

**Ali T. Mohammed, Ph.D.**  
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### Professional Preparation

<i>Institution</i>	<i>Major/Area of Study</i>	<i>Degree</i>
University of Mosul, Iraq	Agricultural Mechanization	B.S.
University of Nebraska-Lincoln	Mechanized Systems Management	M.S.
University of Nebraska-Lincoln	Biological Engineering	Ph.D.

### Appointments

2024-present	Assistant Professor & Extension Specialist/Agronomist/Organic Cropping Systems University of Arizona
2023-2024	Post-Doctoral Research Associate, Daugherty Water for Food Global Institute-Biological Systems Eng. University of Nebraska-Lincoln
2020-2023	Post-Doctoral Research Associate, Biological Systems Eng. University of Nebraska-Lincoln
2015-2020	Graduate Research Assistant, Biological Systems Eng. University of Nebraska-Lincoln
2014-2015	Research Technologist, Biological Systems Eng. University of Nebraska-Lincoln
2011-2013	Graduate Research Assistant, Biological Systems Eng. University of Nebraska-Lincoln

### Selected Published Peer-Reviewed Journal Articles ([Google Scholar](#))

1. Irmak, S., **Mohammed, A. T.**, (2023) "Maize nitrogen uptake and use efficiency, partial factor productivity of nitrogen, and yield response to different nitrogen and water applications under three irrigation methods." [Irrigation and Drainage](#), 1-25.
2. Djaman, Koffi., **Mohammed, A.T.**, Koudahe, Komlan., (2023) "Accuracy of Estimated Crop Evapotranspiration using Locally Developed Crop Coefficients against Satellite-Derived Crop Evapotranspiration in a semiarid climate". [Agronomy](#), 13, 1937.
3. Irmak, S., **Mohammed, A. T.**, Durdik, M., (2023) "Maize nitrogen uptake, grain nitrogen concentration and root-zone residual nitrate nitrogen response under center pivot, subsurface drip and surface (furrow) irrigation." [Agricultural Water Management](#) 287, 108421.
4. Djaman, Koffi., Koudahe, Komlan., **Mohammed, A.T.**, (2022) "Dynamics of crop evapotranspiration of four major crops on a large commercial farm: Case of the Navajo Agricultural Products Industry, New Mexico, USA." [Agronomy](#), 12, 2629.
5. **Mohammed, A.T.**, Irmak. S., (2022) "Maize response to irrigation and nitrogen under center pivot, subsurface drip and furrow irrigation: Water productivity, basal evapotranspiration and yield response factors." [Agricultural Water Management](#), 271, 107795.
6. **Mohammed, A.T.**, Irmak. S., (2022) "Maize response to coupled irrigation and nitrogen fertilization under center pivot, subsurface drip and surface (furrow) irrigation: soil-water dynamics, evapotranspiration (ETc) and irrigation vs. ETc relationships." [Agricultural Water Management](#), 267, 107634.

7. Irmak, S., **Mohammed, A. T.**, Kukal, M. S. (2022) "Maize response to coupled irrigation and nitrogen fertilization under center pivot, subsurface drip and surface (furrow) irrigation: Growth, development and productivity." [\*Agricultural Water Management\*](#), 263, 107457.
8. Irmak, S., **Mohammed, A. T.**, Kranz, W. L., van Donk, S., and Yonts, C. D. (2020). "Irrigation-yield production Functions and irrigation water use efficiency response of drought-tolerant and non-drought-tolerant maize hybrids under different irrigation levels, population densities and environments." [\*Sustainability\*](#), 12, 358.
9. Irmak, S., Kukal, M. S., **Mohammed, A. T.**, Djaman, K. (2019). "Disk-till vs. no-till maize evapotranspiration, microclimate, grain yield, production functions and water productivity." [\*Agricultural Water Management\*](#), 216, 177-195.
10. **Mohammed, A. T.**, Irmak, S., Kranz, W. L., van Donk, S., and Yonts, C. D. (2019). "Grain yield, crop and basal evapotranspiration, production functions and water productivity response of drought-tolerant and non-drought-tolerant maize hybrids under different irrigation levels, and population densities: Part I. In western Nebraska's semi-arid environments." [\*Applied Engineering in Agriculture\*](#), 35(1), 61–81.
11. Irmak, S., **Mohammed, A. T.**, and Kranz, W. L. (2019). "Grain yield, crop and basal evapotranspiration, production functions and water productivity response of drought-tolerant and non-drought-tolerant maize hybrids under different irrigation levels, population densities and environments: Part II. In south-central and northeast Nebraska's transition zone and sub-humid environments." [\*Applied Engineering in Agriculture\*](#), 35(1), 83–102.
12. Barker, J. B., Heeren, D. M., Koehler-Cole, K., Shapiro, C. A., Blanco-Canqui, H., Elmore, R. W., Proctor, C. A., Irmak, S., Francis, C. A., Shaver, T. **Mohammed, A. T.** (2018). "Cover crops have negligible impact on soil water in Nebraska maize–soybean rotation." [\*Agronomy Journal\*](#), 110:1-13.
13. Irmak, S., Sharma, V., **Mohammed, A. T.**, Djaman, K. (2018). "Impacts of cover crops on soil physical properties: field capacity, permanent wilting point, soil-water holding capacity, bulk density, hydraulic conductivity, and infiltration." [\*Transaction of the ASABE\*](#), 61 (4): 1307–1321.

#### **Presentations (1 out 27)**

1. **Mohammed, A.T.**, Advancing Sustainable Organic Production Systems in Arizona. 2024 Arizona Winter Citrus & Date Palm Seminar. Dec 03, 2024. *Yuma Agricultural Center, Yuma, Arizona*

#### **Invited Presentations (1 out 6)**

1. **Mohammed, A.T.**, Coupled Irrigation and Nutrient Management Strategies for Sustainable IPM in Organic and Conventional Cropping Systems in Yuma. 2024 Yuma Fall IPM Seminar. 08/21/2024. *Yuma Agricultural Center, Yuma, AZ*

### **Courses Taught (*total of 2 courses taught or co-taught*)**

1. ASM404, Irrigation Principles & Management/Spring 2025/UAYuma
2. AGEN/MSYM 854, Irrigation Laboratory and Field Course/Summer 2022/UNL

### **Guest Lecturer and TA**

1. Ag. Systems Management/37students, Evapotranspiration topic, Oct 1<sup>st</sup>, 2024, UAYuma
2. MSYM 452/852/Irrigation Systems Management/22 students, Sprinklers topic, Nov 2<sup>nd</sup>, 2022, UNL
3. MSYM 452/852/Irrigation Systems Management/22 students, Irrigation Scheduling Applications topic, Oct 3<sup>rd</sup>, 2022, UNL
4. AGEN 350/Soil and Water Resources Engineering/20 students, Evapotranspiration topic, Sep 26<sup>th</sup>, 2022, UNL
5. TA for Soil and Water Resources Engineering AGEN 350/17 students-Fall 2021/UNL

Developed and modified the following lectures and lab exercises as part of the AGEN 350 course:

- Evapotranspiration lecture and lab exercises.
- Infiltration and Runoff lecture and lab exercises.
- Pumps and Pumping lecture and lab exercises.
- Irrigation Principles lecture and lab exercises

### **Mentoring Experience**

- Training three undergraduate students at the University of Arizona Yuma on designing experimental setups and installing wireless soil moisture and salinity sensors for iceberg lettuce systems, funded through **WAESO/NSF in the STEM field**. (*Undergraduate students: Gerardo Meza, Josett Clark, and Alejandra Garcia*) (09/2024-present).

### **Honors and Awards**

- **2022: Engineer of the Year Award** by the *ASABE Nebraska Section*.
- **2019: Bill A. and Rita L. Stout Outstanding International Graduate Student Award**. *University of Nebraska-Lincoln (UNL)*.
- **2019: Shear-Miles Fellowship Award**. *University of Nebraska-Lincoln (UNL)*.
- **2010: Iraqi Graduate Studies Program Scholarship** by the *Norman Borlaug Institute for International Agriculture at Texas A&M*.

### **Memberships**

- ASCE-EWRI-Evapotranspiration in Irrigation and Hydrology Committee (07/2020-present).
- ASABE-Natural Resources and Environmental Systems (NRES)-24 Irrigation Group (07/2017-present).
- ASABE-Natural Resources and Environmental Systems (NRES)-242 Surface Irrigation & Water Supply Group (07/2023-present).
- DSSAT- Crop Models and Applications (09/2015-present).
- American Society of Agricultural and Biological Engineers (ASABE).