

## S. Carolina Córdova, PhD.

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### EDUCATION

2013 - 2018 **Ph.D. in Soil Science**, Iowa State University, Ames, IA.  
2004 - 2011 **B. Eng. Agro-Industry**, Tecnica del Norte University, Ibarra, Ecuador.

### PROFESSIONAL APPOINTMENTS

2022 - **Assistant Professor and Statewide Soil Health Specialist**, Department of Agronomy and Horticulture, University of Nebraska, Lincoln, NE.  
2018 - 2022 **Postdoctoral Research Associate**, W.K. Kellogg Biological Station (KBS) and Department of Plant, Soil and Microbial Sciences, Michigan State University, Hickory Corners, MI. Advisor: G. Phil Robertson.  
2018 - 2022 **Field Site Research Coordinator**, Great Lakes Bioenergy Research Center (GLBRC), Michigan State University.  
2013-2018 **Graduate Assistant Researcher**, at Iowa State University, Ames, IA  
PI: Sotirios Archontoulis, Co-PI: Michael J. Castellano, Mark Licht  
2011 - 2012 **Research Assistant**, Iowa State University, Ames, IA.  
PIs: Michael J. Castellano and John Sawyer.

### GRANTS AND FELLOWSHIPS

2024

**USDA-NRCS, USD\$362,585.** *Climate-Smart Agriculture: Building Capacity Among Agricultural Advisors and Producers.* Role: **PI**  
**Nebraska Soybean Board, USD\$16,750.** *Nebraska Soil Health Events.* Role: **PI**.  
**USDA-NIFA-AFRI, USD\$ 598,000.** *Fostering the next generation of inclusive agricultural and natural resources professionals.* Role: **co-PI** with M. Mamo (PI).

2023

**USDA NRCS, USD\$ 107,252.** *Development of a color chart for estimating organic carbon in Nebraska soils.* Role: **co-PI** with J. Turk (PI).  
**Nebraska Soybean Board, USD \$15,000.** *Nebraska Soil Health and Cover Crop Conference.* Role: **co-PI** with K. Koehler-Cole (PI).  
**USDA-NRCS, Subaward, USD \$500,000.** *Climate-smart advances in Ag performance.* Role: **co-PI** with D. Rudnick (PI).  
**UNL ARD Bridge Funding, USD \$375,000.** *Response of a Man-Made Forest to the Catastrophic Wildfires of 2022: Recovery of the Sandhills Halsey Nebraska National Forest.* Role: **co-PI** with T. Awada (PI).  
**Nebraska Soybean Board, USD \$7,000.** *Eastern Nebraska Soil Health Conference.* Role: **co-PI** with K. Kohler-Cole (PI).  
**USDA-SARE, USD\$ 1,950.** *Partnership development with Kansas Black Farmers Association (KBFA).* Role: **co-PI** with M. Mamo (PI).

2022

**Environmental Defense Fund, USD \$298,433.** *Assessing a suite of indicators to predict soil carbon trajectories in agricultural systems.* Role: **co-PI** with C. Sprunger (PI, Michigan State University).

2020

**Professional Development Grant, USD \$1,000.** W. K. Kellogg Biological Station, Michigan State University, Hickory Corners, MI.

2018

**Reiman Gardens Science Communication Fellow, USD \$200.** Iowa State University, Ames, IA.

2017-2018

**Women's and Diversity Grant Project, USD \$11,000.** Dept. Diversity and Inclusion, Iowa State University, Ames, IA. Project: *Building Gender Parity in Agricultural Leadership Roles through Tailored Professional Development*. Role: **co-PI** with K. Taylor (PI, Iowa State University).

*Proposals submitted 2024-2025*

**USDA-NIFA-AFRI, Partnership: Application of an Interpretable Neural Network Model to Predict Complex Soil Responses to Land Management Practices.** Role: **co-PI** with Amy Schmidt (PI).

### **PEER-REVIEWED PUBLICATIONS**

**National Academies of Sciences, Engineering, and Medicine.** Clegg, M., **Córdova, S.C.**, Davidson, E., Mccarl, B., Pfromm, P., Silverstein, J., 2024. Review of the U.S. Farmers and Ranchers in Action White Paper on Building a Scientific Roadmap to a Carbon-Negative Agricultural System. Washington, DC: The National Academies Press. <https://doi.org/10.17226/27471>

**Córdova, S.C.**, Curtis, D., Liebig, M., Cavigelli, M.A., Huggins, D., Robertson, G.P. 2024, LTAR Soil organic carbon stocks and change. *Protocols.io*

[dx.doi.org/10.17504/protocols.io.q26g7yo1kgwz/v1](https://dx.doi.org/10.17504/protocols.io.q26g7yo1kgwz/v1)

King, A.E., Amsili, J.P., **Córdova, S.C.**, Culman, S., Stewart, C.E., Cotrufo, M.F., Olk, D.C., *et al.*, Constraints on mineral-associated and particulate organic carbon response to regenerative management: Carbon inputs and saturation deficit. *Soil & Tillage Research* 238, 1-10.

<https://doi.org/10.1016/j.still.2024.106008>

Moore K.J., **Córdova, S.C.**, 2023. Tiller demography within synthetic grass populations. *XXV International Grasslands Congress Proceedings (IGC 2023)* 217-221. <https://doi.org/10.52202/071171-0050>

King, A.E., Amsili, J.P., **Córdova, S.C.**, Culman, S., Stewart, C.E., Cotrufo, M.F., Olk, D.C., *et al.*, 2023. A soil mineral capacity index predicts mineral-associated but not particulate organic carbon across a range of climate, carbon input, and soil pH. *Biogeochemistry* 1-14. <https://doi.org/10.1007/s10533-023-01066-3>

Eaton, W., Robertson, T., Arbuckle, J., **Córdova, S.C.**, *et al.*, 2022. Advancing Scholarship and Practice of Stakeholder Engagement in Working Landscapes: a co-produced research agenda. *Socio-Ecological Practice Research* 4, 283–304 (2022). <https://doi.org/10.1007/s42532-022-00132-8>

Ciampitti, I.A., de Borja Reis, A.F., **Córdova, S.C.**, Castellano, M.J., Archontoulis, S.V., Correndo, A., Antunes De Almeida, L.F., Moro Rosso, L., 2021. Revisiting biological nitrogen fixation dynamics in soybean. *Frontiers Plant Science* 12:727021 <https://doi.org/10.3389/fpls.2021.727021>

Mosier, S., **Córdova, S.C.**, Robertson, G.P. 2021. Restoring Soil Fertility on Degraded Lands to Meet Food, Fuel, and Climate Security Needs via Perennialization. *Frontiers in Sustainable Food Systems* 5:706142 <https://www.frontiersin.org/articles/10.3389/fsufs.2021.706142/full>

**Córdova, S.C.**, Licht, M., Castellano, M.J., Archontoulis, S. V. 2020. Soybean profitability and yield component response to nitrogen fertilizer in Iowa. *Agrosystems, Geosciences and Environment* 3(1):1-16 <https://doi.org/10.1002/agg2.20092>

Archontoulis, S.V., Castellano, M.J., **Córdova, S. C.**, *et al.*, 2020. Predicting Crop Yields and Soil-Plant Nitrogen Dynamics in the US Corn Belt. *Crop Science* 60(2): 721-738 <https://doi.org/10.1002/csc2.20039>

**Córdova, S.C.**, Castellano, M.J., Dietzel, R., Licht, M.L., Togliatti, K., Martinez-Feria, R., Archontoulis, S.V. 2019. Soybean nitrogen fixation dynamics in Iowa, USA. *Field Crops* 236: 165-176 <https://doi.org/10.1016/j.fcr.2019.03.018>

- Córdova, S.C.**, Olk, D., Dietzel, R., Muller, K., Archontoulis, S.V., Castellano, M.J. 2018. Plant litter quality affects the accumulation rate, composition, and stability of mineral-associated soil organic matter. *Soil Biology and Biochemistry* 125: 115-124 <https://doi.org/10.1016/j.soilbio.2018.07.010>
- Ordóñez, R.A., Castellano, M.J., **Córdova, S.C.**, Togliatti, K., Wright, E., Archontoulis, S.V., *et al.*, 2017. Maize and soybean root front velocity and maximum depth in Iowa, USA. *Field Crops Research* 15: 122-131 <https://doi.org/10.1016/j.fcr.2017.09.003>

#### Manuscripts in advanced preparation

- Freidenreich, A., **Córdova, S.C.**, Awada, T., Khorchani, M., Birru, G., Kettler, T., Schmer, M., Suyker, A., Smith, T., Jin, V., *Cropland common experiment in the Platte River High Plains Aquifer Long-Term Agroecosystem Research Site. (in-review)*
- Córdova, S.C.**, Kravchenko A. N., Miesel, J., Robertson, G. P., Whole-profile soil carbon and nitrogen change after 25 years along an agricultural management gradient (*in-review*)
- Córdova, S.C.**, Gelfand, I., Kravchenko, A. N., Robertson, G. P., Root-to-Shoot ratios and contributions to soil carbon by perennial bioenergy crops in the Upper Midwest US (*advanced preparation*)
- Córdova, S.C.**, Moore, K. J., Robertson, G. P., Switchgrass tiller demography as influenced by ecotype and its relationship to carbon and nitrogen dynamics. (*advanced preparation*)
- Córdova, S.C.**, Nuccio, E., Roley, S., Hamilton, S., Robertson, G. P., Associative N<sub>2</sub> fixation variability in upland and lowland switchgrass ecotypes (*advanced preparation*)
- Córdova, S.C.**, Robertson, G. P., Chemical compositional differences among bioenergy switchgrass varieties and sorghum hybrids (*advanced preparation*)

#### Outreach and Other Publications

- Roberson, B., **Córdova, S.C.**, Turk, J., 2024. Soil color chart to estimate organic matter concentrations for Eastern Nebraska. UNL Extension Handout
- Córdova, S.C.** (02/05/2024) Technology and Soil Health. *UNL FarmBits Podcast*, Part 1. <https://mediahub.unl.edu/media/21889> & Part 2. <https://mediahub.unl.edu/media/21923>
- Córdova, S.C.** (01/03/2024) UNL Soil Health celebrates a year of success in advancing sustainable agriculture. <https://cropwatch.unl.edu/2024/unl-soil-health-team-celebrates-year-success-advancing-sustainable-agriculture>
- Córdova, S.C.** (07/27/2023) Register for the last summer soil health and cover crop field day near Mead. <https://cropwatch.unl.edu/2023/register-last-summer-soil-health-and-cover-crop-field-day-near-mead>
- Córdova, S.C.** (07/06/2023) Soil Health statewide leadership team meets to strengthen collaborative efforts. <https://cropwatch.unl.edu/2023/soil-health-statewide-leadership-team-meets-strengthen-collaborative-efforts>
- Córdova, S.C.**, (11/09/2023). Fridays with a scientist: Dr. Caro Córdova of UNL Agronomy – Soil Health. *CropWatch Podcast*, <https://cropwatch.unl.edu/2023/fridays-scientist-dr-caro-cordova-unl-agronomy-%E2%80%94-94-soil-health>.
- Vásquez, J., **Córdova, S.C.** 2023. Guía de producción sustentable de hortalizas y frutas *Revista El Agricultor*, Universidad Central del Ecuador (*in-press*)
- Eaton, W., Robertson, T., Arbuckle, J., **Córdova, S.C.**, *et al.*, 2022. Advancing scholarship and practice of stakeholder engagement in working landscapes. *ScholarSphere* Penn State University. [doi.org/10.26207/b8rt-5q47](https://doi.org/10.26207/b8rt-5q47)
- Córdova, S.C.**, Black, brown, red, and orange poem. W.K. Kellogg Biological Station Summer Art Anthology, I. Michigan State University, 2019, pp. 8-9.
- Córdova, S.C.**, An ode to the soil's soul. W.K. Kellogg Biological Station Summer Art Anthology, I. Michigan State University, 2019, pp. 28-30.
- Archontoulis, S.V., Castellano, M.J., Dietzel, R., **Córdova, S.C.**, Togliatti, K., Helmers, M., *et al.*, 2016. Understanding the 2016 yields and interactions between soils, crops, climate, and management.

Proceedings of the 28<sup>th</sup> Annual Integrated Crop Management Conference, Iowa State University.

<https://lib.dr.iastate.edu/icm/2016/proceedings/2>

Castellano, M.J., Archontoulis, S.V., **Córdova, S.C.**, Dietzel, R., Poffenbarger, H., 2016. Nitrogen myths and realities. Proceedings of the 28<sup>th</sup> Annual Integrated Crop Management Conference, Iowa State University.

<https://lib.dr.iastate.edu/icm/2016/proceedings/26>

## **TEACHING & MENTORSHIP**

### Courses

- 2024/Fall **Instructor** - Soil Health and Environment NRES/SOIL 255 (3cr.), 13 students.  
Class TA: Bellodgia Roberson – MS student Agronomy Dpt., UNL.  
**Guest Lecturer**
- *UNL Office of Global Partnerships & Initiatives* - Kobe University, **XX** visiting scholars. Japan Outreach Initiative and the IANR Global Engagement Program, University of Nebraska-Lincoln. Topic: Sustainability and Resilience of Agricultural Systems. Sept. 21.
- 2023/Fall **Instructor** - Soil Health and Environment NRES Special Topic 299 (3cr.), 17 students.  
Class TA: Will Hernandez - senior undergrad Environmental Science, UNL.  
**Guest Lecturer**
- *UNL Intro to Environmental Science* - NRES 115, 2 hour, 25 students. University of Nebraska-Lincoln. Topic: Soil Problems and Conservation. Nov 15 and 17.
  - *UNL Office of Global Partnerships & Initiatives* - Kobe University, 15 visiting scholars. Japan Outreach Initiative and the IANR Global Engagement Program, University of Nebraska-Lincoln. Topic: Sustainability and Resilience of Agricultural Systems. Sept. 21.
- 2023/Spring **Instructor** - Agroecology AGRO, HORT, & NRES 435/835 (3cr.), 41 students.  
**Guest Lecturer** - Introduction to Ecological Engineering BSEN 355, 1 hour, 25 students. Department of Biological Systems Engineering, Feb. 21.
- 2022/Fall **Guest Lecturer**
- *UNL Intro to Environmental Science* - NRES 115, 1 hour, 25 students. University of Nebraska-Lincoln. Topic: Soil Problems and Conservation. Nov 18.
  - *MSU Agricultural Ecology* – CSS 442, 2 hours, 25 students. Department of Plant, Soil and Microbial Sciences, Michigan State University. Topic: Soil Basics, and Phosphorous cycling in agroecosystems. Oct. 20 and Nov. 3.
  - *UNL Office of Global Partnerships & Initiatives* - Kobe University, 22 visiting scholars. Japan Outreach Initiative and the IANR Global Engagement Program, University of Nebraska-Lincoln. Topic: Sustainability and Resilience of Agricultural Systems. Sept. 26.
- 2022/Spring **Guest Lecturer** - *Agronomy lecture series*. Audience: 341 undergraduate students of the Agronomy Department, Central del Ecuador University. Topics: i) Carbon sequestration and organic matter (Jan. 17-21); ii) Soil inorganic nitrogen availability (Feb. 1-4); iii) Conventional and organic beans production in Michigan (Feb. 15-16); iv) Soil health and the future of agriculture (Mar 7-9); v) Fertilizer recommendations for conventional and organic systems (Mar. 15-18).
- 2021/Fall **Organizer and Co-Instructor** - Workshop series on *R, RStudio, and Statistics applied to Agricultural Research Projects* (lecture + lab). Audience: 45 faculty. Duration: 30 hours. Department of Agronomy, Central del Ecuador University. Oct. 25-29.
- 2021/Spring **Guest Lecturer** - Lecture on *Clean Energy from Perennial Energy Crops*, 20 participants K-12 teachers. W.K. Kellogg Biological Station K-12 Partnership Workshops, Michigan State University.
- 2020/Fall **Co-Instructor** - *Agricultural Ecology* – CSS 442, 3 cr., 22 students. Department of Plant, Soil and Microbial Sciences, Michigan State University.

- 2019/Spring **Guest Lecturer** - Three separate lectures: 1) carbon in biofuels; 2) nitrogen cycling; 3) data analysis. Duration of 3h, with 60 K-12 teachers. W.K. Kellogg Biological Station K-12 Partnership Workshops, Michigan State University.
- 2017/Spring **Graduate Teaching Assistant** - *Field plot technique* - Agron. 526, 3 cr., 25 students. Department of Agronomy, Iowa State University.
- 2017/Spring **Guest Lecturer** - Ecuadorian culture and Soil Types in Ecuador, at Hort. 495, 2 cr., 20 students, Iowa State University.

**Mentoring and Supervised Students** (16 undergraduate students and 4 graduate students; \*NSF REU, §Iowa State Science with Practice Fellows)

- 2024 – present Guadalupe Estrada, UCARE Undergraduate student, co-advised by Judy Turk, Univ. Nebraska-Lincoln.  
Urmila Manandhar, GRA PhD student advised by Rhae Drijber, Univ. Nebraska-Lincoln  
Bellodgia Roberson, GRA Master student co-advised with Judy Turk, Univ. Nebraska-Lincoln.
- 2023 - present Ingrid's Mata, GRA Master student Córdoba's Lab – Awarded the Dept. Agronomy GTA
- 2023 – present Stephanie Lugo, GRA Master student Córdoba's Lab – Awarded the Chancellor Fellowship
- 2023 – present Raney Parr\* (Elon University). Project: *Soil health assessment of long-term cropland fields at the Rogers Memorial Farm.*
- 2023 – 2024 Will Hernandez, Teaching Assistant, Soil Health & Environment (NRES 299), undergrad Environmental Science and President Soil & Water Resources Club, UNL.
- 2022 - present Janeth Bonilla (Director of Research RunaSpace and Warmi STEM; Ecuador)
- 2023 Mason Schumacher, senior student, University of Nebraska-Lincoln.
- 2022 - 2023 Charles Carpenter III\* (Prairie View A&M University). Project: *Long-term effects of cover crops, tillage, and ecological succession on soil health parameters.*
- 2021 - 2022 Sophia Schlenz\* (Swarthmore College). Project: *Determine associative nitrogen fixation in different soil pore sizes.*
- 2020 - 2021 Zahraa Al-Tameemi (Michigan State University).
- 2019 - 2020 Nyduta Mbogo\*, Valparaiso University. Project: *Quantifying associative nitrogen fixation in different switchgrass plant parts while comparing two varieties.*
- 2019 - 2020 Colin McHugh\*, Grand Valley State University. Project: *Evaluate the effects of nitrogen fertilization on light-harvesting ability in bioenergy crops (switchgrass and miscanthus).*
- 2016 - 2017 Joshua DeGroot, Iowa State University.
- 2016 - 2017 Jonathon Boss§, Iowa State University. Project: *Impact on soybean yield and crop growth by the addition of nitrogen fertilizer.*
- 2016 - 2017 Xingche Guo, Iowa State University. Mentor- mentee program, International Student Graduate Learning Community.
- 2016 Madeleine Bretey, Iowa State University.
- 2015 – 2016 Cooper Smith§, Iowa State University. Project: *Iowa soil nitrogen dynamics in corn-soybean fields after harvest.*
- 2014 Sarah Leichty, Iowa State University.

**AWARDS & RECOGNITION**

- 2023 Early career award, Long-Term Agroecosystems Research Network (LTAR-ARS)
- 2017 Outstanding Ph.D. Student, Department of Agronomy, Iowa State University, Ames, IA.
- 2017 One of the top three posters poster competition at the 47<sup>th</sup> North Central Conference of Soil Fertility, Des Moines, IA.
- 2016 Third place in the poster contest in the Soil Health Conference, Ames, IA.
- 2015 - present Gamma Sigma Delta-Inducted for high GPA
- 2013 - 2017 Academic scholarship for graduate studies sponsored by Ecuadorian Government.

2009 One of the top ten students awarded an Academic Scholarship from the German Academic Institute (DAAD) and the Tecnica del Norte University, Ecuador.

## **PRESENTATIONS & POSTERS**

### Professional Presentations

- Córdova, S.C.**, *Soil organic carbon accrual in cropland and grassland*. Western Michigan University, Oct. 27, 2023.
- Córdova, S.C.**, *Soil health management*. WICS program for Ukranian Agriculture Industry Visiting Producers and Scholars. University of Nebraska-Lincoln, Dec. 21, 2022.
- Córdova, S.C.**, *Long-term carbon accrual belowground – building healthy and resilient agroecosystems*. Fall Seminar Series, Department of Crop Science. University of Illinois at Urbana-Champaign. Dec. 7, 2022.
- Córdova, S.C.**, *Associative N<sub>2</sub> fixation variability in upland and lowland switchgrass ecotypes*, Columbian Basin Agricultural Research Center (CBARC), Oregon State University. Jan 26, 2022.
- Córdova, S.C.**, *Eficiencia y estabilidad de la transferencia de carbono derivado de residuos vegetales hacia la formación de asociaciones órgano-mineral de la materia orgánica en el suelo*. College of Engineering and Environmental Sciences, De Las Americas University (UDLA), Quito, Ecuador. Jan. 4, 2018.
- Córdova, S.C.**, *Soybean Nitrogen Dynamics*. Agronomy Department IASA, Fuerzas Armadas del Ecuador University (ESPE), Sangolqui, Pichincha – Ecuador. Dec. 20, 2017.
- Córdova, S.C.**, *Soybean Nitrogen Dynamics*. Agronomy Department, Central del Ecuador University (UCE), Quito, Ecuador. Dec 21, 2017.
- Córdova, S.C.\***, Martinez-Feria, R., *Forecast and assessment of Cropping systems*. Global Programs, CALS, Iowa State University, Ames, IA. Audience: Visiting scholars from Asia and South America part of the International Aid Association. Dec 8, 2016.
- Córdova, S.C.**, Archontoulis, S., *Yield Forecast tool for Corn and Soybean Production in Iowa*. Iowa Soybean Research Center, Ames, IA. Audience: Ecuadorian Soybean Producers and members of the Trade Team. Apr 22, 2016.

### Extension Events

#### **2024**

- Córdova, S.C.**, Turk, J., *Soil health assessment toolkit for croplands and soil color chart*. Soil Health and Cover Crops Field Day, Ithaca, Aug. 28.
- Córdova, S.C.**, *UNL Soil health program and future endeavors*, Kiwanis – Nebraska Chapter, Lincoln, NE. Mar 1.
- Córdova, S.C.**, Basche, A., *Soil health for water quality and quantity*, Waverly Drinking Water Protection, Lower Platte South NRD, Waverly, NE. Feb 20.
- Córdova, S.C.**, *Urban Healthy Soils*, Gardening Students' Club at Northeast High School, Lincoln, NE. Jan 22.
- Koehler-Cole, K., Thapa, V., Das, S., Seymour, R., **Córdova, S.C.**, *Soil health practices and tests: What you need to know*. Crop Protection Clinics at Gering, North Platte, Norfolk, Mead, Beatrice, Hastings, York, Kearney, NE. Jan 3,4,9,10,11, 17, 19, 23.

#### **2023**

- Córdova, S.C.**, *Soil Health In-Situ Assessment of Croplands*, Cover Crop Field Day, UNL Rogers Memorial Farm, Lincoln, NE. Sep 19.
- Córdova, S.C.**, *Soil Health In-Situ Assessment of Croplands*, Soil Health Field Day, UNL ENREEC, Ithaca, NE. Aug 22.
- Córdova, S.C.**, *Soil Health Program*, UNL IANR grants team meeting, Lincoln, NE. Jul 25.
- Córdova, S.C.**, *NE Soil Health Leadership*, UNL, Dept. of Agronomy and Horticulture, Lincoln, NE, Jun 23.

- Córdova, S.C.**, *Biological N Fixation: One Building Block of Soil Health*, UNL Soil Health Schools at Bridgeport, North Platte, Haskell, NE. Mar. 2, Jun. 27, Aug. 1, respectively.
- Córdova, S.C.**, *Soil Health Program*, UNL Lancaster county Extension Educator team meeting, Lincoln, NE. Apr 19.
- Córdova, S.C.**, *Soil Ecosystem Services and Soil Health*, UNL Soil and Water Resources Undergraduate Student Club meeting, Lincoln, NE. Apr 18.
- Córdova, S.C.**, *Healthy Soils: Foundation of Regenerative Agriculture*, Wellhead Protection Network meeting – Project GROW, York, NE. Mar 30.
- Córdova, S.C.**, *Soil Health the Foundational of Regenerative Agriculture*, City Sprouts, Omaha, NE. Mar 18.
- Córdova, S.C.**, *Healthy Soils: Foundation of Regenerative Agriculture*, UNL Soil School & Nebraska Agribusiness Association, Lincoln, NE, Feb 1.
- Córdova, S.C.**, *Long-term Carbon Accrual Belowground – Building Healthy and Resilient Agroecosystems*, UNL Crop Protection Clinics, Kearney and Hastings, Jan 18-19.
- Córdova, S.C.**, *NE Soil Health Program – Building Strategy*, UNL Animal Science – Beef Group, Lincoln, NE, Jan 6.

#### National and International Meetings

- Córdova, S.C.**, *Prácticas y Evaluación de la Salud del Suelo de Campos Agrícolas*. Primer Simposio Salud del Suelo. Universidad Técnica del Norte. Ibarra-Ecuador. Online, Jun. 10, 2024
- Córdova, S.C.**, *Prácticas y Evaluación de la Salud del Suelo de Campos Agrícolas*. Primer Simposio Salud del Suelo. Universidad Central del Ecuador. Quito-Ecuador. Online, Apr. 25-26, 2024
- Córdova, S.C.**, Moore, K., Robertson, G. P. *Switchgrass ecotype morphological and chemical differences*. ASA-SSA-CSSA International Annual Meetings, Baltimore. Nov. 6-9, 2022.
- Córdova, S.C.**, Gelfand, I., Robertson, G. P. *Long-term contributions of belowground biomass to soil carbon by perennial energy crops grown in the Upper Midwest US*. ASA-SSA-CSSA International Annual Meetings, Salt Lake City, UT. Nov. 7-10, 2021.
- Córdova, S.C.**, Moore, K. J., Robertson, G. P., *Switchgrass tiller demography as influenced by ecotype and its relationship to carbon and nitrogen dynamics*. ASA-SSA-CSSA International Annual Meetings, Virtual. Nov. 4-7, 2020.
- Córdova, S.C.**, Kravchenko, A. N., Robertson, G. P., *Whole profile soil carbon change after 25 years of differential agricultural management*. ESA International Annual Meeting. Virtual. Aug. 2-7, 2020.
- Córdova, S.C.**, Gelfand, I., Vanderwulp, S., Kahmark, K., Robertson. GP, *Root-to-shoot ratios and contributions to soil carbon by perennial bioenergy crops in the Upper Midwest US*. ASA-SSA-CSSA International Annual Meetings, San Antonio, TX. Nov 11, 2019.
- Córdova, S.C.**, Castellano, M.J., Archontoulis, S.V., *In-season soybean biological nitrogen fixation in Iowa, USA*. ASA, and CSSA International Annual Meetings, Baltimore, MD. Nov 6, 2018.
- Córdova, S.C.**, Castellano, M.J., Dietzel, R., Olk, D., Six, J., Archontoulis, S. V., "Soybean Nitrogen Fixation: The Nitrogen Budget," ASA-SSA-CSSA International Annual Meetings, Tampa, FL. Oct 24, 2017.
- Córdova, S.C.**, Castellano, M.J., Archontoulis, S. V., Dietzel, R., "Are Soybeans in Central Iowa Nitrogen Consumers or Fixers?". Fourth Graduate and Professional Students Research Conference, Iowa State University, Ames, IA. Apr 12, 2017.
- Córdova, S.C.**, Castellano, M.J., Dietzel, R., Archontoulis, S. V., "Do Soybeans in Iowa Use More Nitrogen Than They Fix?", ASA-SSA-CSSA International Annual Meetings, Phoenix, AZ. Nov 7, 2016.
- Córdova, S.C.**, Olk, D., Dietzel, R. Castellano, M.J., "Can we build soil organic matter through greater soil organic carbon stabilization?". Third Graduate and Professional Students Research Conference, Iowa State University, Ames, IA. Apr 12, 2016.

### Workshops and Project Meetings

- Mamo, M., **Córdova, S.C.**, Meredith, G. *Setting up the ground, getting to know our partners.* Kansas Black Farmers Association Quarterly Meeting. Nicodemus, KS. Jul 27, 2023.
- Córdova, S.C.**, Gelfand, I., Robertson, G. P. *Digging one meter deep: Long-term contributions to soil carbon by perennial energy crops.* Great Lakes Bioenergy Research Center, Sustainability Meeting, Early Career Session, Feb 15, 2022.
- Córdova, S.C.**, Kravchenko A. N., Robertson, G. P., *Three decades of soil carbon and nitrogen accrual by different agricultural management practices.* LTAR All Scientist Meeting. Virtual. Aug 30 – Sep 1, 2021.
- Córdova, S.C.**, Kravchenko A. N., Robertson, G. P., *Almost three decades of monitoring soil carbon and nitrogen accrual under different agricultural management.* Great Lakes Bioenergy Research Center, Carbon Accrual Session, Oct 7, 2020.
- Córdova, S.C.**, Nuccio, E., Roley, S., Hamilton, S., Robertson, G. P., *Associative N<sub>2</sub> fixation variability in upland and lowland ecotypes.* Great Lakes Bioenergy Research Center, Nitrogen Fixation in Bioenergy Crops Session, Oct 7, 2020.
- Córdova, S.C.**, Kravchenko, A. N., Robertson, G. P., *Whole profile soil carbon change after 25 years along an agricultural management gradient.* W. K. Kellogg Biological Station - LTER Midterm Review, Virtual Meeting, Sep 9, 2020.
- Córdova, S.C.**, Moore, K. J., Robertson, G. P., *Switchgrass tiller demography as influenced by ecotype and its relationship to carbon and nitrogen dynamics.* Great Lakes Bioenergy Research Center, All Scientist Annual Meeting, Switchgrass Sustainability Session, Apr 24, 2020.

### Contributed Presentations at Scientific Meetings

\*Designates student mentee

- Fortuna, A.M, Maul, J., Veum, K.S., Jin, V.L., **Córdova, S.C.**, Osterholz, W., Philips, C.L., Moriasi, D.N., Starks, P., Robertson, G.P. (2023) *Can net zero balance be achieved across the long-term agricultural research (LTAR) network?* ASA-SSA-CSSA International Annual Meetings, St. Louis. MO, Oct 30, 2023.
- Mahmood, S., Lin, Y., Sprunger, C., **Córdova, S. C.**, & Lavalley, J. (2023) *Water-extractable organic carbon as an indicator of carbon trajectory using archived soils from long-term agricultural trials.* ASA, CSSA, SSSA International Annual Meeting, St. Louis, MO, Oct 30, 2023.
- Moore K.J., **Córdova, S.C.**, 2023. *Tiller demography within synthetic grass populations.* XXV International Grasslands Congress Proceedings (IGC 2023). Covington, Kentucky. May 14-19, 2023.
- Tejera, M., **Córdova, S.C.**, Walker, B., Robertson, G.P., *Long-term yield patterns of switchgrass and miscanthus.* ASA-SSA-CSSA International Annual Meetings, Baltimore, MD, Nov 7, 2022.
- Tejera, M., Roney, H., **Córdova, S. C.**, Robertson, G.P., Walker, B., *Do perennial grasses age? A closer look at late-season photosynthesis and sink dynamics.* ASA-SSA-CSSA International Annual Meetings, Salt Lake City, UT, Nov 7-10, 2021.
- Moore, K., **Córdova, S. C.**, Robertson, G.P., *Tiller demography within cool-season grass populations.* ASA-SSA-CSSA International Annual Meetings, Salt Lake City, UT, Nov 7-10, 2021
- Roley, S., Vizza, C., Robertson, P., **Córdova, S. C.**, *Switchgrass nitrogen sources.* Sorghum Mini Symposium, MI, Apr. 27, 2021.
- Archontoulis, S.V., Castellano, M.J., Licht, **Córdova, S. C.**, et al., *Predicting crop yields and soil-plant nitrogen dynamics in the US Corn Belt.* ASA-SSA-CSSA International Annual Meetings, San Antonio, TX. Nov 11, 2019.
- Poffenbarger, H.J. **Córdova, S.C.**, *"Soil carbon and nitrogen cycling in Iowa cropping systems."* 4R Technology Review and Summer Field Day. Field Extension and Education Laboratory, Ames, IA. Oct 14, 2017.
- Boss, J.\*, **Córdova, S.C.**, *"Soybean yield response to nitrogen applied at different growth stages."* Undergraduate Research Symposium, Iowa State University, Ames, IA. Apr 11, 2017.  
[https://lib.dr.iastate.edu/undergradresearch\\_symposium/2017/presentations/47/](https://lib.dr.iastate.edu/undergradresearch_symposium/2017/presentations/47/)



- Archontoulis, S.V., Castellano, M.J., Dietzel, R., **Córdova, S. C.**, et al., "*Understanding the 2016 yields and interactions between soils, crops, climate, and management*". Integrated Crop Management Conference, Ames, IA. Nov.30, 2016.
- Castellano, M.J., Archontoulis, S.V., **Córdova, S. C.**, Dietzel, R., Poffenbarger, H.J. "*Nitrogen myths and realities*". Integrated Crop Management Conference, Ames, IA. Nov.30, 2016.
- Archontoulis, S.V., Licht, M., Dietzel, R., **Córdova, S. C.**, et al., "*Forecasting yields and in-season crop-water nitrogen needs using simulation models*." Integrated Crop Management Conference, Ames, IA. Nov 30, 2015.
- Archontoulis, S. V., Dietzel, R., Licht, M., **Córdova, S. C.**, et al., "*Forecasting and Assessing Cropping Systems (FACTS)*." ASA-SSA-CSSA International Annual Meetings, Phoenix, AZ. Nov 6, 2016.
- Archontoulis, S.V., Licht, M., Dietzel, R., **Córdova, S. C.**, et al., "*In-Season Forecast of Crop Yields, Soil Water-Nitrogen, and Climate Using APSIM And Wrf Models in Iowa, USA*." International Crop Modelling Symposium, Berlin. Mar. 15-17, 2016.
- Archontoulis, S., Licht, M., Dietzel, R., **Córdova, S. C.**, et al., "*In-Season Corn and Soybean Yield Forecast in Iowa Using APSIM*." ASA-SSA-CSSA International Annual Meetings, Minneapolis, MN. Nov 5, 2015. <https://scisoc.confex.com/scisoc/2015am/webprogram/Paper94828.html>

### Poster presentations

\*Designates student mentee

- Mata, I., Vetter, D., Francis, C., Meyer, D., Lugo, S., **Córdova, S.C.** (2024) Almost two decades building healthy soils in an organic farm with a nine-year crop rotation. UNL Eastern and Central Soil Health Conferences, West Point (Feb. 29) and Hastings (Mar. 05), NE, respectively.
- Lugo, S. Mata, I., Awada, T., Jeske, L., Drijber, R., **Córdova, S.C.** (2024) Post-Fire Soil Health Check: Nebraska Sandhills Halsey Ecosystems. UNL Eastern and Central Soil Health Conferences, West Point (Feb. 29) and Hastings (Mar. 05), NE, respectively.
- Pacheco, G. E., McKinley, B., **Córdova, S. C.**, Koehler-Cole, K., Thapa, V., Easterly, A., Cafaro La Menza, N., Mamo, M., & Basche, A. (2023) *Short term cover crop species effects on soil microbiology, organic carbon and nitrogen pools at different agro-ecoregions in Nebraska*. ASA, CSSA, SSSA International Annual Meeting, St. Louis, MO., Oct 29 - Nov 1.
- McKinley, B., Pacheco, G., Basche, A., **Córdova, S.C.**, Thapa, V.R., Cafaro, N., Easterly, A., Mamo, M. (2023) *Root productivity of Fall planted cover crop cultivars grown as monocultures vs. mixes*. ASA, CSSA, SSSA International Annual Meeting, St. Louis, MO., Oct 29 – Nov 1.
- Lugo, S.\* , Mata, I., Awada, T., Jeske, L., Drijber, R., **Córdova, S.C.** (2023) Post-Fire Soil Health Check: Nebraska Sandhills Halsey Ecosystems. Water and Integrated Cropping Systems (WICS) Conference, Lincoln, NE., Oct 24.
- Parr, R.\* , Lugo, S., C, **Córdova, S. C.**, 2023. *Unveiling the Benefits: Long-Term Impacts of Cover Crops on Soil Health in No-Till Corn-Soybean-Wheat Systems*. UNL Undergraduate Research Summer Symposium. Aug 4.
- Parr, R.\* , Lugo, S., C, **Córdova, S. C.**, 2023. *Unveiling the Benefits: Long-Term Impacts of Cover Crops on Soil Health in No-Till Corn-Soybean-Wheat Systems*. Soil Health School, Concord, NE. Aug 1. Second Place at Students' Poster Contest.
- Carpenter, C.\* , Robertson, G.P., **Córdova, S. C.**, 2022. *Long-term effects of cover crops, tillage, and ecological succession on soil health parameters*. Undergraduate Internship and Research Symposium, W.K. Kellogg Biological Station, Michigan State University, Hickory Corners, MI. Jul 27.
- Schlenz, S.\* , **Cordova, S.C.**, Ozlu, E., Robertson, G. P., 2021. *Long-term trajectory of stable soil organic carbon in conventional and no-till agricultural systems*. Undergraduate Internship and Research Symposium, W.K. Kellogg Biological Station, Michigan State University, Hickory Corners, MI. Aug 4.
- Tejera, M., **Córdova, S. C.**, Robertson, G. P., Walker, B., 2021. *Do perennial grasses age? A closer look at late-season photosynthesis and sink dynamics*. Great Lakes Bioenergy Research Center, All Scientist Annual Meeting, May 11, 2021.

- Córdova, S. C.**, Hamilton, S. K., Robertson, G. P., 2021. *Associative nitrogen fixation (ANF) in high-yielding switchgrass varieties*. American Society of Plant Biology Annual Meeting, Plant Biology 2021 Worldwide Summit, Jul. 19-23.
- Córdova, S. C.**, Mbogo, N.\*, Hamilton, S. K., Robertson, G. P., 2020. *Associative nitrogen fixation (ANF) in high-yielding switchgrass varieties*. 2020 Genomic Sciences Program Annual PI Meeting, Washington, DC, Feb. 23-26, 2020.
- Córdova, S.C.**, Kravchenko, A. N., VanderWulp, S., Kahmark K., Robertson, G. P., 2019. *Whole profile soil carbon change after 25 years along an agricultural management gradient*. American Geophysical Union Fall Meeting, San Francisco, CA. Dec 10.
- McHugh, C.\*, Robertson, G.P., **Córdova, S.C.**, 2019. *Effects of nitrogen on light harvesting ability in bioenergy crops*. Undergraduate Internship and Research Symposium, W.K. Kellogg Biological Station, Michigan State University, Hickory Corners, MI. Jul 31.
- Mbogo, N.\*, Robertson, G.P., **Córdova, S.C.**, 2019. *How does associative nitrogen fixation in switchgrass vary within the plant and among varieties?* Undergraduate Internship and Research Symposium, W.K. Kellogg Biological Station, Michigan State University, Hickory Corners, MI. Jul 31.
- Córdova, S.C.**, 2017. *"Iowa Soybean Nitrogen Fixation Consider in Nitrogen Budgets."* The 47<sup>th</sup> North Central Extension-Industry Soil Fertility Conference, Des Moines, IA. Nov. 15-16.
- Córdova, S.C.**, 2017. *"Plant Litter Quality Affects the Accumulation Rate, Composition, and Stability of Mineral-Associated Soil Organic Matter."* ASA-SSA-CSSA International Annual Meetings, Tampa, FL. Oct. 22-25.
- Córdova, S.C.**, 2016. *"Do Soybeans in Iowa Use More Nitrogen Than They Fix?"*. ASA-SSA-CSSA International Annual Meetings, Phoenix, AZ. Nov 9.
- Smith, C.\*, **Córdova, S.C.**, 2016. *"Do soil inorganic nitrogen levels increase during the off-season?"*. Science with Practice Symposium, Iowa State University, Ames, IA. Apr 16.
- Córdova, S.C.**, 2016. *"Can we build soil organic matter through greater soil organic carbon stabilization?"*. Soil health conference, Ames, IA. Feb 2.
- Córdova, S.C.**, 2016. *"Does Bt-corn differ its chemical composition from conventional corn?"*. Raymond F. Baker Plant Breeding Symposium, Ames, IA. Mar 3.
- Córdova, S.C.**, 2015. *"The impact of plant litter quality on soil organic carbon stabilization."* ASA-SSA-CSSA International Annual Meetings, Minneapolis, MN. Nov 16.

### **ACADEMIC SERVICE & LEADERSHIP**

- 2024 **Co-organizer and host** – Nebraska NRCS Soil Health and Sustainability Training (30 field staff from Nebraska), Ithaca, NE. Jul. 15-18.  
**Co-organizer**, Nebraska Strategic Ag Coalition stakeholder meeting and website input meeting, Ithaca, May 16 and 23.  
**Member and UNL Representative**, Nebraska Strategic Ag Coalition  
**Co-organizer** – East and Central Nebraska Soil Health Conferences, West Point and Hastings, NE. Feb 29 and Mar 5, respectively.  
**Panelist** – *Soil Health in Urban Settings: Challenges and Triumphs*, 2024 Urban Soil Health and Ag Expo. City Sprouts, Omaha, NE. Feb. 22.
- 2023 – 2024 **Invited Specialist Reviewer National Academy of Sciences**, White Paper: *Building a Scientific Roadmap to a Carbon Negative Agricultural Systems*.
- 2023 – present **Member of the Peer Teams for faculty evaluations**, Dept. Agronomy and Horticulture, UNL.
- 2023 – present **Member Faculty Advisory Committee**, Dept. Agronomy and Horticulture, UNL
- 2022 – present **Member of the Diversity, Equity and Inclusion Committee**, Dept. Agronomy and Horticulture, UNL.
- 2015 - present **Journal Reviewer**: Global Change Biology, Geoderma, Soil Biology and

- Biogeochemistry, Soil Science of America Journal, Agronomy Journal, Sustainability MDPI, Soil Science and Plant Nutrition.
- 2023 **Panelist** – Roots so Deep, School of Natural Resources, UNL, Lincoln, NE. Dec 5.  
**Co-organizer** – Soil Health Field Day, UNL-Cargill, Ithaca, NE. Aug 22.  
**Proposal Reviewer** – Sustainable Agriculture, Aquaculture, and Fisheries for the California Climate Action Initiative, Online, June 15-16.  
**Panelist** – Team Science, Conference of Biological Stoichiometry, Lincoln, NE. Mar 22.  
**Co-organizer** – Nebraska Soil Health Cover Crops Conference, Ithaca, NE. Feb 9.  
**Co-organizer** – Soil Health Schools in Nebraska (Bridgeport, North Platte, Concord), UNL-NRCS. Mar 2, Jun 26-27, Aug 1-3.
- 2022 – present **WICS Soil Health Theme Co-Leader** – Water and Integrated Cropping Systems (WICS), University of Nebraska-Lincoln.
- 2022 **Moderator** – Carbon in Agriculture Panel. Institute of Agriculture and Natural Resources, University of Nebraska-Lincoln, Lincoln, NE. Nov 29.  
**Organizer and Moderator** – General Oral session: Bioenergy Crops Research (15 talks). ASA-SSA-CSSA International Annual Meetings, Baltimore, MD. Nov 7.  
**Organizer** – Symposium Environmental Performance of Bioenergy Crops. ASA-SSA-CSSA International Annual Meetings, Baltimore, MD. Nov 7.  
**Invited Mentor** – Graduate Student Networking Session, ASA-SSA-CSSA International Annual Meetings, Baltimore, MD. Nov 6.  
**Elected Leader Bioenergy Systems Community**, American Association of Agriculture (ASA).
- 2021-2022 **Academic Collaborator** – Department of Agronomy, Central del Ecuador University. June 2021 – June 2022.
- 2021 **Co-Organizer and Moderator** – Symposium Bringing Back the Momentum of Bioenergy Production in the US: Assessment of the Renewable Fuel Standard Program. ASA-SSA-CSSA International Annual Meetings, Salt Lake City, UT, Nov 7-10.  
**Moderator** – Breakout session: Ecosystem Services in Agricultural Fields. LTER All Scientist Meeting. Hickory Corners, MI. Sep 23.  
**Co-Organizer and Moderator** – Breakout session: LTAR-NEON integrating efforts on soil carbon stability and trajectories. LTAR All Scientist Meeting. Aug 30 – Sep 1.  
**Elected Vice-Leader Bioenergy Systems Community**, American Association of Agriculture (ASA).  
**Participant of the Virtual Advocacy Event**, meeting with Michigan diplomats: Sen. Peters, Sen. Stabenow, Rep. Upton, and Rep. Kildee; organized by the American Institute of Biological Sciences. Apr 21 to 22.
- 2020 **Co-Organizer and Moderator - Nitrogen Fixation in Bioenergy Crops Session**, Great Lakes Bioenergy Research Center Sustainability Virtual Meeting. Oct 7.  
**Co-host and Member Planning Committee** - Long-Term Agricultural Research Network (LTAR) Annual Meeting, Michigan State University, Apr 26 to May 1, (300 participants).
- 2019 **Moderator at the Soil Fertility and Plant Nutrition General Oral III**, ASA-SSA-CSSA International Annual Meeting, San Antonio, TX. Nov 13.  
**Member Planning Committee of the Great Lakes Bioenergy Research Center Environmental Sustainability Meeting**, Michigan State University, Hickory Corners, MI. Jul 11 to Oct 2.
- 2018 **Research symposium poster judge**, Session of Bioenergy Systems, ASA, and CSSA, International Annual Meetings, Nov 6.  
**Research symposium oral presentation judge**, Session of Cover Crop Management, ASA, and CSSA, International Annual Meetings, Nov 5.

- 2016 - 2018 **Member of the Graduate Student Committee of Soil Science**, Soil Science Society of America (SSSA).
- 2017 **Research symposium poster judge**, Session of Soil and Environmental Sciences, ASA, CSSA, and SSSA International Annual Meetings, Oct 23.
- 2016 - 2018 **Member of the International Committee Soil Science Award**, Soil Science Society of America (SSSA).
- 2016 - 2017 **Senator of the Graduate & Professional Student Senate (GPSS)**, Iowa State University, Ames, IA.
- 2016 **Research symposium poster judge**, Session of Soil Fertility, undergraduate competition, ASA-SSA-CSSA International Annual Meetings, Nov 7.
- 2015 **Vice-president**, Agronomy Graduate Student Club, Department of Agronomy, Iowa State University, Ames, IA.

#### Diversity, Equity, and Inclusion Contributions

- 2023 – present **Member of the Faculty Advisory Committee**, Department of Agronomy and Horticulture, University of Nebraska, Lincoln, NE.
- 2022 – 2024 **Member of the Diversity, Equity and Inclusion Committee**, Department of Agronomy and Horticulture, University of Nebraska, Lincoln, NE.
- 2018 - 2020 **Member of the Diversity, Equity, and Inclusion Committee**, W.K. Kellogg Biological Station, Michigan State University, Hickory Corners, MI.
- 2017 - 2018 **Co-PI and Moderator of the Workshop Series** Building Gender Parity in Agricultural Leadership Roles through Tailored Professional Development. Iowa State University, Ames, IA. Fall and Spring semester (25-35 participants STEM graduate students).

#### Professional Affiliations

**Societies:** American Society of Agronomy (ASA), Soil Science Society of America (SSSA), Crop Science Society of America (CSSA), Ecuadorian Soil Science Society, Gamma Sigma Delta Honor Society.

**Networks:** Great Lakes Bioenergy Research Center (GLBRC), Long-Term Agroecosystem and Ecological Research Network (LTAR & LTER), Latinas in Earth and Planetary Sciences (GeoLatinas), Ecuadorian female scientist network (REMCI).

#### PROFESSIONAL DEVELOPMENT

- 2024-2025 Soil and Water Conservation Society's Emerging Leaders Class of 2025.
- 2023 The Grading Conference, June 9-10, California State University.
- 2021 Communications Boot Camp for Scientists (16 hours), American Institute of Biological Sciences.
- 2020
- Digital Learning Experiences During the Pandemic – STEM Teaching Essentials Discussion (2 hours), Michigan State University.
  - Bystander Intervention Training (2 hours), W. K. Kellogg Biological Station, Michigan State University.
  - Developing Meaningful Feedback for Students (4 hours), Michigan State University.
  - Essential Skills to Navigate Through Difficult Times (6 hours), Michigan State University.
  - Writing for Impact and Influence Course (9 hours), American Institute of Biological Sciences.
- 2019
- Cultural Intelligence Workshop Series (6 hours), W. K. Kellogg Biological Station, Michigan State University.
  - Media 101 – Science Communication (3 hours), ASA-SSA-CSSA International Annual Meeting, San Antonio, TX.

- Isotopes in Spatial Ecology and Biogeochemistry Course (10 days), University of Utah.

2014 - 2018

- Women's Leadership Workshop Series (10 sessions), Iowa State University.
- Personal and Professional Development Program (10 hours), Iowa State University.

### **CERTIFICATES**

- *Communications Boot Camp for Scientists*, American Institute of Biological Sciences.
- *Writing for Impact and Influence*, American Institute of Biological Sciences.
- *Basic R* – certification No. 4,053,148 granted by DataCamp.
- *Intermediate R* – certification No. 4,280,237 granted by DataCamp.
- *National Adaptation Plans: Building Resilience in Agriculture*, The United Nations (01/15/18).
- "Specialized Module on Children and Climate Change," The United Nations (11/20/17).
- *Responsible Conduct Research Training*, CITI Program. Record ID: 24260229 (2017 - 2020).

### **ADDITIONAL SKILLS**

**Languages:** Spanish (native), English (professional), German (basic), Italian (basic).

**Programing and Modelling:** R (intermediate), SAS (advanced), APSIM (intermediate), SigmaPlot, ArcGIS (basic), Adobe Illustrator, Office (advanced).