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# Jacob P. Rix

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## Summary

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A highly motivated individual passionate about groundwater sustainability. Broad agronomic/engineering skillsets developed in the Midwest and Midsouth with respect to furrow and sprinkler irrigated production systems. Multi-year exposure to experimental design and research of soil moisture sensors/irrigation studies that involves careful thinking and creativity. A willingness to collaborate with multiple stakeholder groups and experience with extension-producer relations. A keen interest to familiarize with micro/drip irrigation in an arid climate and practice industry standard irrigation design.

## Education

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### **Mississippi State University, Starkville, Mississippi**

**Expected Graduation: December 2022**

- Master of Science in Plant and Soil Sciences with Agronomy Concentration
- GPA: 3.4 / 4.00
- Thesis (Approved for Graduation): Effects of Soil Management Practices on Water Infiltration and Maize Yield to Improve Mississippi River Valley Alluvial Aquifer Sustainability

### **University of Nebraska-Lincoln, Lincoln, Nebraska**

**August 2013 – May 2018**

- Bachelor of Science in Mechanized Systems Management
- Minors in Agronomy & Mathematics

## Skills

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- 2D & 3D AutoCAD/Drafting
- Adobe Premiere, InDesign, & Photoshop
- ArcGIS/ArcMap 10.4/QGIS
- Four years of high-school level Spanish literacy
- Microsoft Excel, Word, & PowerPoint
- SAS Statistical Software/R Studio

## Professional Experience

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**Research/Extension Associate (Mississippi State University, Delta Research & Extension Center,  
National Center for Alluvial Aquifer Research Center (NCAAR), Stoneville, MS)**

**February 2020 – Present**

### **Supervisor: Dr. Tsz Him Lo (Assistant Irrigation Research and Extension Professor)**

- Assist in the coordination of the NCAAR 2020 & 2021 Soil Moisture Monitoring Showcase
- Develop the Irrrometer Watermark factsheet series for extension outreach
  - [https://www.ncaar.msstate.edu/docs/Rix\\_MSSState\\_ShortPub\\_Watermark.pdf](https://www.ncaar.msstate.edu/docs/Rix_MSSState_ShortPub_Watermark.pdf)
- Assist in a research-based soybean irrigation scheduling study using soil moisture monitoring technology
- Assist in soil moisture sensor demonstrations on Mississippi Delta farms in coordination with local extension agents
- Published journal article titled “Effects of low-till parabolic subsoiling frequency and furrow irrigation frequency on maize in the Yazoo-Mississippi Delta” in the Agricultural Water Management Journal (Vol. 274)

**Supervisor: Dr. Christopher Henry (Associate Professor & Water Management Engineer)**

- Collaborate with Eastern Arkansas producers to implement on-farm irrigation water management tools (computerized hole selection, surge valves, soil moisture sensors, etc.) as part of the **“Most Crop Per Drop” Irrigation Yield Contest**
- Assistance in planning/design using AutoCAD Civil 3D to implement on-farm tail water recovery systems in support of the National Resource Conservation Service (NRCS)

## **Awards & Conferences**

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- Third place in the student poster competition at the 2022 Mississippi Water Resources Research Institute Conference
- Second place for Short Publications: Circular, Fact Sheet, Brochure in the 2021 ASA Extension Education Community Educational Materials Awards Program for the Irrrometer Watermark Factsheet Series
- Award of Merit for Tier Three: Tactical Materials/Projects Merit Awards from Southern Publication Relations Federation for the NCAAR website
- American Society of Agricultural and Biological Engineers 2021 Educational Aids Blue Ribbon for the NCAAR Soil Moisture Monitoring Showcase (<https://www.ncaar.msstate.edu/outreach/index.php#showcase>)
- 2021 ASA, CSSA, SSSA International Annual Conference student poster & presentation participant (Salt Lake City, UT)
- 2021 Irrigation Association E3 scholarship recipient (San Diego, CA)
- Two-day in-class instruction to prepare for the certified agricultural irrigation specialist exam
- Selected to represent the Nebraska Corn Board at the 2018 Corn Congress in Washington D.C.

## **Certifications**

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- Radiation Safety to handle CPN 503 Elite Hydroprobe to measure volumetric soil moisture
- IA's Certified Agricultural Irrigation Specialist – Expected to be achieved by the 2022 graduation date

## **Relevant Coursework**

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### **Graduate Level**

- Groundwater Resources Evaluation
- Irrigation Drainage/Engineering
- Soil Water Physics

### **Undergraduate Level**

- Hydrology
- Introduction to CAD
- Irrigation Systems Management
- Soil Conservation and Watershed Management
- Water Quality Strategy

## **Undergraduate Internship Experience**

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**Advisor: Chuck Burr**

**Position:** Nebraska Water and Integrated Cropping Systems Extension Educator (West Central Research and Extension Center, North Platte, NE)

**Topic:** On-farm center pivot assessments in coordination with the UNL Partners in Pollution Prevention Summer Program

**Advisor: Dr. Aaron Mittelstet**

**Position:** Watershed Hydrologist & Associate Professor in UNL Ag & Biosystems Dept.

**Topic:** Streambed vertical hydraulic conductivity evaluation in the Frenchman Creek Watershed in southwestern Nebraska