

CLIFF-GRADS Alumni Profiles

Round 6

Argentina Edition

Argentina Alumni

Carla Sofía Stadler (Argentina, Instituto de Física Arroyo Seco) hosted in 2024 by NIBIO – Norway



During my stay at NIBIO, I learned how to use many instruments and equipment for lab and fieldwork. Moreover, I saw for the first time some sampling methodologies that I had read about but are not easily available in my country. NIBIO is one of the largest research institutes in Norway which studies the environment from different perspectives: soils, plants, water resources, urban areas, mapping and more. In this sense, working at NIBIO allowed me to talk with people working on different projects, which was very motivational, and also to help them do fieldwork in the forest. I conducted my first incubation experiment with peat soil to study GHG fluxes, using a CG-MS with

automatic injection. The aim was to explain the flux variation related to different treatments and soil properties. In addition, I learned how to use the CIRAS-4 equipment to measure photosynthesis and I was able to carry out measurements in the field. Furthermore, I used the STA equipment to study the composition of the soil. All this new knowledge encouraged me to study the GHG from another perspective, including different variables from what I was used to.

Finally, I had the time to dedicate myself to exploring more about R Studio software, a useful tool for analysing large datasets, and images, creating graphs and more. This software was useful for me to analyse the results from the incubation experiment, a complete dataset that includes GHG fluxes and a large number of variables from a peatland from the last year and, besides, to analyse pictures to extract vegetation index. I want to thank the CLIFF-GRADS program for giving me this opportunity. Working in another country with different people was a fantastic experience, it opened my mind and could deal in a new place. I gained new knowledge not only for my professional career but also for my personal growth.

Francisco Cafaro La Menza (Argentina, Facultad de Ciencias Agrarias, Universidad Nacional de Mar del Plata) hosted by the Aula Dei Experimental Station (CSIC-Spanish National Research Council) in Zaragoza, Spain



During my research stay at the Aula Dei Experimental Station (CSIC) in Zaragoza, Spain, I had the opportunity to join a highly motivated and collaborative research group led by Dr. Jorge Álvaro-Fuentes. The entire team, including researchers, postdoctoral researchers, PhD students, field and lab technicians, was always available and supportive, creating a stimulating and friendly environment to work in.

This experience allowed me to explore a region completely different from my own, both culturally and regarding agricultural practices. I learned new laboratory techniques for analyzing soil parameters related to carbon and nitrogen dynamics, and microbial activity, skills that I will carry forward in my academic and professional development.

One of the most enriching aspects was gaining insight into the environmental challenges of traditional agricultural management in the semi-arid Ebro Valley, which is characterized by conventional tillage and long-term bare fallow. These practices lead to severe erosion and soil degradation. My research focused on how alternative practices such as no-tillage and the inclusion of cover crops influence greenhouse gas emissions. This environmental perspective is crucial, as agronomic and economic benefits do not always align with environmental sustainability.

I thoroughly enjoyed my six-month stay and highly recommend applying for the CLIFF-GRADS scholarship. The experience was both professionally and personally enriching, and I am grateful for the opportunity to contribute to this research.

Alumni hosted in Argentina

Girmay Darcha Gebramlak (Mekelle University) hosted by the National Institute of Agricultural Technology (INTA)



I was exposed to many research facilities I had never used before, and I am deeply fortified by the rigorous scientific community and cooperative culture at INTA Balcarce.

INTA Balcarce is one of the international leading experimental sites and labs for pecan orchards nut production and quantifying carbon balance, including aboveground biomass and soil carbon stock, and estimate the emission of greenhouse gases (GHG) from pecan-based silvopastoral systems in the southern Pampas eco-region of Argentina under an Argiudoll soil type. The research institute is equipped with good research tools facilities and strong expertise in analysing carbon

balance data of the pecan orchards. This was very beneficial for me during my visit.

Furthermore, I was allowed to conduct data analysis using R software and prepare draft article of the previously collected data of greenhouse gas emission of the pecan orchard experiment. Therefore, equipment like a telescoping ruler used for measuring tree height, installation and sampling techniques of greenhouse gas from steady-state chambers, automatic soil moisture and temperature measuring sensors, and training on R software for statistical analysis and scientific paper writing skills were my new skills and expertise acquired. This kind of research experience could not be realized at my home institute in Ethiopia.

In addition to the field experience, in my research stay, I established valuable networking and collaborative research efforts with agricultural researchers at INTA Balcarce, colleagues from Argentinean Universities (Mar del Plata and Buenos Aires universities), and researchers from the USA (online training course undertaking at the New University in Exile Consortium and Tennessee University of the USA). These connections will be advantageous for future academic and professional collaborations aimed at reducing greenhouse gas emissions and promoting sustainable agricultural production systems on a global scale.