CLIFF-GRADS Science Collaboration Series

August–October 2020

GLOBAL RESEARCH ALLIANCE
ON AGRICULTURAL GREENHOUSE GASES

The Climate, Food and Farming Global Research Alliance Development Scholarships (CLIFF-GRADS) Programme is pleased to announce a Science Collaboration Series designed to increase engagement of CLIFF-GRADS Alumni with one another and expose Alumni to a wider international science network.

CLIFF-GRADS is truly an international award Programme. To date, there have been four rounds of scholarship with 124 Alumni from 32 developing countries. Alumni of the Programme have already studied or are soon to study at a total of 50 different research institutes in 30 countries.

CGIAR

RESEARCH PROGRAM ON
Climate Change, Agriculture and Food Security

CCAFS

Objective(s)

During the global pandemic it is even more important that we look for creative and innovative ways to foster international collaboration to address climate change.

The 2020 CLIFF-GRADS Science Collaboration Series has been developed to facilitate technical capability building, knowledge transfer and international collaboration for the CLIFF-GRADS Alumni. Particularly for the Round 3 CLIFF-GRADS whose research stays have been delayed due to the global Covid-19 Pandemic.

In addition to a series of special sessions with guest speakers, these webinars will provide a platform for the Round 3 students to present their PhD research and research questions to their CLIFF-GRADS peers.

Through establishing research connections, the CLIFF-GRADS Alumni network can connect internationally and across research institutes.

The 2020 CLIFF-GRADS Science Collaboration Series will:

- welcome new CLIFF-GRADS Alumni and hosts and provide a brief overview of the Programme history;
- introduce Alumni to the support systems in place to ensure they make the most out of their CLIFF-GRADS academic and cultural exchange experience;
- provide a peer-to-peer collaborative platform for the Round 3 CLIFF-GRADS candidates to discuss their PhD research and to clarify any specific research questions before they commence their research stay (NOTE: Alumni from the other rounds [1, 2 and 4] are welcomed and encouraged to contribute in these sessions);
- include a series of special sessions, to discuss the science-policy interface relevant to the CLIFF-GRADS scientific research and its potential contribution to policy decision-making.

Audience

The intended audience of the 2020 CLIFF-GRADS Science Collaboration Series is the CLIFF-GRADS Alumni from Rounds 1 through 4.

CLIFF-GRADS hosts are also welcomed to join in the Welcome session on 12 August 2020 and during the special sessions, which occur every second week from 19 August 2020.

The student thematic sessions occur every second week from 26 August and will provide an opportunity for Round 3 students to present their research to each other. These sessions are not open to CLIFF-GRADS hosts, so as to emphasise student to student collaboration.

The final closing session on research collaboration is open to both the Alumni and their hosts.

Desired/Expected Outcomes

The 2020 CLIFF-GRADS Science Collaboration Series will strengthen the CLIFF-GRADS Alumni network by introducing new Alumni to previous Alumni, and through exposure to and interaction with researchers in the wider GRA and CGIAR networks.

Welcome Session:

The initial presentation will provide new Alumni with the CLIFF-GRADS Programme background and history. A panel of previous Alumni will share their experiences and answer questions. Alumni will hear about how to make the most of their CLIFF-GRADS experience and support systems available to them with an opportunity for more questions at the end of the session.

Thematic Sessions:

Specifically, during a series of thematic sessions, the Round 3 students will have the opportunity to clarify their PhD research questions and / or research direction with their peers. The thematic sessions have been disaggregated into the following agricultural systems: i) integrated systems, ii) pastoral systems and agronomy, iii) ruminant systems, iv) rice systems and v) soil systems.

Special Sessions:

A series of special sessions has been developed to facilitate knowledge sharing from senior researchers to CLIFF-GRADS Alumni, with emphasis on the science policy interface for agricultural greenhouse gas emission management. Session topics include: i) the role of science in decision making, ii) national GHG inventories, iii) livestock MRV, iv) global agricultural production and emission trends, and v) farmer perspectives from the WFO young farmers Gymnasium programme.

Final Session and Future Collaboration:

The final session will be open forum for discussion on any potential research collaborations between CLIFF-GRADS Alumni and among wider networks. This session is intended to provide an opportunity to ask for contributions to an existing research collaboration or to gauge interest in a new research collaboration relevant to CLIFF-GRADS Alumni research. The final session will also include a summary on tips for writing and research publication.

Background

The main objective of CLIFF-GRADS is to develop scientific capability of early career scientists by exposure to technical equipment, software and expertise that they would not otherwise have in their home countries or institutes through short term research stays.

CLIFF-GRADS is a joint initiative of the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) and the Global Research Alliance on Agricultural Greenhouse Gases (GRA).

Since 2017, the New Zealand Government has provided core funding for the CLIFF-GRADS Programme with significant contributions from CGIAR trust fund donors.

2020 CLIFF-GRADS Science Collaboration Series Schedule

Date (GMT)	Registration Link	Speakers	Audience
12 Aug 10:00	Welcome to CLIFF-GRADS!	**Hayden Montgomery**, Special Representative to the Global Research Alliance on Agricultural Greenhouse Gases (GRA); **Lini Wollenberg**, Flagship Leader for Low Emissions Development for the Climate Change, Agriculture and Food Security (CCAFS) of the CGIAR System; **CLIFF-GRADS Alumni Panel**; **Hazelle Tomlin**, Secretariat, GRA; **Ciniro Costa Junior,** Science Officer, CCAFS	Alumni and Hosts
19 Aug 10:00	Special Session: The Role of Science in Decision Making	**Sir Peter Gluckman**, Chair of the International Network of Government Science Advice (INGSA) and president-elect of the International Science Council (ISC)	Alumni and Hosts
25 Aug 19:00	Thematic Student Session: Integrated Systems	**Dr. Todd Rosenstock**, Climate Change and Environmental Scientist, World Agroforestry Centre (ICRAF)	Alumni
2 Sep 10:00	Special Session: National GHG Inventories	**Dr. Olia Glade**, Director MRV Systems, Greenhouse Gas Management Institute (GHGMI)	Alumni and Hosts
8 Sep 18:00	Thematic Student Session: Pasture Systems & Agronomy	**Dr. Jacobo Arango**, Environmental Biologist at the Tropical Forages Program at the International Centre for Tropical Agriculture (CIAT)	Alumni
16 Sep 10:00	Special Session: Livestock MRV	**Dr. Andreas Wilkes**, Associate Expert, UNIQUE Forestry and Land Use GmbH	Alumni and Hosts
22 Sep 07:00	Thematic Student Session: Ruminant Systems	**Dr. Sinead Leahy**, Senior Scientist, the New Zealand Agricultural Greenhouse Gas Research Centre (NZAGRC)	Alumni
30 Sep 10:00	Special Session: Global agricultural production and emission trends	**Professor Chevalier Dr. Porter**, Emeritus Professor of Agriculture and Climate Change, University of Greenwich	Alumni and Hosts
7 Oct 08:00	Thematic Student Session: Rice Systems	**Dr. Bjoern Ole Sander**, Senior Scientist and Climate Change Specialist, International Rice Research Institute (IRRI)	Alumni
14 Oct 10:00	Special Session: World Farmers Organisation (WFO) Young Farmers Panel	**WFO Gymnasium Programme Farmers Panel**	Alumni and Hosts
20 Oct 18:00	Thematic Student Sessions: Soil Systems	**Dr. Ngonidzashe Chirinda**, Soil and Climate Change Scientist, Mohammed VI Polytechnic University, Morocco	Alumni
28 Oct 10:00	Writing for publication, research Collaboration and Series Wrap Up	**Ciniro Costa Junior** (CCAFS) and **Hazelle Tomlin** (GRA)	Alumni and Hosts

Session Summaries

Time	Speaker	Summary
12 August 2020, 10:00 GMT: Welcome to CLIFF-GRADS! (1.5 hours)		
5 mins	**Hayden Montgomery**, Special Representative to the GRA	From 2013 until 2016, Hayden was New Zealand's Ambassador to Argentina, Paraguay and Uruguay. Prior to this, Hayden worked extensively on climate change policy, including as lead negotiator on agriculture and forestry for New Zealand in the United Nations Climate Change negotiations and as a Special Adviser based in the New Zealand Embassy in Paris, France.
5 mins	**Lini Wollenberg**, Low Emissions Development Flagship Leader, CCAFS	Lini is the Flagship Leader for Low Emissions Development for CCAFS and Research Professor at the Gund Institute for Environment and Rubenstein School of Environment and Natural Resources, University of Vermont.
20 mins	CLIFF-GRADS Introductions	Pre-assigned randomised break-out groups
20 mins	**Previous Alumni Panel**	**Florencia Garcia**, Argentina, Round 1 **Titis Apdini**, Indonesia, Round 2 **Yuri Gelsleichter**, Brazil, Round 2 **Samuel Anuga**, Ghana, Round 2
15 mins		Questions for the panel
5 mins	**Hazelle Tomlin**, Secretariat, Global Research Alliance	Making the most out of your CLIFF-GRADS experience – Academic and cultural exchanges – Buddy system – WhatsApp Group(s)
5 mins	**Ciniro Costa Junior**, Science Officer, CGIAR	Useful CCAFS and GRA resources – **www.AgMRV.org** platform – SAMPLES – GRA **Technical Manuals** Library
15 mins		Questions and Closing Remarks
19 August 2020, 10:00 GMT: The role of science in decision making (1 hour)		
30 mins	**Sir Peter Gluckman**, Chair of the International Network of Government Science Advice (INGSA), President elect of the International Science Council (ISC)	Sir Peter is chair of the International Network of Government Science Advice (INGSA) and president-elect of the International Science Council (ISC). From 2009–2018 he was the first Chief Science Advisor to the Prime Minister of New Zealand. He has written and spoken extensively on science-policy, science-diplomacy, and science-society interactions. He has received the highest scientific and civilian honours in New Zealand and numerous international scientific awards.
30 mins		Questions and Closing Remarks

Time	Speaker	Summary
25 August 2020, 19:00 GMT: Integrated Systems (1.5 hours)		
5 mins	**Dr. Todd Rosenstock**, Agroecologist, World Agroforestry Centre (ICRAF)	Todd Rosenstock investigates how smallholder agriculture affects the environment and society. In particular, Dr. Rosenstock's research examines the synergies and trade-offs among food production, soil degradation, and climate at farm and landscape scales.
5 mins	**Ngaiwi Mary Eyeniyeh**	Implementing sustainable agricultural and livestock systems for simultaneous targeting of forest conservation for climate change mitigation (REDD+) and peace-building in Colombia.
5 mins	**Abdulhakeem Lawal Ahmad**	Integration of trees into farming systems to increase yield, resilience and carbon stocks.
5 mins	**Fernanda Leite**	Greenhouse gases emission from crops fertilized with dairy manure in Argentina.
5 mins	**Sara Stephanie Valencia Salazar**	Evaluating enteric methane and excreta based nitrous oxide emissions associated with tropical forage legumes.
5 mins	**Wendy-Mercedes Ramírez-Suárez**	Technologies and practices to increase C sequestration in integrated crop-livestock system on a humid tropical savannah.
60 mins		Discussion
12 September 2020, 10:00 GMT: National GHG Inventories (1.5 hours)		
60 mins	**Dr. Olia Glade**, Director, MRV Systems, GHGMI	Olia has expertise in natural science, education, greenhouse gas reporting and review under the UNFCCC and Kyoto Protocol, and designing GHG data management systems. Previous to GHGMI, Olia was New Zealand's GHG inventory focal point at the UNFCCC and led New Zealand's National Greenhouse Gas Program as well as being New Zealand's national inventory compiler. In this capacity, she also led a project to include Tokelau in New Zealand's national system.
30 mins		Questions and Closing Remarks
8 September 2020, 18:00 GMT: Pasture & Agronomy Systems (1.5 hours)		
5 mins	**Dr. Jacobo Arango**, Environmental Biologist at the Tropical Forages Program at CIAT	Based in Cali, Colombia, Jacobo's research focuses on how forages and efficient land use in the livestock sector can reduce nitrogen and carbon emissions. He co-leads the Livestock Plus project, supported by the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). The project facilitates the development and implementation of Nationally Appropriate Mitigation Actions (NAMAs) in Costa Rica and Colombia.
5 mins	**Gbênouwa Pénéloppe Thertulienne Gnavo**	Evaluating environmental impacts of the beef cow-calf system by the life cycle assessment method in Thailand.
5 mins	**Vanina (Vani) Giselle Maguire**	Adding value to rumen methane mitigation compounds through increasing animal efficiency.
5 mins	**Shimbahri Mesfin Gebreslase**	Influence of forage legumes and N fertilizer on N2O emissions in grazed tropical pastures.
5 mins	**Israel Oliveira Ramalho**	Legumes use in grassland systems of the Argentinean Pampas region: soil quality and greenhouse gas emissions.
5 mins	**Fabiano Alecrim**	Quantification of nitrous oxide (N2O) emissions from beef, milk and crop-pasture rotational production systems in Uruguay.
65 mins		Discussion

Time	Speaker	Summary
16 September 2020, 10:00 GMT: Livestock MRV (1.5 hours)		
60 mins	**Dr. Andreas Wilkes**, Associate Expert, UNIQUE Forestry and Land Use GmbH	Andreas Wilkes has training in anthropology and economics, and has worked in natural resources management in Asia and Africa for more than 20 years, with a focus on rangeland management and livestock. Since 2008, much of his work has focused on climate change mitigation, including developing GHG quantification methodologies for mitigation projects, and supporting improvements in national GHG inventories and MRV systems. He has been an associate expert with Unique forestry and land use GmbH since 2011.
30 mins		Questions and Closing Remarks
22 September 2020, 0700 GMT: Ruminant Systems (1.5 hours)		
5 mins	**Dr. Sinead Leahy**, Senior Scientist, New Zealand Agricultural Greenhouse Gas Research Centre (NZAGRC)	Sinead is an experienced microbiologist and her research has focused on increasing the science needed to develop practical and effective approaches to reducing methane emissions from grazing ruminant livestock. More recently, Sinead's work has centred around the development of practical guidance for the Monitoring, Reporting and Verification (MRV) of emissions and emissions reductions from ruminant livestock and engaging and working with scientists and policymakers from countries who are looking to implement advanced greenhouse gas inventories for livestock. Sinead is originally from rural Ireland, has a passion for agriculture and hopes that through her work and research she can make a contribution to the knowledge and tools required by researchers, policy makers and farmers to mitigate greenhouse gas emissions from the agricultural sector.
5 mins	**Tsegay Teklebrhan Gebremariam**	Ranking forage-based diets for ruminant methane and nitrogen emissions.
5 mins	**Juan de Jesus Vargas Martinez**	Integrating mitigation strategies to decrease methane emissions of dairy cows in pastoral systems.
5 mins	**Adégbéiga Cham Donald Alabi**	Use of lipids in dairy systems as a strategy of adaptation and mitigation to climate change.
5 mins	**Babak Darabighane**	Mitigation of methane emissions and capturing the effects of diet on GHG emissions from Finnish dairy production system.
5 mins	**Abraham Abera Feyissa**	Quantification of carbon foot prints in dairy farms for various feeding management in Thailand.
5 mins	**Muhammed Arowolo**	Directed evolution of rumen microbial cultures towards the identification and stimulation of electron sinks alternative to methanogenesis.
5 mins	**Bulelani Pepeta**	Can acetate supply reduce methane emissions when providing highly fermentable diets in dairy cows?
50 mins		Discussion
30 September 2020, 10:00 GMT: Global agricultural production and emission trends (1.5 hours)		
60 mins	**Professor Chevalier Dr. Porter**, Emeritus Professor of Agriculture and Climate Change, University of Greenwich	Professor Chevalier Dr. Porter is an eminent agricultural and climate change scientist and is internationally known in the fields of crop and agricultural ecology. His main scientific contribution has been multi-disciplinary work in the response of crops to their environment with an emphasis on climate change and ecosystem services.
30 mins		Questions and Closing Remarks

Time	Speaker	Summary
7 October 2020, 0800 GMT: Rice Systems (1.5 hours)		
5 mins	**Dr. Bjoern Ole Sander**, Senior Scientist and Climate Change Specialist, International Rice Research Institute	Ole is a scientist in IRRI's climate change research group with a focus on greenhouse gas (GHG) mitigation technologies.
5 mins	**Sani Idris**	Measurement of the methane oxidation potential and respiration rate in soils submitted to different uses.
5 mins	**Primitiva Andrea Mboyerwa**	Assessing Impact of Cover Crop on Nitrogen Use Efficiency and Greenhouse Gas Emissions Project.
5 mins	**Glory Edwards**	The GHG emission potential of the SRP practices for sustainable rice cultivation.
5 mins	**Tegegnework Gebremedhin Wolde**	Temporal patterns of methane emissions from rice in the Vietnamese Mekong Delta: Impact of ambient meteorological conditions.
5 mins	**Sruthi P**	Post-harvest management in rice paddy fields for carbon budget optimization.
5 mins	**Cuong Ong**	Assessing the economic and climate impacts of improved post-harvest practices along the rice value chain.
5 mins	**DURBA Kashyap**	Evaluating effects of increased use of animal manure in horticulture on agricultural greenhouse gas emissions.
50 mins		Discussion
14 October 2020, 10:00 GMT: Farmers Perspectives (1.5 hours)		
60 mins	**WFO Gymnasium Programme Farmers Panel**	Presenters to be confirmed. This session will connect CLIFF-GRADS with an international panel of young farmers for an open discussion.
30 mins		Questions and Closing Remarks
20 October 2020, 18:00 GMT: Soil Micro to Macro Systems (1.5 hours)		
5 mins	**Dr. Ngonidzashe Chirinda**, Soil and Climate Change Scientist, Mohammed VI Polytechnic University, Morocco	Ngoni's work focuses on how innovation in agriculture can solve climate-related challenges for farmers and nations around the world. He is exploring new ideas that solve climate-related and food security issues and his work informs national and international climate mitigation processes. He was also a lead author on the IPCC's 2019 Refinement to the 2006 Intergovernmental Panel on Climate Change (IPCC) Guidelines for National Greenhouse Gas Inventories, where he focused on adapting the guidelines to meet the needs of developing countries.
5 mins	**Amahnui George Amenchwi**	Greenhouse gas emissions and soil carbon sequestration with tillage systems and crop types.
5 mins	**Antony Mlambo**	Assessing the impacts of contour based water harvesting technologies, soil water retention membranes and nutrient management options on soil organic carbon accumulation and greenhouse gas emissions from coarse-textured soils in Zimbabwe.
5 mins	**Maria Eliza Turek**	Mapping soil organic carbon change to support climate change mitigation.
5 mins	**Bethel Geremew Shefine**	Using a Tier II Model (CQESTR) to Predict Soil Organic Carbon Storage and CO_2 Emissions.
5 mins	**Ricardo Cesário dos Santos**	Assessment of total denitrification, nitrous oxide emissions, and nitrate leaching in pasture soils with and without shelterbelts.
5 mins	**Erick Rodrigo da Silva Santos**	Tracing the contribution of deep roots to soil carbon sequestration using isotopic tracers.
5 mins	**Chukwuebuka Christopher Okolo**	N_2O consumption in subsoils: A hidden sink?
50 mins		Discussion

Time	Speaker	Summary
27 October 2020, 10:00 GMT: Research Collaboration & Series Wrap Up Ciniro Costa Junior & Hazelle Tomlin (1 hour)		
20 mins	**Hazelle Tomlin**, Secretariat, GRA	Future involvement in CLIFF-GRADS
30 mins	**Ciniro Costa Junior**, Science Officer, CCAFS	Tips for science writing, research publication and opportunities for research collaboration
10 mins		Final comments