

**Aneesh Kumar Chandel**  
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## EDUCATION

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| <b>PhD, Soil and Crop Sciences</b><br>Cornell University   | 2022- Present<br><b>Ithaca, NY, USA</b>   |
| Previously:<br>Northern Arizona University   | 2021-2022                                 |
| University of Central Florida  | 2020-2021                                 |
| <b>Master's in Agricultural Regulations</b><br>University of Arkansas at Pine Bluff<br>Major: Agricultural Regulations | 2018 - 2020<br><b>Pine Bluff, AR, USA</b> |
| <b>Bachelor's in Agricultural Sciences</b><br>Banaras Hindu University   | 2013 - 2017<br><b>Varanasi, India</b>     |

## RESEARCH INTERESTS

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- Data-model fusion
- Nature-based climate solutions
- Climate-smart agriculture
- Mathematical models for ecological forecasting
- Machine learning and artificial intelligence

## PROFESSIONAL EXPERIENCES AND TEACHING

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| <b>Graduate Research Assistant</b><br>Cornell University, Ithaca, NY, USA  | 2022 - Present |
| Thesis title: Evaluation and development of ecosystem models to understand belowground carbon and hydrological processes                   |                |
| University of Arkansas at Pine Bluff, Pine Bluff, AR, USA  | 2018- 2020     |
| Thesis title: Nitrogen-doped rice husk biochar to activate persulfate and to remove contaminants   |                |
| <b>Graduate Teaching Assistant</b><br>Instructor for two-week training course "New Advances in Land Carbon Cycle Modeling" by Dr. Yiqi Luo | 2022/2023/2024 |
| Teaching assistant for graduate-level course: Data-Model Fusion  | Fall 2023      |
| Department of Biological Sciences, Northern Arizona University   | 2021- 2022     |
| Department of Biology, University of Central Florida   | 2020-2021      |

## WORKSHOP AND INVITED TALK

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- Attended a workshop on "New Advances in Land Carbon Cycle Modeling" by Dr. Yiqi Luo May 17-28, 2021
- Invited talk at Climate Change, Bioenergy, and Biogeochemistry (CCBB), Tennessee State University 2023

## PUBLICATIONS

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### Research Articles

- **Chandel, A.K.**, Zhou, Yu., Cattry, Mitra., Duong, Hang., Litvak, Marcy., Pockman, William., Luo, Yiqi. Hydraulic redistribution decreases with precipitation in a dryland ecosystem. (*under review*)
- **Chandel, A. K.**, Jiang, Lifen., & Luo, Yiqi. (2023). Microbial Models for Simulating Soil Carbon Dynamics: A Review. *Journal of Geophysical Research: Biogeosciences*, e2023JG007436. <https://doi.org/10.1029/2023JG007436>
- Sharma, H. C., Chen, H., & **Chandel, A. K.** (2022). Biochar modification with hematite and goethite as efficient persulfate activation catalysts for sulfamethoxazole degradation: one-step biochar synthesis method and solution matrix effect on sulfamethoxazole removal kinetics. *Environmental Science and Pollution Research*, 29(55), 83931-83944. <https://doi.org/10.1007/s11356-022-21743-4>

### Book Chapters

- **Chandel, A.**, Chen, H., Sharma, H.C., Adhikari, K., & Gao, B. (2019). Beneficial microbes for sustainable agriculture. In Chandra, R.C., & Sobti, RC (Ed.), *Microbes for sustainable development and Bioremediation*. Boca Raton, CRC Press, Taylor & Francis Group. <https://doi.org/10.1201/9780429275876>
- Adhikari, K., Mahato, G, R., Chen, H., Sharma, H.C., **Chandel, A.**, Gao, B. (2019). Nanoparticles and their impacts on seed germination. *Plant growth regulation*, Springer, Germany. [https://doi.org/10.1007/978-3-030-36740-4\\_2](https://doi.org/10.1007/978-3-030-36740-4_2)

## SELECTED CONFERENCES AND PROFESSIONAL MEETINGS

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- **Chandel, A.K.**, Zhou, Yu., Cattry, Yu., Duong, Hang., Litvak, Marcy., Pockman, William., Luo, Yiqi. Hydraulic redistribution decreases with precipitation in a dryland ecosystem. AGU Fall Meeting, Washington, DC, Dec 9-13, 2024. (Poster)
- **Chandel, A.K.**, Zhou, Yu., Pockman, William., Litvak, Marcy., Luo, Yiqi. Investigating the role of hydraulic redistribution on water and carbon cycles in dryland ecosystems. AGU Fall Meeting, San Francisco, CA, Dec 11-16, 2023. (Poster)
- **Chandel, A.K.**, Jiang, Lifen., Luo, Yiqi. Microbial Models for Simulating Soil Carbon Dynamics: A Review of Model Structure. AGU Fall Meeting, Chicago, IL, Dec 12-16, 2022. (Poster)
- Sharma, H., **Chandel, A.**, Chen, H. Engineered Magnetic biochar with Hematite and Goethite for Efficient Activation of Persulfate. ASA-CSSA-SSSA Annual Meeting, San Antonio, TX, Nov 10-13, 2019. (Poster)
- **Chandel, A.**, Sharma, H., Chen, H. Effects of Cation on the Adsorption of Ciprofloxacin by Biochar". The 19th Biennial Research Symposium by Association of 1890 Research Directors (ARD), March 29- April 3, 2019, Jacksonville, Florida. (Poster)
- **Chandel, A.**, Sharma, H., Chen, H. Ciprofloxacin Removal by Biochar Derived from Rice Hull and Pine Needles. 63rd Annual Rural Life Conference, February 1, 2019, Pine Bluff, AR. (Poster)

## AWARDS AND FELLOWSHIPS

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- Awarded a fellowship of a grant of **\$5062**. Cornell Atkinson Center for Sustainability 2023
- Best Poster Award (3<sup>rd</sup> Place): "Activation of Persulfate by N-Doped Rice Husk Biochar for Contaminant Removal," ASA-CSSA-SSSA Annual Meeting, San Antonio, TX 2019

## LEADERSHIP ACTIVITIES

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- Secretary of the International Student Association, UAPB 2018-2019
- Secretary of Biology Graduate Student Association, UCF 2021

## ADDITIONAL INFORMATION

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- Programming: R, Python, FORTRAN, MATLAB, Git
- Laboratory: HPLC, ICP-MS, C/N Analyzer, Spectrophotometer, SEM, FTIR
- Software: MS Office (Word, Excel, and PowerPoint), ArcGIS

## References

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- 1. Prof. Yiqi Luo (Supervisor)**  
School of Integrative Plant Science  
Soil and Crop Sciences Section  
Cornell University  
**E-mail:** [yl2735@cornell.edu](mailto:yl2735@cornell.edu)
- 2. Prof. Marcy Litvak**  
Department of Biology  
University of New Mexico  
**E-mail:** [mlitvak@unm.edu](mailto:mlitvak@unm.edu)
- 3. Prof. William T. Pockman**  
Department of Biology  
University of New Mexico  
**E-mail:** [pockman@unm.edu](mailto:pockman@unm.edu)