

## Vito Aurelio Cerasola

14/01/1996

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### Work experiences

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**1 June 2023 –  
Current position**

*Bologna, Italy*

**UN-FAO Consultant agronomist  
Food and Agriculture Organization – United Nation**

Analysis of techno-economic convenience for farmers on the adoption of soil improvers generated by circular approaches from municipal waste management in selected North African countries.

**1 May 2021 –  
Current position**

*Bologna, Italy*

**Consultant agronomist for developing countries  
Alma Mater Studiorum – University of Bologna**

Involved in the project H2020 FoodLAND (grant agreement n. 862802). He is coordinating a work team, in collaboration with CEFA Onlus, to improve the food security of farmers in the rural area of Jendouba governorate in Tunisia. He designed and coordinated the activities aimed at the researching, developing, and implementing a small scale greenhouse for a simplified hydroponic system. He held training courses on realization of nutrient solution for simplified hydroponics.

He designed and planned a community garden to involve up to 56 farmers.

**1 May 2021 –  
1 Nov. 2021**

*Bologna, Italy*

**Research fellow  
Alma Mater Studiorum – University of Bologna**

Research fellowship in "Precision management system of irrigation and nutrition in vegetable crops". Open-field experiment on 8 hectares on a processing tomato farm in Ravenna province (Emilia Romagna, Italy). Management of the irrigation based on the FAO water balance sheet, as well as using the soil moisture sensors. Nitrogen fertilization was also managed according to crop reflectance data.

**1 Dec. 2020 –  
11 March 2021**

*Bologna, Italy*

**Consultant agronomist for developing countries  
IILA – Istituto Italo Latino Americano**

Technical consultancy for the realization of an urban community garden in the city of Atyrà, Paraguay (part-time, in smart-working). He designed and planned the technical work for the realization of an urban community garden

**1 June 2019 –  
1 Sept. 2019**

*Dajabòn,*

*Dominican Republic*

**Agronomist for developing countries  
IILA – Istituto Italo Latino Americano**

He followed the technical activities for the implementation of an experimental and demonstrational area of 5,000 sq.m within the project "Precision agriculture on the frontier territory Dominican Republic-Haiti" in the city of Dajabon. He followed the experimentation in the nursery defining the optimal nutrient solution for growing vegetables and tested alternative growing substrates.

**11 April 2018 –**

**Agricultural worker**

**15 July 2018**

*Bologna, Italy*

### **Biodiversity**

Agricultural activities were carried out, in particular, transplant, the realization of irrigation systems, the realization of simplified hydroponic systems, and training courses in simplified agriculture techniques for disadvantaged people

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## **Education**

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**Nov. 2021 –  
Current position**

*Bologna - Italy*

### **Ph.D. in Agricultural, Environmental, and Food Science and Technology**

*Alma Mater Studiorum – University of Bologna*

Project thesis entitled “Dynamic nitrogen fertigation with reflectance sensors: exploring modeling approaches to optimize N fertilization in processing tomato (*Solanum lycopersicum*, L.)”. Statistical and machine learning models are developed from multispectral and hyperspectral data to optimize the timing and the rate of dynamic nitrogen fertigation in vegetable crops. The developed models were also on field-validated.

**Oct. 2023 –  
March 2024**

*Valencia - Spain*

### **Ph.D. visiting student**

*Image Processing Laboratory (IPL) – Faculty of Physics, Universitat de Valencia*

Development of machine learning models to retrieve crop biophysical parameters and estimate the optimal N rate in vegetable crops. Implementation of hybrid protocols of machine learning with radiative transfer models in ARTMO (Matlab).

**Sept. 2018 –  
March 2021**

*Bologna - Italy*

### **M.Sc. in Agricultural Science and Technology**

*Alma Mater Studiorum – University of Bologna*

Thesis entitled: “Heavy metals risk pollution assessment of urban soils and vegetables grown in the city of Teresina”.

Voting: 110/110 cum laude and special mention of the commission

**Sept. 2017 –  
Febr. 2018**

*Madrid - Spain*

### **Visiting Erasmus student**

*Alma Mater Studiorum – University of Bologna*

Study of European Agricultural Policy, Marketing for Agrobusiness sector, and Spanish language

**Sept. 2015 –  
Oct. 2018**

*Bologna - Italy*

### **Bachelor in Economics and Marketing for the Agricultural Sector**

*Alma Mater Studiorum – University of Bologna*

Thesis entitled: “Current situation and future perspective of urban community gardens of the city of Bologna”. Adoption of a bottom-up approach to assess the limits and the needed actions to optimize the management of urban gardens of the city.

**Sept. 2010 –  
June 2015**

*Palermo - Italy*

### **High school Scientific diploma**

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## Teaching

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- June. 2023**                    **Agronomy and simplified hydroponics**  
*Alma Mater Studiorum – University of Bologna*  
*Bologna - Italy*                4 hours of teaching hours in the Master's program in Therapeutic Horticulture.
- June. 2023**                    **Simplified hydroponics**  
*Alma Mater Studiorum – University of Bologna*  
*Bologna - Italy*                4 hours of teaching hours in the Specializing school in Social Agriculture

## Scientific activity and awards

He qualify as *Expert of subject in Vegetable crops (AGR04)*. He published scientific papers and participated in different national and international scientific congresses. H-index=1

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### Publications

- **Cerasola, V. A.**, Perlotti, L., Pennisi, G., Orsini, F., & Gianquinto, G. (2022). Potential Use of Superabsorbent Polymer on Drought-Stressed Processing Tomato (*Solanum lycopersicum* L.) in a Mediterranean Climate. *Horticulturae*, 8(8), 718
- **Cerasola, V. A.**, Batista, L. P., Michelon, N., Orsini, F., Pennisi, G., de Arruda, F. P., ... & Gianquinto, G. (2022, August). Risk assessment for heavy metals in community gardens of the city of Teresina, Brazil. In *XXXI International Horticultural Congress (IHC2022): International Symposium on Urban Horticulture for Sustainable Food 1356* (pp. 263-270).
- **Cerasola, V.A.**, Di Marco, A., Pennisi, G., Orsini, F., Bona, S., Gianquinto, G (2023). Modeling canopy reflectance for precise nitrogen management. In: *Proceeding of European Conference of Precision Agriculture*
- **Cerasola, V. A.**, Pennisi, G., Orsini, F., Bona, S., & Gianquinto, G. (2023, November). Hybridization of Vegetation Index With Agroclimatic Data to Improve Biomass Estimation in Tomato for Precision N Management. In *2023 IEEE International Workshop on Metrology for Agriculture and Forestry (MetroAgriFor)* (pp. 86-91). IEEE.
- **Cerasola, V.A.**, Bona, S., Verrelst, J., Berger, K., Moretti, G., Mirone, F., ... Gianquinto, G. Hyperspectral imaging for precision nitrogen management: a comparative exploration of two methodological approaches to estimate the optimal N rate in processing tomato. *Computer and Electronics in Agriculture*. **Submitted**.
- **Cerasola, V. A.**, Pennisi, G., Orsini, F., Bona, S., ..., Gianquinto, G. (2024). Unveiling dynamic nitrogen (N) fertigation through reflectance sensors: toward a sustainable optimization of nitrogen use efficiency and greenhouse gases emissions in processing tomato. *Scientia Horticulturae*. **Submitted**
- **Cerasola, V. A.**, Jmayai, A., Jamai, D., ..., Gianquinto, G. (2024). Simplified hydroponics in Tunisia: assessing the charred straw as growing substrate for lettuce cultivation. In *V All African Horticultural Congress (AAHC2024)*. **In press**
- Appolloni, E., Pennisi, G., **Cerasola, V. A.**, ..., Biru, W. (2024). Frontier agriculture systems in the Mediterranean Region: current status and future opportunities. In *V All African Horticultural Congress (AAHC2024)*. **In press**
- Moretti, G., Michelon, N., **Cerasola, V. A.**, ..., Gianquinto, G. (2024). Enhancing water use efficiency (WUE) and yield in *Lactuca sativa*: a comparative study of simplified soilless cultivation (SSC) versus traditional soil-based systems in Colombia. In *V All African Horticultural Congress (AAHC2024)*. **In press**

- Indeche, A., Obeng, E., **Cerasola, V. A.**, ..., Santini, G. (2024). New technologies for urban vegetable production. In *V All African Horticultural Congress (AAHC2024)*. **In press**

### Scientific congresses and Scientific society memberships

- Member of the Italian Society of Horticulture (SOI), and International Society for Horticultural Science (ISHS).
- He participated in several national and international scientific congresses.
  - International Horticultural Congress, (ISHS, Angers, France 2022)
  - EUVRIN congress (Gent 2022, Lubjiana 2023, Tartu, 2024)
  - Congress of Horticulture and Floriculture of SOI (Catania 2021, Pisa 2022, Turin 2023, Padova 2024)
  - Landscape and Urban Agriculture Congress (ISHS, Catania, Italy 2021)
  - European Congress of Precision Agriculture (Bologna, June 2023)
  - V All Africa Horticultural Congress ISHS (Marrakech 2024)
- Organizer and chair of the webinar “Smart horticulture for a sustainable world” for students of the University of Bologna
- Co-organizer of the special session “Advances for new sensors and models for more sustainable protected cultivations” in Metrology for Agriculture and Forestry congress (6-8 November, Pisa, Italy) <https://metroagrifor.org/special-session-19>
- Chair of the special session “Tools for precision management of vegetable crops” in EUVRIN workshop in Tartu, Estonia, 2024

### Awards

Awarded with the AgroInnovation Award – 2018 for the best bachelor thesis in Economics and Environment section. The award was promoted by ImageLine and the Academy of Georgofili. The thesis was published on the AgroNotize website. <https://agronotizie.imagelinenetwork.com/agricoltura-economia-politica/2019/05/20/agricoltura-urbana-prospettive-di-sviluppo-dell-orticoltura-condivisa-di-bologna/63004>

### Training courses

- Proximal and remote sensing for precision agriculture (Italian Society of Agronomy, University of Padova, June 2022)
- Statistics for agricultural sciences (Italian Society of Agronomy, University of Palermo, July 2022)
- Protected cultivation (Italian Society of Horticulture, Pescia, 2024)

## Soft skills

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<b>Languages:</b>	<b>Italian:</b> Mother language <b>English:</b> Advanced (professional) <b>Spanish:</b> Advanced (professional)
<b>Software:</b>	Microsoft Office package (Word, PowerPoint, Excel), Rstudio, CurveExpert.
<b>Soft skills:</b>	Problem-solving, statistical analysis, reporting, communication, public speaking

Autorizzo il trattamento dei dati personali contenuti nel mio curriculum vitae in base all'art. 13 del D. Lgs. 196/2003 e all'art. 13 del Regolamento UE 2016/679 relativo alla protezione delle persone fisiche con riguardo al trattamento dei dati personali

