

## CHANGYOON JEONG

Associate Professor, Soil and Water Quality Management  
Louisiana State University

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### Education

Ph.D.	1998	Environmental Chemistry, Environmental Science Section, School of Biological Science, University of Nottingham, UK.
M.S.	1991	Agricultural Chemistry, Korea University, Seoul, Korea.
B.Sc.	1987	Agricultural Chemistry, Korea University, Seoul, Korea.

### Employment History:

July 2020 – Present:

Associate Professor at the Red River Research Station and the School of Plant, Environmental and Soil Sciences Louisiana State University Agricultural Center.

February 2014 – June 2020:

Assistant Professor at the Red River Research Station and the School of Plant, Environmental and Soil Sciences Louisiana State University Agricultural Center.

June 2008 – January 2014:

Research Scientist at the School of Plant, Environmental and Soil Sciences, Louisiana State University Agricultural Center.

November 2002 – May 2008:

Research Basin Coordinator at Department of Renewable Resources, the University of Louisiana at Lafayette.

January 2000 – October 2002:

Post-Doctoral Research Associate, Department of Agronomy, Kansas State University, Manhattan, KS.

### Adjunct & Graduate Faculty Appointments:

August 2015 – Present: Adjunct Professor

Department of Biological Science, College of Arts and Sciences, Louisiana State University at Shreveport, LA.

August 2015 – Present: Graduate faculty

School of Plant, Environmental and Soil Sciences, Louisiana State University Agricultural Center, Baton Rouge, LA.

**Research Goals:** The water quality research program focuses on validating and identifying best management practices (BMPs) to protect water quality and conserve soil and water resources. The different types of BMPs, such as constructed wetlands combined with tailwater, vegetated filter strip, conservation tillage, additional carbon application (Biochar & Hydrochar), surface-modified nitrogen application, monitoring greenhouse gas Emissions, and improved manure application, are introduced to enhance the quality of water and control nutrient losses.

### Research Support/Grant Activities

**Jeong, C.Y.,** J. Wang, M. Kongchum, X. Zhang, M. H. Lee. Climate-smart strategies of water management - cover crop system to enhance productivity, greenhouse gas mitigation, and soil health in rice production. USDA-NIFA, 6/01/2023 – 5/31/2026, \$649,957.

**Jeong, C.Y.,** J. Wang, S. Dodla. A comprehensive demonstration of using agricultural tailwater irrigation for southern crop production. USDA-NRCS-CIG, 9/01/2021 – 8/31/2025, \$595,172.

Dodla, S. **Jeong, C.Y.**, J. Wang, M. Kongchum, X. Zhang, Demonstration of Climate Smart Agricultural Solutions for Sugarcane and Rice Production in Southern USA. USDA- CIG on Farm. 3/01/2024 – 2/28/2027, \$1,036,830.

**Jeong, C.Y.**, S. Dodla, J. Wang, and X. Zhang. Fertility Loss via Soil Erosion and Runoff Water Quality from Rainfed and Irrigation Croplands. Louisiana Soybean & Grains Research and Promotion Board. 4/01/2021 - 3/31/2024, \$99,500.

### **Publications**

Farru, G., F.B. Scheufele, D.M. Paniagua, F. Keller, **C.Y. Jeong**, D. Basso. 2024. Business and Market Analysis of Hydrothermal Carbonization Process: Roadmap toward Implementation. *Agronomy*. 2024, 14, 541. <https://doi.org/10.3390/agronomy14030541>.

Chau, H.D., G. Cappai, J.W. Chung, **C.Y. Jeong**, B. Kulli, F. Marchelli, K.S. Ro, and S. Román. 2024. Research Needs and Pathways to Advance Hydrothermal Carbonization Technology. *Agronomy*, 2024, 14, 247. <https://doi.org/10.3390/agronomy14020247>.

Kim, M., **C.Y. Jeong**, M.J. Kim, J.H. Nam, C.K. Shin, and J.D. Shin. 2022. Evaluation of activated biochar - manure compost pellet fertilizer on volatile organic compound emissions and heavy metal saturation. *International Journal of Environmental Research and Public Health* 2022, 19, 12405. <https://doi.org/10.3390/ijerph191912405>.

Shin, J-D., D-G Park, S-G Hong, **C.Y. Jeong**, and H. Kim. 2021. Influence of activated biochar pellet fertilizer application on greenhouse gas emissions and carbon sequestration in rice (*Oryza sativa* L.) production. *Environmental Pollution*. 285(15): 117457. <https://doi.org/10.1016/j.envpol.2021.117457>.

Calderon, R.B., **C.Y. Jeong**, H-H. Ku, L.M. Coghill, Y.J. Ju., N. Kim, and J.H. Ham. 2021. Changes in the Microbial Community in Soybean Plots Treated with Biochar and Poultry Litter. *MDPI Agronomy*. 11:1428. <https://doi.org/10.3390/agronomy11071428>.

Wei, Z., J. Wang, L.M. Fultz, P. White, and **C.Y. Jeong**. 2020. Application of biochar in estrogen hormone-contaminated and manure-affected soils: Impact on soil respiration, microbial community and enzyme activity. *Chemospre*. <https://doi.org/10.1016/j.chemosphere.2020.128625>.

Dattamudi, S., J. Wang, S. Dodla, R. DeLaune, A. Hiscox, H. Viator, and **C.Y. Jeong**. 2020. Mass concentration and size distribution of particles released from harvesting and biomass burning of sugarcane. *Agricultural & Environmental Letters*. 2020;5:e20028. <https://doi.org/10.1002/ael2.20028>

Shin, J-D., S-W. Park, and **C.Y. Jeong**. 2020. Assessment of agro-environmental impacts for supplemented methods to biochar manure pellets during rice (*Oryza sativa* L.) cultivation. *MDPI energies*. *Energies* **2020**, 13, 2070; doi:10.3390/en13082070.

### *Book chapter*

Ducey T.F., **C.Y. Jeong**, and K.S. Ro. 2022. Renewable energy, cleaner environments, and sustainable agriculture from pyrolysis and hydrothermal carbonization of residuals. Chapter

30. p. 401-409. *In* Biochar in Agriculture for Achieving Sustainable Development Goals. D.C. Tsank and Y.S. Ok (eds), Elsevier, Academic Press,

*Conference Abstracts*

**Jeong, C.**, K. Ro, M. Lee, J.J. Wang. 2023. Effect of Biochar-TC and Biochar-HTC Amendments on Greenhouse Gas Emission and Water Quality in Tomato Production. ASA-CSSA-SSSA International Annual Meetings, Oct. 29- Nov. 1, St. Louis, MO. (Conference Abstract).

Dodla, S., P. Egbedi, **C. Jeong**, J.J. Wang, T. Setiyono. 2023. Tailwater As a Source of Irrigation for Soybean Production. ASA-CSSA-SSSA International Annual Meetings, Oct. 29- Nov. 1, St. Louis, MO. (Conference Abstract).

**Jeong, C.Y.**, J.H. Ham, J.D. Shin, K.S. Ro, M. Lee. 2022. Influence of pyrochar and hydrochar amendments on crop production and environmental remediation in Louisiana. ASA-CSSA-SSSA International Annual Meetings, Nov. 6-10, Baltimore, MD (Conference Abstract).

**Jeong, C.Y.**, S.H. Jeon, M.A. Blazier. 2021. Developing an Arduino-Maple Mini-Based Datalogger to Measure Real-Time CO<sub>2</sub> Gas Flux in Soil Systems. ASA-CSSA-SSSA International Annual Meeting, Nov. 7-10, Salt Lake City, UT. (Conference Abstract).

Han, K.J., **C. Jeong**, S. Kang, and A. Bratton. 2021. Evaluation of cover crop on row crop productivity through quantified soil health and crop production. ASA-CSSA-SSSA International Annual Meetings, Nov. 7-10, Salt Lake City, UT. (Conference Abstract).