

YONGHUI DONG



EDUCATION

Oct.2010

Jun.2014

Trento University, Italy

PhD in Analytical Chemistry

Supervisors: Dr.Pietro Franceschi, Dr.Fulvio Mattivi & Prof.Guella Graziano

Thesis: Mass Spectrometry Imaging: Looking Fruits at Molecular Level

Sep.2008

Sep.2010

Bologna University, Italy

Munich University of Technology, Germany

BOKU University, Austria

Triple MSc. in Horticulture Science

Supervisors: Dr. Stefano Tartarini, Dr. Luca Dondini & Prof. Dieter Treutter

Thesis: QTL Analysis of Sugars and Organic Acids in Apricot

Sep.2003

Jun.2006

Northwest A&F University, China

BSc. in Bioengineering

Supervisor: Prof. Zhihui Cheng

Thesis: Effects of UV-C on the control of cucumber powdery mildew



RESEARCH EXPERIENCE

Jan. 2021

Present

Researcher

Tel Aviv University, Israel

Dec. 2014

Dec. 2020

Postdoctoral Research Fellow

Weizmann Institute of Science, Israel

Supervisor: Prof. Asaph Aharoni

CONTACT

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RESEARCH INTERESTS

- Mass Spectrometry Imaging
- Metabolomics
- Chemoinformatics

SKILLS

Programming Languages:

- R (9/10)
- Python (6/10)
- MATLAB (6/10)

R packages:

- MSbox
- Miso
- CCWeights
- RawHumus

Last updated on 2022-01-05.

Jul. 2014
|
Nov.2014

Research Associate

Trento University, Italy

Supervisor: Prof.Guella Graziano



PUBLICATIONS

2021

● **19. CCWeights: An R package and web application for automated evaluation and selection of weighting factors for accurate quantification using linear calibration curve**

Bioinformatics Advances, 1(1), vbab029

[Yonghui Dong](#), Tal Wachsmann, Liat Morgan, Ehud Gazit, Rune Isak Dupon Birkler

● **18. Characterization of the PRODUCTION OF ANTHOCYANIN PIGMENT 1 Arabidopsis Dominant Mutant using DLEMMA Dual Isotope Labeling Approach**

Phytochemistry, 186

[Yonghui Dong](#), Liron Feldberg, Ilana Rogachev, Asaph Aharoni

● **17. The GORKY glycoalkaloid transporter is indispensable for preventing tomato bitterness**

Nature Plant, 7, 468-480

Yana Kazachkova, Itay Zemach, Sayantan Panda, Samuel Bocobza, Andrii Vainer, Ilana Rogachev, [Yonghui Dong](#), Shifra Ben-Dor, Dorottya Veres, Christa Kanstrup, Sophie Konstanze Lambert, Christoph Crocoll, Yangjie Hu, Eilon Shani, Simon Michaeli, Hussam Hassan Nour-Eldin, Dani Zamir, Asaph Aharoni

2020

● **16. High mass resolution, spatial metabolite mapping enhances the current plant gene and pathway discovery toolbox**

New Phytologist, 2020, 228:1986-2002.

[Yonghui Dong](#), Prashant Sonawane, Hagai Cohen, Guy Polturak, Liron Feldberg, Shelly Hen Avivi, Ilana Rogachev, Asaph Aharoni

● **15. Rhizosphere microbiome mediates systemic root metabolite exudation by root-to-root signaling**

Proceedings of the National Academy of Sciences, 2020, 7:3874-3883.

Elisa Korenblum, [Yonghui Dong](#), Jędrzej Szymanski, Sayantan Panda, Adam Jozwiak, Hassan Massalha, Sagit Meir, Ilana Rogachev, Asaph Aharoni

2019

● **14. Miso: an R package for multiple isotope labeling assisted metabolomics data analysis**

Bioinformatics, 2019, 35:3524-3526.

[Yonghui Dong](#), Liron Feldberg, Asaph Aharoni

● **13. A Multilevel Study of Melon Fruit Reticulation Provides Insight into Skin Lignification Hallmarks**

Plant Physiology, 2019, 179:1486-1501.

Hagai Cohen, [Yonghui Dong](#), Jędrzej Szymanski, Justin Lashbrooke, Sagit Meir, Efrat Almekias-Siegl, Viktoria Valeska Zeisler-Diehl, Lukas Schreiber, Asaph Aharoni

- **12. In plaque-mass spectrometry imaging of a bloom-forming alga during viral infection reveals a metabolic shift towards odd-chain fatty acid lipids**
Nature Microbiology, 2019, 3:527-538.
Guy Schleyer, Nir Shahaf, Carmit Ziv, Yonghui Dong, Roy A Meoded, Eric JN Helfrich, Daniella Schatz, Shilo Rosenwasser, Ilana Rogachev, Asaph Aharoni, Jörn Piel, Assaf Vardi

- 2018 ● **11. DLEMMA-MS-imaging for identification of spatially localized metabolites and metabolic network map reconstruction**
Analytical Chemistry, 2018, 17:10231-10238.
Liron Feldberg, Yonghui Dong (co-first author), Uwe Heinig, Ilana Rogachev, Asaph Aharoni

- **10. Mapping of cell wall aromatic moieties and their effect on hygroscopic movement in the awns of stork's bill**
Cellulose, 2018, 25: 3827-3841.
Yael Abraham, Yonghui Dong, Asaph Aharoni, Rivka Elbaum

- 2017 ● **09. TLC surface integrity affects the detection of alkali adduct ions in TLC-MALDI analysis**
Analytical and Bioanalytical Chemistry, 2017, 409: 5661-5666.
Yonghui Dong, Ruggero Ferrazza, Andrea Anesi, Graziano Guella, Pietro Franceschi

- **08. Engineered gray mold resistance, antioxidant capacity, and pigmentation in betalain-producing crops and ornamentals**
Proceedings of the National Academy of Sciences, 2017, 14: 9062-9067.
Guy Polturak, Noam Grossman, David Vela-Corcia, Yonghui Dong, Adi Nudel, Margarita Pliner, Maggie Levy, Ilana Rogachev, Asaph Aharoni

- **07. Impact of tissue surface properties on the desorption electrospray ionization imaging of organic acids in grapevine stem**
Rapid Communications in Mass Spectrometry, 2016, 30: 711-718.
Yonghui Dong, Graziano Guella, Pietro Franceschi

- 2016 ● **06. More than pictures: when MS imaging meets histology**
Trends in Plant Science, 2016, 21: 686-698.
Yonghui Dong, Bin Li, Asaph Aharoni

- **05. Sample preparation for mass spectrometry imaging of plant tissues: a review**
Frontiers in plant science, 2016.
Yonghui Dong, Bin Li, Sergey Malitsky, Ilana Rogachev, Asaph Aharoni, Filip Kaftan, Aleš Svatoš, Pietro Franceschi

- **04. Identification of microRNAs and their targets associated with fruit-bagging and subsequent sunlight re-exposure in the “Granny Smith” apple exocarp using high-throughput sequencing**
Frontiers in plant science, 2016.
Dong Qu, Fei Yan, Rui Meng, Xiaobing Jiang, Huijuan Yang, Ziyi Gao, Yonghui Dong, Yazhou Yang, Zhengyang Zhao

- **03. Analytical capabilities of mass spectrometry imaging and its potential applications in food science**
Trends in Food Science & Technology, 2016, 47: 50-63.
Bin Li, Sage JB Dunham, Yonghui Dong, Sohee Yoon, Maomao Zeng, Jonathan V Sweedler
- 2015 ● **02. High production of small organic dicarboxylate dianions by DESI and ESI**
Journal of The American Society for Mass Spectrometry, 2015, 26: 386-389.
Yonghui Dong, Graziano Guella, Fulvio Mattivi, Pietro Franceschi
- 2012 ● **01. Combining intensity correlation analysis and MALDI imaging to study the distribution of flavonols and dihydrochalcones in Golden Delicious apples**
Journal of experimental botany, 2012, 63: 1123-1133.
Pietro Franceschi, Yonghui Dong, Kerstin Strupat, Urska Vrhovsek, Fulvio Mattivi



POSTERS & TALKS

- 2021 ● **Pixel-wise Colocalization Analysis for Metabolite Identification in Mass Spectrometry Imaging (Talk)**
Waterman Seminar Series on Bioinformatics (Germany)
- 2017 ● **Application of MS Imaging in Plant Sciences (Talk)**
Mass Spectrometry Imaging Symposium (France)
- **More than Pictures: When MS Imaging Meets Histology (Talk)**
Spring School for Advanced Imaging in Biological Research (Israel)
- 2015 ● **Mass Spectrometry Imaging of Plant Metabolites (Poster)**
Isranalytica 2015 (Israel)
- 2014 ● **Tissue Surface Properties Jeopardize Quantitative DESI Imaging of Organic Acids in Grapevine Stem (Poster)**
20th International Mass Spectrometry Conference (Switzerland)
- 2013 ● **MS Imaging of Metabolites in Fruits (Poster)**
3rd MS Food day (Italy)
- 2012 ● **MS Imaging of Small Metabolites in Fruits (Talk)**
Ourense Conference on Imaging Mass Spectrometry (Spain)



HONORS & AWARDS

- 2014 ● **COST Action FA1101 trainee fellowship in saffronomics, Spain**
- 2011 ● **Trento University PhD scholarship, Italy**
- 2010 ● **FEM GMPF scholarship, Italy**
- 2008 ● **Erasmus Mundus Scholarship, European Union**
- 2005 ● **Undergraduate Mathematical Modeling Contest, First Prize, China**