

## Fatma Rekik (Ph.D.)

### Contact information

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### Education

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- 2020 Ph.D. International Agricultural Development (Soil Science), **Cornell University** (Nutrition and Agronomy minors)  
*Award-winning dissertation: [Soil Health; a Basis for Human Health: A study on the interlinkages between agronomic factors and human nutritional wellbeing in Jharkhand India](#) (**winner of the international 2020 Truog Outstanding dissertation award**)*
- 2017 M.S. Soil Science, **Cornell University** (Ag. Economics and International Ag. & Rural Dev. minors)  
*Thesis: [Soil Health in Smallholder Colombian Coffee Systems and Its Socio-Economic Implications](#)*
- 2015 B.S. Agricultural Sciences, **Cornell University** (Soil Science minor)
- 2013 A.S. General Sciences, **Northern Virginia Community College**

### Areas of Interest

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international agricultural development; soil health; nutrition; sustainability; carbon sequestration; socio-economics; smallholder farming systems; data collection and management; monitoring and evaluation; writing & editing

### Honors, Recognitions and Awards

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2021	<a href="#">Truog Soil Science Outstanding Dissertation Award</a>	Soil Science Society of America
2019	<a href="#">TCI Scholar</a>	Tata-Cornell Institute
2018	<a href="#">Graduate Student Scholarship Recipient</a>	Soil Health Institute
2016	<a href="#">McDonald Musgrave Award for Graduate Recognition</a>	Cornell University
2016	<a href="#">First Prize Winner-Student Poster Competition</a>	Soil Science Society of America
2015	<a href="#">NSF- Graduate Research Fellowship Recipient</a>	National Science Foundation
2015	<a href="#">MAGNA CUM LAUDE</a>	Cornell University
2015	<a href="#">Diversity Scholar</a>	USDA
2014	<a href="#">Golden Opportunity Scholar</a>	ASA, CSSA, SSSA
2013	<a href="#">SUMMA CUM LAUDE</a>	Northern Virginia Community College
2013	<a href="#">Silver Scholar-COCA-COLA Academic Team</a>	Phi Theta Kappa
2013	<a href="#">Scholar-All-USA Academic Team</a>	Phi Theta Kappa

2013	<u>SEAL Award</u>	Northern Virginia Community College (NVCC)
2011-15	Dean's <u>List</u> and Presidential <u>Scholar</u>	Cornell University; NVCC

## Grants, Fellowships and Funding

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- Tata-Cornell Institute Ph.D. research funding: **\$15,000**
- Graduate Student Conference Travel Grants amounting to **\$4,000** (2016-2019)
- National Science Foundation- Graduate Research Fellowship Program Recipient. 3 years of graduate tuition and stipend amounting to **\$102,000** (2015-2018)
- Youth Intercultural Summer Study Program Scholarship Recipient. Global Affairs Course (3 credits). Scholarship coverage of tuition, room and board and local travel expenses, amounting to **\$10,000** (Ankara, Turkey; 2013)

## Work Experience

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### Non-profit (R4D) -----

- Freelance Editor/ Reporting Specialist, UN-FAO, Part-time Homebased (2018–present)
  - ✓ Passed the FAO reporting/ editing examination in October 2018 administered in HQ.
  - ✓ Write, edit, review and translate dozens of FAO materials on an assignment-basis including Trust Fund and Technical Cooperation Program project documents, project terminal and annual reports, training manuals, project catalogues, questionnaires, and web content; (*Full list of deliverables appended below*)
  - ✓ Ensure the proper use of FAO STYLE and diplomatic syntax throughout documents.
- Post-Doctoral Fellow- Soil Remediation Scientist, International Center for Biosaline Agriculture, Dubai, UAE (2020–2022)
  - ✓ Developed projects, wrote proposals, and mobilized resources and partnerships for large multistakeholder international agricultural development projects.
  - ✓ Led the Saline Agriculture- Thematic 1 working group of the UN-FAO Global Framework on Water Scarcity in Agriculture (WASAG) including leading bi-weekly discussions over the span of 14 months and the development of a farmer's guidelines on soil and water salt-affectedness and their management.
  - ✓ Planned and conducted internal agricultural research related to sustainable soil management, including biochar, green waste management and composting. For the latter, I led a team of four to conduct a review study and publish the findings in a leading journal.
  - ✓ Proposed, planned and led a team of four for the upgrading efforts of the research laboratory including the digitization of historic laboratory data and the development of an Online Sample Submission Tool in CRM.
- Graduate Student Researcher, Cornell University, Ithaca, NY, USA (2015–2020)
  - ✓ Self-designed, managed and implemented a PhD research project in Jharkhand, India on the nexus of soil health and human health in rural subsistence tribal communities for better food and nutrition security. This included proposal writing, budgeting and sponsor recruiting and ended with reporting presenting and publication. For this, I led a team of seven enumerators, two project coordinators and two drivers for strategic

and efficient implementation of project objectives including surveying and sample collection.

- ✓ Researched the impact of soil health on Colombian smallholder coffee farmers' socio-economic wellbeing including enabling access to coffee cup quality premiums to offset the reduced revenue due to climate change. For this, I developed a scoring system that allows determining level of soil health on farms, correlating coffee quality to soil quality, and led extension work including organizing workshops for coffee farmers.
- ✓ Undertook biological, physical and chemical soil testing on both international and domestic soil samples, while practicing EPA regulations for quarantined soil samples.
- Intern, *Global Soil Partnership- UN-FAO, Rome, Italy (2017)*
  - ✓ Co-organized the Global Symposium on Soil Organic Carbon held in March 2017 in FAO HQ and attended by over 400 participants representing all regions of the world.
  - ✓ Co-authored (second author) "Soil Organic Carbon; the hidden potential" FAO book.
  - ✓ Jumpstarted the Global Soil Doctor's program.
  - ✓ Developed concept notes for multistakeholder projects.
  - ✓ Developed education material on soil health and communication material for dissemination in various outlets.
  - ✓ Developed concept for the inception of the Global Soil Painting competition as part of the public awareness campaign on the versatility of soils.
  - ✓ Translated educational material, press releases and policy briefs into Arabic.
- Intern, *Tunisian Ministry of Agriculture, Directorate of Diffusion of Innovations and Linking between Research and Extension, Tunis, Tunisia (Summer 2014)*
  - ✓ Developed international cooperation project proposals between the Korean and Tunisian ministries of agriculture.
  - ✓ Created an English version of the Directorate's webpage.
  - ✓ Independently and autonomously developed and conducted rural studies and farmer surveys on the effectiveness of federal extension and the role and impact of government research on farmer farming practices.
  - ✓ Proposed reforms and suggestions to government officials regarding improving government extension and boosting national agriculture production.
- Trainee/ Pathways Employee, *USDA - Natural Resource Conservation Services, Gainesville, TX (Summer 2013)*
  - ✓ Used survey equipment and performed common conservation practices and planning.
  - ✓ Developed increased awareness of soil survey, topographic map, the 5 principles of soil and soil health/ No-Til.
  - ✓ Provided consultation services and advised local farmers and ranchers on how to minimize input, and how to manage their resources efficiently.

#### Teaching-----

- Graduate Teaching Assistant: *Geographic Information Systems, Cornell University (Fall 2019)*

Co-planned weekly labs; assisted over 35 students in the use of ArcGIS software; explained subject matter.

- Co-developer of Soil Health Workshop in 1. Bihar, India (March 2018) and 2. Cauca, Colombia (January 2015)
  - ✓ Facilitated knowledge transfer of soil health principles for the establishment of a soil health laboratory at PUSA Bihar.
  - ✓ Developed and delivered a workshop for smallholder coffee farmers in Colombia on soil health score interpretation and management for sustainable coffee farming.
- Course Builder and coordinator: *Soil Health in Agricultural and Urban Environments*, Cornell University & Euro League for Life Sciences (Spring–Summer 2015)
  - ✓ Autonomously designed and coordinated a summer hands-on and theoretical course on soil health that included lab, workshop and field trips targeting international students hosted by Cornell University under the supervision of Professor Harold van Es.
  - ✓ Excellent evaluations were received on the course.
- Student Instructor, *Alternative Breaks: Urban Environments*, Cornell University (Spring 2014)

I led co-curricular meetings for 12 weeks covering environmental injustice in US urban environments and their effect on incarceration and led discussions on the role of horticultural therapy in aiding newly released men and women from prison reintegrate back into society. These curricular meetings culminated in a trip to NYC where my team and I did some voluntary gardening in disadvantaged schools and neighborhoods, in partnership with a local NGO – The Horticultural Society of New York.
- Teaching Assistant, *CSS 2110: Field Crops*, Cornell University (Fall 2014)

Co-planned lectures and weekly labs; set up lab materials and equipment; explained subject matter to students; facilitated the learning process.
- Math Instructor, *Master Math Lab*, Northern Virginia Community College (2011–2013)

Taught high-school-level math to college students to meet their college-level math prerequisite.

### **Professional Development, Service and Memberships**

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- 2020– Reviewer: Foundation for Food and Agriculture Research (FFAR) -- **Grants**  
Sustainability Journal (IF 2.6) -- **Article**
- 2019 **Global Shaper**, Ithaca Hub - World Economic Forum
- 2017 **Nominated** by Department Chair of Soil and Crop Science Section at Cornell University to serve as Student Representative in the Faculty Search Committee for the position of International Cropping Systems.
- 2016 **Nominated** by department graduate student to serve in the Graduate Student Association of the Soil and Crop Science Section at Cornell University
- 2014 Certified permaculturist from Finger Lakes Permaculture Institute
- 2014 Certified and trained in EPA's Worker Protection Standard for greenhouse work
- 2014- Member of American Society of Agronomy, Soil Science Society of Agronomy and Crop Science

## Skills

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Languages	Fluent in English, Arabic and French, both written and verbal. Rudimentary knowledge of Spanish and Italian
Leadership	President of student body; elected with a college-wide (across all six campuses) record breaking votes in 2013. During which I unified campus clubs, honed conflict resolution skills by resolving campus issues, initiated campus-wide events and charitable programs, modeled presidency for The Johns Hopkins Carey Business School and NVCC Manassas Campus, met with state legislators about the importance of student public engagement, was featured in NVCC Website “My Story” section.
Communication	Scored 4.0/4.0 in PhD Oral Exam at Cornell Univ. Moderated televised debates of youth in Tunis, Tunisia organized by SAWTY.
Public Speaking	Chosen amongst 974 graduates to present at the Commencement Class of 2013
Writing	Scored 4.0/4.0 in dissertation writing in PhD assessment
Editing	Passed the rigorous FAO editing exam
Cultural	Vast international living experience for professional and personal purposes in both developed and developing countries.
Computer	<ul style="list-style-type: none"><li>▪ Microsoft 365 (Excel, PowerPoint, Word, Access, Outlook, Teams, OneDrive)</li><li>▪ R Statistical Software (for data analysis)</li><li>▪ Python Programming Language</li><li>▪ ArcGIS and QGIS (for mapping, geospatial analysis and resource inventory)</li></ul>

## Publications

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1. Hussein, L., Uren, C., **Rekik, F.**, Hammami, Z. (2021). A Review on Waste Management and Compost Production in the Middle East–North Africa Region. *Waste Management & Research: The Journal for a Sustainable Circular Economy*. <https://doi.org/10.1177%2F0734242X211068236>
2. **Rekik, F.**, van Es, H. (2021). Soil Health – Human Health nexus: Mineral Thresholds, Interlinkages and Rice System in Jharkhand, India. *Advances in Agronomy*. Volume 172. <https://www.sciencedirect.com/science/article/abs/pii/S0065211321000985?dgcid=author#>
3. **Rekik, F.**, van Es, H., Hernandez-Aguilera, J. N., & Gómez, M. I. (2020). Understanding soil health and associated farmers' perceptions in Colombian coffee systems. *Journal of Soil and Water Conservation*, 75(4), 499-504. DOI: <https://doi.org/10.2489/jswc.2020.00107>
4. **Rekik, F.**, van Es, H., Hernandez-Aguilera, J. N., & Gómez, M. I. (2019). Linking Coffee to Soil: Can Soil Health Increase Coffee Cup Quality in Colombia?. *Soil Science*. DOI: <https://doi.org/10.1097/SS.0000000000000248>
5. **Rekik, F.**, van Es, H., Hernandez-Aguilera, J. N., & Gómez, M. I. (2018). Soil health assessment for coffee farms on andosols in Colombia. *Geoderma Regional*, 14, e00176. DOI: <https://doi.org/10.1016/j.geodrs.2018.e00176>
6. Lefèvre, C., **Rekik, F.**, Alcantara, V., & Wiese, L. (2017). Soil Organic Carbon: the Hidden Potential.

Food and Agriculture Organization of the United Nations (FAO).

<https://www.fao.org/documents/card/en/c/ed16dbf7-b777-4d07-8790-798604fd490a/>

### Research Presentations

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1. **Rekik, F.**, H.M. van Es, J.N. Hernandez-Aguilera, M.I. Gómez. Understanding Soil Health and Associated Farmers' Perceptions in Colombian Coffee Systems. Poster presentation and published abstract. ASA-CSSA-SSSA Conference, Nov 6-9, 2016. Phoenix, Arizona. **(1<sup>st</sup> prize)**
2. **Rekik, F.**, H.M. van Es, J.N. Hernandez-Aguilera, M.I. Gómez. Soil Health in Smallholder Colombian Coffee Systems and its Socio-Economic Implications. Oral presentation and published abstract. ASA-CSSA-SSSA Conference, Nov 6-9, 2016. Phoenix, Arizona.
3. **Rekik, F.**, H.M. van Es, J.N. Hernandez-Aguilera, M.I. Gómez. Soil Health in Smallholder Colombian Coffee Systems and its Socio-Economic Implications. Oral presentation. Department Seminar- Cornell University, Nov 25, 2016. Ithaca, New York.
4. **Rekik, F.**, H.M. van Es, J.N. Hernandez-Aguilera, M.I. Gómez. Soil Health in Smallholder Colombian Coffee Systems and its Socio-Economic Implications. Oral presentation. Soil Health Workshop- DRPCAU, Mar 6-9, 2017. Bihar, India.
5. **Rekik, F.**, H.M. van Es, P. Pingali. Connecting Soil Health to Human Health. Oral presentation. Tri-Societies Annual Meeting, Nov 10-13, 2019. San Antonio, TX USA.

### Writing, Editing and Translating

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1. FAO. 2020. Resources, Partnerships – Impact 2020. Rome. License: CC BY-NC-SA 3.0 IGO. (Editing)
2. FAO. 2020. FAO + LUXEMBOURG BUILDING PROSPERITY FOR A ZERO HUNGER WORLD. (Editing)
3. FAO. 2020. United States of America and FAO, Enhancing food security. Protecting global stability. Promoting trade. (Editing)
4. FAO. 2020. Canada and FAO, Partnering to build resilience and women's empowerment for food and nutrition security (Editing)
5. FAO. 2020. FAO + New Zealand, Advancing food security and resilience (Editing)
6. FAO. 2020. OP:UTF/LIB/051/LIB Terminal Report. TECHNICAL ASSISTANCE FOR THE FURTHER DEVELOPMENT OF THE SANITARY AND PHYTOSANITARY-RELATED LEGAL FRAMEWORK (Writing)
7. FAO. 2020. COVID-19 Response Concept notes (English to Arabic)
8. FAO. 2021. Catalogue: "Sustainable mechanization for women farmers: Examples from Nepal" (Editing)
9. FAO. 2021. A report on the "Review of successful business model on public-private owned service centres for mechanization in Nepal, Asian region and beyond" (Copy-Editing).
10. FAO. 2021. Training of Trainers Manual on the Operation, Maintenance and Repair of Farm Machinery (Copy-Editing).