

# 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

Head: Dr. Shira Shaham-Niv

Dec. 2014

Dec. 2020

### Postdoctoral Research Fellow

Weizmann Institute of Science, Israel

Supervisor: Prof. Asaph Aharoni

## CONTACT

✉ [yonghui.dong@gmail.com](mailto:yonghui.dong@gmail.com)

🐙 [github.com/YonghuiDong](https://github.com/YonghuiDong)

☎ +972586302077

## RESEARCH INTERESTS

Mass Spectrometry Imaging

Metabolomics

Chemical Ecology

Chemoinformatics

## SKILLS

### Programming Languages:

R (8/10)

MATLAB (4/10)

Python (4/10)

### R packages:

MSbox

Miso

*Last updated on 2021-02-14.*

Jul. 2014

Nov.2014

## Research Associate

Trento University, Italy

Supervisor: Prof.Guella Graziano



## PUBLICATIONS

2021

### 17. The 'High $\alpha$ -tomatine' Locus Encodes a Glycoalkaloid Vacuolar Efflux Transporter Indispensable for Preventing Tomato Fruit Bitterness

Nature Plant, Accepted

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, Carmi 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

- 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**