Carmit Ziv

CURRICULUM VITAE 2021

Dept. of Postharvest Science
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HIGHER EDUCATION

1998 **B.Sc.Agr., Plant Protection**. The Hebrew University of Jerusalem, Rehovot, Israel. Special program: Agriculture and Environmental quality. Graduated with excellence, (96.6)

2000 **M.Sc.Agr., Plant Protection** The Hebrew University of Jerusalem, Rehovot, Israel. Iron uptake mechanisms in the plant growth promoting rhizobacteria (PGPR) *Pseudomonas putida* and in the pathogenic bacteria *Yersinia enterocolitica*. (PIs: Prof. Y. Hadar and Prof. Y. Chen). Graduated with excellence (97.6)

2009 **PhD., Plant Protection** The Hebrew University of Jerusalem. Thesis Title: The nature of filamentous growth as determined by altered regulation of COT1 and PKA, two AGC kinases, in *Neurospora crassa* (PI: Prof. O. Yarden)

2010 - 2012 **Post-doctoral fellow** The Hebrew University of Jerusalem**.** With Prof. Y. Hadar and Prof. O. Yarden, at the department of Plant Pathology and Microbiology, the Faculty of Agriculture, Food and Environment. **Research Topic:** The involvement of post-translational modifications in regulating the Neurospora crassa AGC kinase – COT1 activity, localization and interactions with other proteins.

2012 - 2017 **Post-doctoral fellow**, The Weizmann Institute of Science. With Dr. Assaf Vardi, at the department of Plant and Environmental Sciences, the Faculty of Biochemistry. **Research Topic 1:** Rewiring of host lipidome during viral infection of the marine micro-algae *Emiliania huxleyi* **Research Topic 2:** The role of sphingolipid metabolism in determining viral infection of the marine micro-algae *Emiliania huxleyi*

PRIZES AWARDED

1997, 1999, 2000, 2003 **Rector Award**, The Hebrew University of Jerusalem

2000 **Wolf Foundation scholarship** for graduate students, Jerusalem, Israel

2006 **Lily Tapper Prize** in agricultural sciences, The Faculty of Agriculture, Food and Environment.

2007 **David and Dorothy Perkins Fund Award** for outstanding graduate students that utilize *Neurospora* as an experimental organism. The 24rd Fungal Genetics Conference, Asilomar, California

2017 **Young investigator Award** of the Israeli Sociality of Mass Spectrometry (ISMS) The 30th ISMS meeting, Weizmann Institute, Israel

POSITIONS HELD AND ACADEMIC STATUS

2005 -2010 **Teacher /Teaching assistant** The Hebrew University of Jerusalem, Rehovot, Israel Department of plant pathology and microbiology and The division of external studies.

2016-2017 **Senior intern** Metabolic profiling unit, Life Sciences Core Facilities, Weizmann Institute of Science. Rehovot, Israel

July 2017-currently **Research Scientist** at the Dep. Of Postharvest Science of Fresh Produce, Agricultural Research organization (ARO), Volcani Center, Israel – 'B' rank.

EDITORIAL RESPONSIBILITY

Editor at "Horticulturae". Guest editor of "Agronomy" special issue titled "Postharvest Storage Techniques and Quality Evaluation of Fruits and Vegetables". Guest editor of "Frontiers in Nutrition" special issue titled "Phytochemical changes in vegetables during postharvest storage and processing, and implications for consumer benefits ". Reviewer (ad-hoc) of manuscripts for the Fungal Genet. Biol., Eukaryot. Cell., J Agric Food Chem, Phytoparasitica, Postharvest Biol. Technol., Front. Microbiol., Fungal Biol, Rev., Phytopathology, book proposal for CRC Press/Taylor and Francis.

RESEARCH INTEREST

Postharvest disease control of fruit vegetables; Environment-friendly treatments to control postharvest fungal rot; Tolerance mechanisms of fruit vegetables and their phytopathogenic fungi to cold storage; Lipid metabolism affecting the interactions between fruits and pathogenic fungi during storage. The effect of pre and postharvest handling of nutritional and sensory quality of fruit vegetables.

STUDENTS

MSc – 4, PostDoc – 5, Vising Student – 2

SELECTED PEER-REVIEWED PUBLICATIONS

Kornreich-Leshem, H., **C. Ziv**, *et al.,* **2005**. Ferrioxamine B analogues: targeting the FoxA uptake system in the pathogenic *Yersinia enterocolitica*. **J. Am. Chem. Soc.** 127**:**1137-1145.

Scheffer, J., **C. Ziv**, O. Yarden, and P. Tudzynski**. 2005**. The COT1 homologue CPCOT1 regulates polar growth and branching and is essential for pathogenicity in *Claviceps purpurea*. **Fungal Genet. Biol.** 42**:**107-118.

Divon, H. H., **C. Ziv**, O. Davydov, O. Yarden, and R. Fluhr**. 2006**. The global nitrogen regulator, FNR1, regulates fungal nutrition-genes and fitness during *Fusarium oxysporum* pathogenesis. **Mol. Plant Pathol.** 7**:**485-497.

Maerz, S., **C. Ziv**, N. Vogt, K. Helmstaedt, N. Cohen, R. Gorovits, O. Yarden, and S. Seiler**. 2008**. The nuclear Dbf2-related kinase COT1 and the mitogen-activated protein kinases MAK1 and MAK2 genetically interact to regulate filamentous growth, hyphal fusion and sexual development in *Neurospora crassa*. **Genetics** 179**:**1313-1325.

Ziv, C., R. Gorovits, and O. Yarden**. 2008**. Carbon source affects PKA-dependent polarity of *Neurospora crassa* in a CRE-1-dependent and independent manner. **Fungal Genet. Biol.** 45**:**103-116.

Ziv, C., G. Kra-Oz, R. Gorovits, S. Marz, S. Seiler, and O. Yarden**. 2009**. Cell elongation and branching are regulated by differential phosphorylation states of the nuclear Dbf2-related kinase COT1 in *Neurospora crassa*. **Mol. Microbiol.** 74**:**974-989.

Dvash, E., G. Kra-Oz, **C. Ziv,** S. Carmeli, and O. Yarden**. 2010**. The NDR kinase DBF-2 is involved in regulation of mitosis, conidial development and glycogen metabolism in *Neurospora crassa*. **Eukaryot. Cell** 9**:**502-513.

Salame, T. M., **C. Ziv**, Y. Hadar, and O. Yarden**. 2010**. RNAi as a potential tool for biotechnological applications in fungi. **Appl. Microbiol. Biotechnol.** 89**:**501-512.

Ziv, C., D. Feldman, L. Aharoni-Kats, S. Chen, Y. Liu. and O. Yarden. **2013.** The N-terminal region of the *Neurospora* NDR kinase COT1 regulates morphology via its interactions with MOB2A/B. **Mol. Microbiol.** 90**:**383-399.

Feldman, D., **C. Ziv,** R. Gorovits, M. Efrat, and O. Yarden. **2013**. *Neurospora crassa* protein arginine methyl transferases are involved in growth and development and interact with the NDR kinase COT1. **PLoS One**. 8: e80756.

Ziv C. , S. Malitsky, A. Othman, S. Ben-Dor,., Y. Wei, S. Zheng, A. Aharoni, T. Hornemann and A. Vardi. **2016**. Viral serine palmitoyltransferase induces metabolic switch in sphingolipid biosynthesis and is required for infection of a marine alga. **Proc Natl Acad Sci USA** 113: E1907-1916.

Rosenwasser, S., **C. Ziv**, S.G. Creveld, and A. Vardi. **2016**. Virocell Metabolism: metabolic innovations during host-virus interactions in the ocean. **Trends Microbiol**. 24: 821-832.

Malitsky S., **C. Ziv**. , S. Rosenwasser, S. Zheng., D. Schatz, Z. Porat, S. Ben-Dor, A. Aharoni and A. Vardi. **2016**. Viral infection of the marine alga *Emiliania huxleyi* triggers lipidome remodeling and induces the production of highly saturated triacylglycerol. **New phytol.** 210:88-96

Ziv, C., Zhao, Z., Gao, Y.G., and Xia, Y. **2018**. Multifunctional roles of plant cuticle during plant-pathogen interactions. **Front Plant Sci** 9, 1088.

Sadhasivam, S., O. Shapiro **C. Ziv,** V. Zakin, and E. Sionov. **2019** Synergistic inhibition of mycotoxigenic fungi and mycotoxin production by combination of pomegranate peel extract and azole fungicide. **Front microbial** 10: 1919.

Schleyer, G., N. Shahaf, **C. Ziv.** *et al.,* **2019**. In plaque-mass spectrometry imaging of a bloom-forming alga during viral infection reveals a metabolic shift towards odd-chain fatty acid lipids. **Nat Microbiol** 4: 527-538.

Ziv, C., D. Kumar, N. Sela, M. Itkin, S. Malitsky, A.A. Schaffer, and D.B. Prusky, **2020** Sugar-regulated susceptibility of tomato fruit to *Colletotrichum* and *Penicillium* requires differential mechanisms of pathogenicity and fruit responses. **Environ Microbiol** 22 2870-2891.

Fallik, E., and **Ziv, C. 2020**. How rootstock/scion combinations affect watermelon fruit quality after harvest? **J Sci Food Agric** 100, 3275-3282.

Adeeko, A., Yudelevich, F., Raphael, G., Avraham, L., Alon, H., Presman Zaaroor, M., Alkalai-Tuvia, S., Paris, H.S., Fallik, E., and **Ziv, C. 2020**. Quality and Storability of Trellised Greenhouse-Grown, Winter-Harvested, New Sweet Acorn Squash Hybrids. **Agronomy** 10, 1443.

Salam, B.B., Barbier, F., Danieli, R., Teper-Bamnolker, P., **Ziv, C.**, Spíchal, L., Aruchamy, K., Shnaider, Y., Leibman, D., Shaya, F., et al. **2021**. Sucrose promotes stem branching through cytokinin. **Plant physiol.** 185, 1708-1721.

Ziv, C., and Fallik, E. **2021**. Postharvest Storage Techniques and Quality Evaluation of Fruits and Vegetables for Reducing Food Loss. **Agronomy** 11, 1133.

BOOK CHAPTERS

Ziv, C. and Yarden, O**.** (2010).
Gene silencing for functional analysis: Assessing RNAi as a tool for manipulation of gene expression.
In: *Molecular and Cell Biology Methods for Fungi*, vol 638 (Sharon A., ed), p 77-100.
Publisher: Humana Press, USA.

Tzortzakis, N., Alkan, N., **Ziv, C.**, & Korsten, L. (2019).
Postharvest diseases of fresh horticultural produce. *Solanaceae* and *Cucurbitaceae* crops.
In: *Postharvest Pathology of Fresh Horticultural Produce* (L. Palou, J. L. Smilanick and S. pareek, eds.), CRC PRESS (Taylor & Francis Group), Boca Raton, FL. USA.

Prusky D. and **Ziv C**. (2019)
Mechanisms of Quiescence During Development and Ripening of Fruits In: *Postharvest Pathology of Fresh Horticultural Produce* (L. Palou, J. L. Smilanick and S. pareek, eds.), CRC PRESS (Taylor & Francis Group), Boca Raton, FL. USA.