Dr. Weissberg-Carmeli Mira

Curriculum Vitae

Personal Information

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Birth Date	29, April, 1978

Current Position

2017-Head of the unit for separation and identification of Metabolites at the Agricultural Research Organization (ARO) Volcani Center. I joined the ARO in 2008 (with a break of a year and a half) and established the Metabolomics unit, specializing in identification and quantification of small molecules (metabolites) using a variety of state-of-the-art MS-based instruments and analysis software.
The repertoire of capabilities includes identification of known and unknown small molecule based on accurate mass (UPLC-QTOF-MS), quantification of small molecule, including plant hormones, a variety of polyphenols and glycoalkaloids using triple-quad based MS (UPLC-Triple Quadrupole-MS), as well as identification and quantification of volatile molecules such as terpenes, sterols and fatty acids using HS-SPME/GC-MS. The unit functions in collaboration with many research groups in the ARO in diverse projects and is equipped to address most questions related to identification and quantification of small molecules.

2016-2017 - Chief Science Officer (CSO) at Esense - Lab.

2015-2016 - Eldan Electronic Instruments (Neopharm Group) - Mass Spectrometry Application Specialist - Life Science Division - Teaching and Training of Personnel on Advanced Mass Spectrometry Instruments.

2008-2015 - Head of the Metabolomics unit at ARO, Volcani Institute - Leading the Unit of Separation and Identification of Metabolites.

Education

2002-2007 - Tel-Aviv University - Direct Course towards Ph.D., Organic Chemistry. Subject of the Ph.D. Thesis: "*Oxygen Transfer Reactions Using the HOF•CH_3CN Complex*".
Supervisor: Prof. Shlomo Rozen. During this period, I acquired extensive experience in Multistep Organic Synthesis, Multinuclear NMR Spectroscopy, HPLC, GC, UV-Vis, Fluorescence and IR spectroscopy.
1999-2002 - Tel-Aviv University - B.Sc. Magna cum Laude, Chemistry.

Teaching Experience

2005-2007 - Tel-Aviv University - Teaching Assistant - Organic Chemistry for Undergraduate Medicine Students, Faculty of Medicine, Tel-Aviv.
2002-2007 - Tel-Aviv University - Laboratory Instructor - Laboratory in Organic/Advanced Organic Chemistry for Undergraduate Chemistry Students, School of Chemistry, Tel-Aviv.

Honors

1999- Award of the Israeli Ministry of Education and Culture.

2001- The "Amos De-Shalit" Award for Outstanding Students.
2005- The Dean Scholarship for Outstanding Research Students.

Publications

1. Rozen, S.; Carmeli, M. "From Azides to Nitro Compounds in a Few Seconds Using HOF•CH_3CN". *J. Am. Chem. Soc*. **2003**, *125* (27), 8118-8119.

2. Carmeli, M.; Rozen, S. "Synthesis of 1,10-*N,N'*-Phenanthroline Dioxides Using HOF•CH_3CN Complex". *J. Org. Chem.* **2005**, *70* (6), 2131-2134.

3. Carmeli, M.; Rozen, S. "Oxidation of Azides by the HOF•CH_3CN: A Novel Synthesis of Nitro Compounds". *J. Org. Chem.* **2006**, *71* (12), 4585-4589.

4. Carmeli, M.; Rozen, S. "A New Efficient Deprotection of Azines, Hydrazones and Oximes. An Excellent Route for Exchanging Oxygen Isotopes in Carbonyls". *Tetrahedron Lett*. **2006**, *47* (5), 763-766.

5. Carmeli, M.; Rozen, S. "A New Efficient Route for the Formation of Quinoxaline *N*-Oxides and *N,N'*-dioxides Using HOF•CH_3CN". *J. Org. Chem.* **2006**, *71* (15), 5761-5765.

6. Carmeli, M.; Shefer, N.; Rozen, S. "From Aldehydes to Nitriles, a General and High-Yielding Transformation Using HOF•CH_3CN Complex"**.** *Tetrahedron Lett*. **2006**, *47* (50), 8969-8972.

7. Shefer, N.; Carmeli, M.; Rozen, S. "General, fast, and high yield oxidation of thiols and disulfides to sulfonic and sulfinic acids using HOF•CH_3CN". *Tetrahedron Lett*. **2007**, *48* (46), 8178-8181.

8. Halpert, M.; Abu-Abied, M.; Avisar, D.; Moskovitz, Y.; Altshuler, O.; Cohen, A.; Weissberg, M.; Riov, J.; Gottlieb, H. E.; Perl, A.; Sadot, E. "Rac-dependent Doubling of HeLa cell area and Impairment of Cell Migration and Cell Cycle by Compounds from *Iris Germanica***"**. *Protoplasma* **2011,** *248*(4), 785-797.

9. Sinilal, B.; Ovadia, R.; Nissim-Levi, A.; Perl, A.; Weissberg, M.; Oren-Shamir, M. "Increased Accumulation and Decreased Catabolism of Anthocyanins in Red Grape Cell Suspension due to Magnesium Treatment". *Planta* **2011**, *234*(1), 61-71.

10. Shlalom, L.; Samuels, S.; Zur, N.; Shlizerman, L.; Zemach, H.; Weissberg, M.; Ofir, R.; Blumwald, E.; Sadka, A**.** "Alternate Bearing in Citrus: Changes in the Expression of Flowering Control Genes and in Global Gene Expression in ON- Versus OFF-Crop Trees. " *PLOS ONE,* **2012,** *7(10)*: e46930. doi:10.1371/journal.pone.0046930.

11. Curuk, S.; Cetiner, S.; Yalcın-Mendi, Y.; Weissberg, M.; Graber, E.; Gaba, V. "Food-Grade Sugar Can Promote Differentiation in Melon (Cucumis melo L.) Tissue Culture". *In Vitro Cell.Dev.Biol.-Plant* **2012**, *48*, 600–608.

12. Frydman, A.; Liberman, R.; Huhman, D. V.; Carmeli-Weissberg, M; Sapir-Mir, M.; Ophir, R.; Sumner, L. W.; Eyal. Y. "The Molecular and Enzymatic

Basis of Bitter/non-Bitter Flavor of Citrus Fruit; Evolution of Branch-Forming Rhamnosyltransferases under Domestication" the *Plant Journal* **2013,** *73*(1), 166-178.

13. Weissberg M. "Using Metabolomics in Basic & Applied Agricultural Research" *Volcani Voice* **2014**, *1*(1) 2-8.

14. Fidel, E.; Carmeli-Weissberg, M.; Yaniv, Y.; Shaya, F.; Raveh, E.; Porat, R.; Eyal, Y.; Carmi, N. "Breeding For New Grapefruit-Like Varieties with Low Furanocoumarins Content" *Food and Nutrition Sciences* **2016***, 7*, 90-101.

15. Liberman-Aloni, R.; Pienkny, S.; Schulze, E.; Carmeli-Weissberg, M.; Frydman, A.; Brandt, W.; Eyal, Y. "Structure-Function Studies of *Citrus* Flavonoid Sugar-Sugar/Branch-Forming Glycosyltransferases Reveal Amino Acid Residues Involved in Determining Sugar Donor Specificity" *Under Revision.*

16. Kumar, A.; Fogelman, E.; Weissberg, M.; Tanami, Z.; Veilleux, R. E.; Tokuhisa, J.; Ginzberg. I. "Potato Lanosterol Synthase is Involved with Differential Accumulation of Steroidal Glycoalkaloids in Tuber Flesh and Leaves" *In Preparation*.

Special Highlight

Prakash, G. K. S.; Etzon, M. "Direct Oxidation of Azides to Nitro Compounds" *Angew. Chem. Int. Ed*. **2004**, *43*, 26-28.

Technical Committee-562-Chemical and Physical testing methods in food