Michal Lieberman-Lazarovich, PhD

Education and professional experience

02/2017-present: Researcher at the Agricultural Research Organization (Volcani center), at the Plant Sciences institute.

5/2016-2/2017: **Lab manager** in the Robert H. Smith Institute of Plant Sciences & Genetics in Agriculture, at the **Faculty of Agriculture**, Food and Environment of the **Hebrew University of Jerusalem**, Rehovot, Israel. Jointly in the labs of Dr. Leor Eshed-Williams and Dr. Idan Efroni, working on plant regeneration and root development.

2014 - 2016: Research leader at **Evogene LTD**, Rehovot, Israel. Yield and Abiotic Stress department. Leading several projects related to yield enhancement by computational gene discovery, long non-coding RNAs and photorespiration.

2010 – 2013: **University of Geneva**, Geneva, Switzerland. **Postdoctoral** research assistant in the lab of Prof. Jerzy Paszkowski, Department of Botany and Plant Biology. Subjects: plant epigenetics, meiotic recombination.

2005 - 2010: **Weizmann Institute of Science**, Rehovot, Israel. Department of Plant Sciences. **PhD** and **Postdoctoral** fellowship under the supervision of Prof. Avraham A. Levy. PhD thesis title: Gene Targeting and Chromatin Remodeling in *Arabidopsis thaliana*.

08/03 -02/04 **Plant Research International**, Wageningen, the Netherlands.
Research **scholar**. Project title: Fruit gene-expression and metabolic profiling of the tomato *hp-2^{dg}* mutant. Under the supervision of Prof. R.J. Bino, Dr. C.H. DeVos, and Dr. I. Levin.

2001 – 2004: **The Hebrew University of Jerusalem**, Rehovot, Israel. Faculty of Agriculture, Food and Environment. Department of Biotechnology.
M.Sc. Thesis title: Genetic and Metabolic Analysis of DEETIOLATED1 Complex in the Tomato Fruit. Under the supervision of Dr. Ilan Levin, Prof. Yossi Hillel, and Dr. Avraham Lalazar. MAGNA CUM LAUDE

1998 – 2001: **Weizmann Institute of Science**, Rehovot, Israel. Department of Plant Sciences. **Research technician** at the laboratory of Prof. Gad Galili. Projects: plant autophagy, regeneration system.

1997 – 2001: **The Hebrew University of Jerusalem**, Rehovot, Israel. Faculty of Agriculture, Food and Environment. Department of Biochemistry and Food Sciences. **B.Sc**. MAGNA CUM LAUDE

1995 – 1996: Military service in a medical laboratory.

Awards and Scholarships

2003 Earned the Prof. Rafael Frankel scholarship for advanced studies.
2003 Research Fellow scholarship. Plant Research International, Wageningen, the Netherlands.

Publications in peer reviewed scientific journals

Lieberman, M., Segev, O., Gilboa, N., Lalazar, A., and Levin, I. (**2004**). The tomato homolog of the gene encoding UV-DAMAGED DNA BINDING protein 1 (*DDB1*) underlined as the gene that causes the *high pigment-1* mutant phenotype. *Theoretical and Applied Genetics*, 108:1574-1581.

Bino, R.J., de Vos, R.C.H., **Lieberman, M.**, Hall, R.D., Bovy, A., Jonker, H.H., Tikunov, Y., Lommen, A., Moco, S., and Levin, I. (**2005**). Effects of the light hyperresponsive *high pigment – 2^{dg}* mutation on the metabolome of tomato fruit. *New Phytologist*. 166:427-438.

Levin, I., de Vos, C.H.R., Tadmor, Y., Bovy, A., **Lieberman, M**., Oren-Shamir, M., Segev, O., Kolotilin, I., Keller, M., Ovadia, R., Meir, A., and Bino, R. J. (**2006**). *High pigment* tomato mutants- more than just lycopene (a review). *Israel Journal of Plant Sciences.* 54: 179-190.

Lieberman-Lazarovich M, Levy AA (**2010**) Homologous recombination in plants – an antireview. *Plant Chromosome Engineering*, methods and protocols, 710:51-65.

Mirouze M, **Lieberman-Lazarovich M**, Aversano R, Bucher E, Nicolet J, Reinders J, Paszkowski J. (**2012**) Loss of DNA methylation affects the recombination landscape in Arabidopsis. *PNAS*. 109 (15) 5880–5885

- **Equally contributing author**

Lieberman-Lazarovich M, Melamed-Bessudo C, de Pater S, Levy AA. (**2013**) Epigenetic Alterations at Plant Genomic Loci Modified by Gene Targeting. *PLoS ONE* 8(12): e85383. doi:10.1371

Catoni M, Griffiths J, Becker C, Radu Zabet N, Bayon C, Dapp M, **Lieberman-Lazarovich M**, Weigel D, Paszkowski J. DNA sequence properties that predict susceptibility to epiallelic switching. Submitted.

Articles of symposia proceedings

Lalazar, A., Frankel, P., Gilboa, N., Tanny, S., **Lieberman, M.**, and Levin, I. (2003). A comparative analysis of *DEETIOLATED1* gene in the *solanaceae* family. *The Annual Meeting 2003 of the Genetics Society of Israel, Tel-Aviv. p.29.*

Lieberman, M., Segev, O., Gilboa, N., and Levin, I. (2004). The tomato gene encoding UV DAMAGED DNA BINDING protein 1 (*DDB1*) - a highly likely candidate gene causing the *high pigment-1* mutant phenotypes. *The Annual Meeting 2004 of the Genetics Society of Israel, Tel-Aviv. p.52.*

de Vos, C.H.R, Bovy, A.G., Schijlen, E., Lommen, A., Tikunov, Y., Bouwmeester, H., **Lieberman, M.**, Levin, I., Hall, R.D., and Bino, R.J. (2004). Integrated metabolomics approaches as a complement to genomics tools in tomato and potato. *1st Solanaceae Genome Workshop, Wageningen, The Netherlands. p.108.*

Levin, I., **Lieberman, M.**, Segev, O., Stienitz, B., Gilboa, N., Kolotilin, I., and Keller M. (2004). Lycopene rich tomatoes (LRT) – photomorphogenic genes at work. *12th international biotechnology symposium and exhibition, Santiago, Chile.p.43.*

Lieberman-Lazarovich M., Melamed-Bessudo C., Avivi-Ragolski N., and Levy A.A. (2010). Complex patterns of T-DNA integration following gene-targeting experiments in Arabidopsis. *Frontiers in Genetics VI, Annual meeting 2010, Rehovot, Israel*

Samach, A., Melamed-Bessudo C., Eshchar Y., **Lieberman-Lazarovich M**., Avivi-Ragolski, N., Levy A.A. and L. Even-Faitelson (2010). Optimization of gene targeting in Arabidopsis using floral dipping. *Plant DNA Repair and Recombination 2010, Asilomar, California, USA. p. 66*

Lieberman-Lazarovich M, Mirouze M, Aversano R, Bucher E, Nicolet J, Reinders J, Paszkowski J. (2012). The effect of DNA methylation on meiotic recombination

landscape in Arabidopsis. *International Conference on Arabidopsis Research (ICAR 2012), Vienna, Austria. p. 27*

Lieberman-Lazarovich M, Melamed-Bessudo C, de Pater S, Levy AA. Transgenerational epigenetic alterations at genomic loci modified by gene targeting. (2013). Non-coding RNA, epigenetics and transgenerational inheritance, Cambridge, UK.

Talks in scientific conferences

- The epigenetic link between meiotic recombination and chromatin structure. 2nd ALPS Symposium, St. Cergue, Switzerland. December 7th, 2011.
- The effect of DNA methylation on meiotic recombination landscape in Arabidopsis. EMBO workshop, Roscoff, France. May 3rd, 2012.

Invited talks

- Using KASP genotyping assays to study meiotic recombination in Arabidopsis. GDC Symposium, ETH Zurich, Switzerland. July 2nd, 2012.
- Can we use DNA-methylation in order to manipulate plant meiotic recombination? Departmental seminar, PRI, Wageningen University, Wageningen, the Netherlands. January 3rd, 2013.
- DNA methylation in Arabidopsis: alterations by gene targeting and effect on meiotic recombination. Departmental guest seminar, the Weizmann Institute of Science, Rehovot, Israel. May 13th, 2013.

Patent applications

- Levin, I., **Lieberman, M**., Amir Segev, O., Gilboa, N. and Lalazar, A. (2009). Isolated nucleotide sequences responsible for the tomato high pigment-1 mutant phenotypes (hp-1 and hp-1w) and uses thereof. US 20090217405 A1

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