	PI	Resilient barley for Mediterranean basin	125,000

Principal Investigator; LPI= Local Principal Investigator; CI = Cooperating Investigator