



## CURRICULUM VITAE

### I. Personal

1967 Born in Eilat, Israel  
1979 - 1985 Education in Boyer High School, Jerusalem  
1985-1988 Military service as a parachutist  
Marital status: Married, 3 children

### II. University Education and Additional Training

1990 – 1993 B.Sc. in Agriculture at the Hebrew University of Jerusalem  
1993 – 1995 M.Sc. in Agriculture at the Department of Plant Pathology and Microbiology, HUJI and the Institute for Agricultural Engineering, The Volcani Center.  
1996 – 2000 Ph.D. in Agriculture at the Department of Postharvest Science of Fresh Produce, the Volcani Center and the Department of Plant Pathology and Microbiology, HUJI.

### III. Positions Held and Academic Status

2001 – 2002 R&D scientist at InSight, a pharmaceutical company.  
Research subject: protein chemistry.  
2002-2006 Protein Chemistry R&D, Team Leader, Compugen, Ltd.  
Research subject: discovery of therapeutic and diagnostic human proteins.  
2007-to date Research Group Leader, Dept. of Postharvest Science  
Agricultural Research Organization (ARO), The Volcani Center,  
Rishon LeZion, Israel.  
2010 Promoted to B level Scientist  
2016 Promoted to A level Scientist (similar to Associate Professor)

#### **IV. Training / Teaching Experience**

2008 to date Lecturer in the international course on research and developments in postharvest biology and technology. This course is given annually at Bet-Dagan, Israel.

2012 to date Guest lecture in the HUJI, Faculty of Agriculture.

(Two courses: *Postharvest Physiology* [71937] and *Biology and Physiology of Vegetables Crops* [71314])

#### **University student guidance**

**Students & postdocs guidance-** 10 M.Sc., 4 Ph.D. and 8 postdocs.

#### **Research interests**

- Dormancy release and apical dominance in potato tubers
- Genome editing as a method for improving potato yield and nutrition's
- Starch synthesis and degradation in potato tubers

### **LIST OF PUBLICATIONS**

#### **I. Articles in reviewed journals**

1. **Eshel D.**, Gamliel, A., Katan, J., and Grinstein A. (1999). Evaluation of soil fumigants on soilborne fungal pathogens in a controlled-environment system and in soil. *Crop Protection* 18:437-443.
2. **Eshel D.**, Gamliel A., Grinstein A., DiPrimo P., and Katan J. (2000). Combined treatments and sequence of application in improving the control of soilborne pathogens. *Phytopathology* 90:751-757.
3. **Eshel D.**, Ben-Arie R., Dinoor A., and Prusky D. (2000). Resistance of gibberellin-treated persimmon fruit to *Alternaria alternata* arises from the reduced ability of the fungus to produce endo-1,4- $\beta$ -glucanase. *Phytopathology* 90:1256-1262.
4. Prusky D., **Eshel D.**, Kobilier, I., Yakoby, N., Beno-Moualem, D., Ackerman, M., Zuthji, Y., and Ben-Arie, R. (2001). Postharvest chlorine treatments for the control of persimmon black spot disease caused by *Alternaria alternata*. *Postharvest Biology and Technology* 23:23-32.

5. Akimitsu K., Isshiki A., Ohtani K., Yamamoto H., **Eshel D.**, and Prusky D. (2004). Sugars and pH: A clue to the regulation of fungal cell wall-degrading enzymes in plants. *Physiological and Molecular Plant Pathology* 65:271-275.
6. **Eshel D.**, Beno-Muaalem D., Lorang J. M., Dinoor A., and Prusky D. (2001). Induction of peroxidase during infection of unripe persimmon fruit by *Alternaria alternata*: A possible quiescence mechanism. *Journal of Phytopathology* 150:357-362.
7. **Eshel D.**, Lichter A., Dinoor, A., and Prusky D. (2002). Characterization of *Alternaria alternata* glucanase genes expressed during infection of resistant and susceptible persimmon fruits. *Molecular Plant Pathology* 3:347-358.
8. **Eshel D.**, Miara, I., Ailing T., Dinoor A., and Prusky D. (2002). pH regulates endoglucanase expression and virulence of *Alternaria alternata* in persimmon fruits. *Molecular Plant Microbe Interactions* 8:774-779.
9. Oren A., Toporik A., Biton S., Almog N., **Eshel D.**, Bernstein J., Savitsky K., and Rotman G. (2004). *hCHL2*, a novel Chordin-related gene, displays differential expression and complex alternative splicing in human tissues and during myoblast and osteoblast maturation. *Gene* 331:17-31.
10. Reuveni M., Shegolov D., **Eshel D.**, Ben Arie R., and Prusky D. (2007). Virulence and the production of endo-1,4- $\beta$ -glucanase by isolates of *Alternaria alternata* involved in the moldy-core disease of apples. *Journal of Phytopathology* 155:50-55.
11. **Eshel D.**, Toporik A., Efrati T., Nakav S., Chen A. and Douvdevani A. (2008). Characterization of natural human antagonistic soluble CD40 isoforms produced through alternative splicing. *Molecular Immunology* 46:250-257.
12. Shemesh R., Toporik A., Levine Z., Hecht I., Rotman G., Wool A. Dahary D., Gofer E., Kliger Y., Ayalon Soffer M., Rosenberg A., **Eshel D.** and Cohen Y. (2008). Discovery and validation of novel peptide agonists for G-protein coupled receptors. *Journal of Biological Chemistry* 283: 34643-34649.
13. **Eshel D.**, Regev R., Orenstein J., Droby S., Gan-Mor S. (2009). Combining physical, chemical and biological methods for synergistic control of postharvest diseases: a case study of Black Root Rot of carrot. *Postharvest Biology and Technology* 54:48-52.
14. Kliger Y., Borukhov I., Levy O., Oren A., Amir A., Wool A., Ashkenazy H., Tiran Z., Novik A., Rosenberg A., Toporik A., Schreiber E., **Eshel D.**, Levine Z., Nold-Petry C., Dinarello C. A. and Cohen Y. (2009). Peptides modulating conformational changes in secreted chaperones: from *in silico* design to preclinical proof of concept. *Proceeding of the National Academy of Science of the United State of America* 106:13797-13801.
15. Teper Bamnolker P., Dudai N., Fischer R., Belausov E., Zemach H., Shoseyov O. and **Eshel D.** (2010). Mint essential oil can induce or inhibit potato sprouting by differential alteration of apical meristem. *Planta* 232:179-186.

16. Rodov V., Tietel Z., Vinokur Y., Horev B., and **Eshel D.** (2010). Ultraviolet light stimulates flavonols accumulation in peeled onions and inactivates microorganisms on their surface. *Journal of Agricultural and Food Chemistry* 58:9071-9076.
17. Gan-Mor S., Regev R., Levi A. and **Eshel D.** (2011). Adapted thermal imaging for the development of postharvest precision steam-disinfection technology for carrots. *Postharvest Biology and Technology* 59:265-271.
18. Buskila Y., Tsrur L., Sharon M., Teper Bamnolker P., Holczer-Erich O., Vershavsky S., Ginzberg I., Burdman S. and **Eshel D.** (2011). Postharvest dark skin spots in potato tubers are an over-suberization response to *Rhizoctonia solani* infection. *Phytopathology* 101:436-444.
19. Teper-Bamnolker P., Buskila Y., Lopesco Y., Ben-Dor S., Saad I., Holdengreber V., Belausov E., Zemach H., Ori N., Lers A., and Eshel D. (2012). Release of apical dominance in potato tuber is accompanied by programmed cell death in the apical bud meristem. *Plant Physiology* 158: 2053-2067.
20. Bar-El Dadon S., Yolanda Pascual C., **Eshel D.**, Teper-Bamnolker P., Dolores Paloma Ibáñez M., Reifen R. (2012). Vicilin and the basic subunit of legumin are putative chickpea allergens *Food Chemistry* 138:13-18.
21. Ment, D., G. Gindin, Rot A., **Eshel D.**, Teper-Bamnolker P., Ben-Ze'ev I., Glazer I., Samish M (2013). Role of cuticular lipids and water soluble compounds in tick susceptibility to Metarhizium infection. *Biocontrol Science and Technology* 23:956-967.
22. **Eshel D.**, Teper-Bamnolker P. , Vinokur Y., Saad I. , Zutahy Y., Rodov V. (2014). Fast curing: a method to improve postharvest quality of onions in hot climate harvest. *Postharvest Biology and Technology* 88:34-39.
23. Turgeman T., Kakongi N. , Schneider A. , Vinokur Y., Teper-Bamnolker P. , Carmeli S., Levy M., Skory C. D., Lichter A., and **Eshel D.** (2014). Induction of *Rhizopus oryzae* germination under starvation using host metabolites increases spore susceptibility to heat stress. *Phytopathology* 104:240-247.
24. Zipor G., Duarte P., Carqueijeiro I., Shahar L., Ovadia R., Teper-Bamnolker P., **Eshel D.**, Levin Y., Doron-Faigenboim A., Sottomayor M. and Oren-Shamir M. (2014). In planta anthocyanin degradation by a vacuolar class III peroxidase in *Brunfelsia calycina* flowers. *New Phytologist* 205:653-665.
25. Kamenetsky R., Faigenboim A., Shemesh Mayer E., Ben Michael T., Gershberg C., Kimhi S., Esqira I., Rohkin Shalom S., **Eshel D.**, Rabinowitch D. H. and Sherman A. (2015). Integrated transcriptome catalogue and organ-specific profiling of gene expression in fertile garlic (*Allium sativum* L.). *BMC Genomics* 16:12.
26. Rohkin Shalom S., Gillett D., Zemach H., Kimhi S., Forer I., Zutahy Y., Tam Y., Teper-Bamnolker P., Kamenetsky R. and **Eshel D.** (2015) Storage temperature

controls the timing of garlic bulb formation via shoot apical meristem termination. *Planta* 242:951-962.

27. Turgeman, T., Shatil-Cohen, A., Moshelion, M., Teper-Bamnolker, P., Skory, C. D., Lichter, A. and **Eshel, D.** (2016) The role of aquaporins in pH-Dependent germination of *Rhizopus delemar* spores. *PlosOne* 11(3), e0150543.
28. Buskila Y., Sela N., Teper-Bamnolker P., Tal I., Shani E., Weinstain R., Gaba V., Tam Y., Lers A. and **Eshel D.** (2016) Stronger sink demand for metabolites supports dominance of the apical bud in etiolated growth. *Journal of Experimental Botany* 67:5495-5508.
29. Galsurker O. s, Doron-Faigenboim A., Teper-Bamnolker P., Daus A., Fridman Y., Lers A., **Eshel D.** (2016). Cellular and molecular changes associated with onion skin formation suggest involvement of programmed cell death. *Frontiers in Plant Science* 7: 2031.
30. Lampert, Y. , Dror B., Sela N., Teper-Bamnolker P., Daus A., Sela (Saldinger) S. and **Eshel D.** (2017). Emergence of *Leuconostoc mesenteroides* as a causative agent of oozing in carrots stored under non-ventilated conditions. *Microbial Biotechnology* 10:1677-1689.
31. Teper-Bamnolker P. s, Buskila Y., Belausov E., Wolf D., Doron-Faigenboim A., Ben-Dor S., Van der Hoorn R. A. L., Lers A. and **Eshel D.** (2017) Vacuolar processing enzyme (VPE) activates programmed cell death in the apical meristem inducing loss of apical dominance. *Plant, Cell & Environment* 40:2381-2392.
32. Salam B. B., Kumar M. S., Zhu X., Gong H., Ziv C., Teper-Bamnolker P., Ori N., Jiang J. and **Eshel D.** (2017) Etiolated stem branching is a result of systemic signaling associated with sucrose level. *Plant Physiology*, 175:734-745.
33. Chaturvedi A. K. s, Rohkin S. S., Faigenboim-Doronb A., Teper-Bamnolker P., Salam B. B., Daus A., Kamenetsky R. and **Eshel D.** (2018) Differential carbohydrate gene expression during preplanting temperature treatments controls meristem termination and bulbing in garlic. *Environmental and Experimental Botany* 150:280-291.
34. Danieli R., Blank L., Salam B. B., Malka S. K., Teper-Bamnolker P., Daus A., Zig U., Amichay M., Shemer Z., Gal-On A. and **Eshel D.** (2018) Postharvest temperature has a greater impact on apical dominance of potato seed-tuber than field growing-degree days exposure. *Field Crop Research* 223:105-112.
35. Galsurker O., Doron-Faigenboim A., Teper-Bamnolker P., Daus A., Lers A. and **Eshel D.** (2018). Differential response to heat stress in outer and inner onion bulb scales. *Journal of Experimental Botany* 69: 4047-4064.
36. Dror B., Savidor A., Salam B. B., Sela N., Lampert Y., Teper-Bamnolker P., Daus A., Carmeli S., Sela (Saldinger) S. and **Eshel D.** (2019) High levels of CO<sub>2</sub> induce spoilage by *Leuconostoc mesenteroides* by upregulating dextran-synthesis genes. *Applied and Environmental Microbiology* 85: e00473-18.

**II. Books, book chapters and invited reviews**

1. **Eshel D.** (2011). Non-chemical approaches for postharvest quality management of underground vegetables. *Stewart Postharvest Review* 7:1-7.
2. **Eshel D.** and Teper-Bamnolker P. (2012) Can loss of apical dominance in potato tuber serve as a marker of physiological age? *Plant Signaling & Behavior* 7:1158-1162.
3. **Eshel D.** (2014). Bridging dormancy release and apical dominance in potato tuber  
In: *Advances in Plant Dormancy*. (J.V. Anderson, eds.), (in Press)- Kluwer Academic Publishers (Springer), The USA.