

Part I: CURRICULUM VITAE

Personal

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Dates	Description
1974	Born in Israel
1992	High-school education in: quzerin
1993-1996	Military service: 36 month in the infantry

University Education and Additional Training

Dates	Description
1999 – 2002	B.Sc. in plant Sciences. At The faculty of agriculture, food and environment.
2002 – 2005	MS.C. Title of thesis: CONSTRUCTION OF MOLECULAR TOOLS FOR THE DETECTION OF FLOWER DIFFERENTIATION TIMING IN GRAPEVINE BUDS. Supervision by: Dr. Etti Or and Prof. Shimon Lavee.
2005 – 2011	Ph.D. in plant Sciences. At The faculty of agriculture, food and environment. Title of thesis: Characterization of Bud and Inflorescence Development in Table Grapes. Supervision by: Dr. Etti Or and Prof. Shimon Lavee.

Positions Held and Academic Status

Dates	Description
2011 - present	Research Scientist at the Northern Agriculture R&D- Migal

Training / Teaching Experience

A. Academic Contribution:

Dates	Description
2017	Lecturer of a part of a course at the Hebrew University: Grape physiology in the Wine and Grape Curriculum
2017-Present	Lecturer, Ohalo college Title of the course: Grape physiology
2013	Student guidance: Guidance of graduated M.Sc. student – Rotem Nalvizky. Title of thesis: Expression Level of the GLRaV-3 virus in symptomatic and non-symptomatic vines and influence on fruit load and wine quality. Guidance with Dr. Tirza Zehavi and Dr. Zohar Kerem.
2018-Present	Guidance of M.Sc. student – Rita Monther. Title of thesis: Examining the factors that influence the color accumulation in the Crips Pink. Guidance with Prop Rafi Stern Guidance of M.Sc. student – Lior Cohen. Title of thesis: Early picking of high quality sweet cherry, growing under high tunnel structure. Guidance with Prop Rafi Stern

Membership in Scientific and Agricultural Committees

A. Local:

2018-Present The Chief Scientist Research Proposal Evaluation Committee

Active Participation in Meetings

A. International:

Date	Title of the Meeting	Place	Role
2013	Cost action FA1003: Phenotyping for Vitis resistance to fungal diseases virus and phytoplasma diagnosis.	Geilweilerhof Germany	
2012	Plant dormancy symposium and a professional tour for apple thinning.	Auckland, New Zealand	
2015	The 19 th GiESCO Meeting (Group of international Experts of vitivinicultural Systems for CoOperation.	Montpellier. France	Poster
2015	Adviser for Dormancy breaking treatment in Pistachio. Invited by Wonderful pistachio company.	California USA	
2016	X International Symposium on Grapevine Physiology and Biotechnology.	Verona, Italy	Poster
2017	International Symposium on Flowering, Fruit Set and Alternate Bearing	Palermo, Italy	Speaker
2017	Advances in Pistachio Production Short Course and a professional tour	California USA	
2018	professional tour for apple training system	Geneva New York.	

2018	The EUFRIN WG “Fruit chemical thinning”	Friederikshafen, Germany	Speaker
2019	professional tour for apple training system	Latisana Italy	

B. National:

Date	Title of the Meeting	Role
2014	Grape vine meeting in Sde Boker Campus	Poster
2013	Northern R&D Annual meeting for the Grape vine growers	Invited lecture
2014	Northern R&D Annual meeting for Pear growers	Invited Lecture
2014	Northern R&D Annual meeting for Apples growers	Invited Lecture
2014	Northern R&D Annual meeting for the Grape vine growers	Invited lecture
2015	Northern R&D Annual meeting for the Grape vine growers	Invited Lecture
2015	Northern R&D Annual meeting for Apples growers	Invited lecture
2015	Northern R&D Annual meeting for Deciduous growers	Invited Lecture
2015	Annual meeting for the Grape vine growers Volcani center	Invited Lecture
2016	Annual meeting for the Grape vine growers Volcani center	Invited Lecture
2016	Northern R&D Annual meeting for the Grape vine growers	Invited Lecture
2016	Annual meeting of shaham deciduous extention Volcani center	Invited Lecture
2017	Northern R&D Annual meeting for Apples growers	Invited lecture
2017	Appel thinning meeting in the The faculty of agriculture	Invited lecture
2017	Deciduous grower meeting in Metulla	Invited lecture
2017	Agricultural innovation, Golan Hights and Galilee	Invited lecture
2018	Deciduous grower meeting in Masmiya	Invited lecture
2018	Northern R&D Annual meeting for the Grape vine growers	Invited Lecture
2018	Northern R&D Annual meeting for Apples growers	Invited Lecture
2019	Annual meeting for the Grape growers Volcani center	Invited Lecture
2019	Northern R&D Annual meeting for Deciduous growers	Invited Lecture
2020	Northern R&D Annual meeting for Deciduous growers	Invited Lecture
2020	Annual meeting for the Grape growers Volcani center	Invited Lecture

Research Grants

National Competitive Grants

Year	Granting Source	Duration (years)	Role*	Title (short)	Budget (US \$ / year)	
					Total	Researcher
2013	Chief Scientist of the Ministry of Agriculture grant	1	CI	Development of a DSS system for apple trees thinning based on precision agriculture principles	10,000	10,000
2014	Chief Scientist of the Ministry of Agriculture grant	3	CI	Identification and development of cianamid substitute for dormancy release in table grapes and deciduous fruit trees.	29,000	29,000
2016	Chief Scientist of the Ministry of Agriculture grant	3	PI	Examination of imported clones from leading wine grapes species in Israel	40,000	40,000
2017	Chief Scientist of the Ministry	3	PI	Development of a practical	25,000	25,000

	of Agriculture grant and wine grape Production Board			pre-harvest irrigating regime, in order to reduce berry weight loss in Merlot and Shiraz cultivars		
2017	Chief Scientist of the Ministry of Agriculture grant and wine grape Production Board	3	CI	Criteria for leaf pulling in red and white wine grapes varieties as a tool for mechanization of the work.	37,500	20,000
2017	Chief Scientist of the Ministry of Agriculture grant	3	PI	Title: Early picking during April, of high quality sweet cherry, growing under High Tunnel structure	43,000	43,000
2018	Chief Scientist of the Ministry of Agriculture subsidies and the Jewish national fund	3	PI	Examination of New Deciduous cultivars in the Golan	67,500	67,500
2018	Chief Scientist of the Ministry of Agriculture subsidies and the Jewish national fund	3	PI	Examination of Comprehensive application of cyanamid substitute, for dormancy release in deciduous fruit trees	30,000	30,000
2018	Chief Scientist of the Ministry of Agriculture subsidies and the Jewish national fund	3	PI	Acclimation of blueberry varieties and the development of best practices for production in Israel	34,000	34,000
2018	Chief Scientist of the Ministry of Agriculture grant	4	CI	Late chemical thinning in Apple based on prediction of future abscission using molecular markers	14,000	14,000
2019	Chief Scientist of the Ministry of Agriculture grant and Production Board	3	PI	Development of agrotechnological methods to improve color in red apple cultivars in order to cope with import fruits	75,000	60,000
2019	Chief Scientist of the Ministry of Agriculture grant	3	PI	Development of high density Apple orchards in Israel	45,000	35,000
2019	Chief Scientist of the Ministry of Agriculture grant	3	CI	Berry Production as New High Profit Crops for Upper Galilee Farms	45,000	25,000
2020	Chief Scientist of the Ministry of Agriculture subsidies and the Jewish national fund	3	CI	Blueberry nutrition in order to improve production	75,000	37,000
2020	Chief Scientist of the Ministry of Agriculture subsidies and the Jewish national fund	3	PI	New training system aimed to reduce labor and increase yield and quality in Peach (<i>Prunus persica</i>)	50,000	50,000

Other Funds:

Year	Granting Source	Duration (years)	Role*	Title (short)	Budget (US \$ / year)	
					Total	Researcher
2013	Wine grape Production Board	3	PI	Development of tools in order to minimize the expression of the GLRaV-3 virus as a	13,000	13,000

				means decrease fruit load and wine quality		
2013	Wine grape Production Board	3	PI	Examination of imported clones from leading wine grapes species in Israel.	13,000	13,000
2015	grape Production Board	3	PI	Improve Crimson grape color	13,000	13,000
2018	MIGAL	1	CI	Reduce apple biennial bearing by using Giberrellin inhibitor	25,000	15,000
2019	Apple Production Board	3	PI	high density Apple orchards in Israel	37,000	30,000
2020	Apple Production Board	1	PI	Improve Apple production in Israel	90,000	90,000

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

Part II: LIST OF PUBLICATIONS

Marks:

S Student or post-doc under my supervision
* Equal contribution

Articles in Reviewed Journals

1. **Omer Crane**, Tamar Halaly, Xuequn Pang, Shimon Lavee, Avi Perl, Radomira Vankova & Etti Or (2012) Cytokinin-induced VvTFL1A expression may be involved in the control of grapevine fruitfulness. *Planta* Volume 235, 181-192
2. **Tamar Halaly**, **Xuequn Pang**, **Tamar Batikoff**, **Omer Crane**, **Alexandra Keren**, **Jaganatha Venkateswari**, **Aliza Ogrodoitch**, **Avi Sadka**, **Shimon Lavee**, **Etti Or** (2008) Similar mechanisms might be triggered by alternative external stimuli that induce dormancy release in grape buds. *Planta* Volume 228, pp 79-88
3. Tsvika Keilin, Xuequn Pang, Jaganatha Venkateswari, Tamar Halaly, **Omer Crane**, Alexandra Keren, Aliza Ogrodoitch, Ron Ophir, Hanne Volpin, David Galbraith, Etti Or (2007) Digital expression profiling of a grape-bud EST collection leads to new insight into molecular events during grape-bud dormancy release. *Plant Science*, Volume 173, 446-457
4. Xuequn Pang Tamar Halaly, **Omer Crane** Tsvicka Keilin, Alexandra Keren-Keiserman, Aliza Ogrodoitch, David Galbraith and Etti Or (2007) Involvement of calcium signalling in dormancy release of grape buds. *Journal of Experimental Botany*, Volume 58, 3249–3262.
5. Haberman, A., Ackerman, M., **Crane, O.**, Kelner, J. J., Costes, E., & Samach, A (2016) "Different flowering response to various fruit loads in apple cultivars correlates with degree of transcript reaccumulation of a TFL1-encoding gene." *The Plant Journal*.

2. Articles in reviewed journals in Hebrew

1. Dafni Yalin., M. Moy., Y. **Crane., O.** Zahavi., T. Ovadia., S. Dror., S. Levi., K. Mendelson., O (2017) Downy mildew in grape vine – a weather model for reducing fungicide application. Alon Hanotea, 71: 34-37.
2. Nalvizky., R. Sapir., G. Zahavi., T Crane., O (2014) Leaf roll virus symptoms in grapevine. A Correlation between symptoms and grape quality. Alon Hanotea, 68: 46-50.
3. **Crane., O.** Stern., R Sar Shalom., A Agiv., M. Doron., S. Grinblat., Y. Antman., S. Eraz., A (2015) Dormancy breaking in apple – substitute for hydrogen cyanamide. Alon Hanotea, 70: 34-39.
4. **Crane., O.** Stern., R Sar Shalom., A Agiv., M. Doron., S. Grinblat., Y. Antman., S. Eraz., A (2015) Dormancy breaking in pear – substitute for hydrogen cyanamide. Alon Hanotea, 70: 37-41.
5. **Crane., O.** Yehuda., Y. Zahavi., T. Harcabi., E (2018) Grape vine cv. Merlot imported clones in Israel. Alon Hanotea, 72: 39-43.

3. ARTICLES IN REVIEWED PROCEEDINGS

1. M.A. Flaishman, S.M. Cochavi, A. Faigenboim and **Omer Crane** (2017) Characterization of abscission-related pathways during early napple (*Malus x domestica* Borkh.) fruitlet development: a marker-assisted horticultural practices approach. International Symposium on Flowering, Fruit Set and Alternate Bearing 1229 (pp. 65-70).
2. Erez Amnon, Sar-Shalom Ayelet and **Crane Omer** (2020) Coping with global warming effects on reduced winter chilling for deciduous fruit trees. Agronomy

Part III: DESCRIPTION OF MAJOR ACHIEVEMENTS

Contribution to Agricultural and/or Environmental Sciences

I concentrate on applicative work, cooperating with extension guides and farmers. During my working years at the Northern R&D I have developed trust relationships with growers and various companies representatives around the country. These relationships help me focus on the applicative issues of my research and allow me to compare results from different regions and farmers which are not within immediate work frame.

- 2018 Results from Dormancy substitute research are already being used in agricultural. Based on our research 2 different dormancy breaking chemicals are accessible for farmers and are being used in different deciduous orchards. One of the chemical is Pick – up and the other is Armobreak – ArmoN.
- 2018 Early picking of high quality sweet cherry is showing a promising possibility and farmers are showing interest in adopting the methods for their fields.

- 2018 Based on our research new varieties of blueberry were already planted in different farms in the North of Israel.
- 2011 Results from my PhD suggest a new model for grape flower development. After the differentiation of the UCM and initial division into two arms, a tendril formation is regulated by genes responsible for inducing flower meristem at the tip of the arms, and therefore further branching is prevented. This differentiation is the default phenomenon in buds and shoots tip. In fertile buds, inhibiting the regulation of these genes by *VvTFLIA*, allows the UCM to continue branching, resulting in the differentiation of inflorescence. This genetic control mechanism is apparently controlled by plant hormones GA and cytokinin, and their relative ratio, which also regulates *VvTFLIA* expression (Crane et al., 2012).
- 2005 Timing of completion of inflorescence development within the mature bud in the subsequent winter is not conclusive. To facilitate future study of the effect of environmental and horticultural factors on this process, which affects final cluster structure and size, we used three *Vitis* homologs of the floral-organ-identity genes *APETALA1*, *PISTILLATA* and *AGAMOUS*, as markers for the detection of flower-organ primordia development during stages of dormancy, bud swelling and bud burst in mature hydrogen cyanamide (HC)-treated and control buds. Our data suggest that development of flower primordia starts only at bud burst and show a positive correlation between bud break and development of these primordia, suggesting that bud break is a prerequisite for the initiation of flower differentiation. The data also indicate renewal of cluster-branching activity at the bud-swelling stage.