



UNESCO Chair on Community Sustainability: From Local to Global

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UNESCO Chair on Community
sustainability: from local to global,
St. Catharines, ON, Canada

Chaire UNESCO en viabilité des
communautés: du local au global,
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The beginning of 2022 seems to be a little more optimistic regarding the COVID-19 pandemic. We now also know, however, that the pandemic has led to many challenges for all countries around the world. As I reflect on the work we have done in West Africa, I am highly conscious that these challenges are even greater in those countries where food insecurity was already present before the pandemic. COVID-19 has shown us the vulnerabilities of many nations, including those that thought they would be safe and able to control.

Despite all these challenges, the UNESCO Chair and her research group have been able to continue moving forward on many fronts. The long distances between countries have not stopped us from continuing our work, although

admittedly not as fast as when we are able to be in person and interact on a more regular basis. While the Internet and virtual technologies have helped to remain connected, some discussions are simply more productive in person. Thanks to those virtual technologies, however, I have been able to connect with a collaboration in India and, certainly, with my new colleagues in Burkina Faso and Senegal over the last six months. I hope some of these new interactions will lead to new long-term collaborative activities as so much remains to be done on Community Sustainability—especially when we look at the challenges related to women equity, climate change, sustainable agriculture and food security and biodiversity conservation.

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Continuing the Sustainability Poetry Contest: Recap of 2021 & 2022



2021 themes: *The International Year of Peace and Trust; International Year of Fruits and Vegetables*

2022 theme: *Beyond Sustainability*

Culture in all its forms is an essential component of community sustainability. The UNESCO Chair established the Sustainability Poetry Contest in time with its nomination in 2014. The aim was to ensure that the community could be involved in the activities of the chair and celebrate local creativity in the process.

Poems can be submitted either in English or French from elementary students, high school students, college and university students, or the general public. Due to the COVID-19 pandemic, the celebrations were delayed again in 2021. In 2022, we were able to celebrate on March 21 (which is World Poetry Day) although still in a virtual format. Each year, the theme relates to the International Years. In 2021, the themes related to the International Year of Fruits and Vegetables and



International year of Peace and Trust. In 2022, we had an exception, and the theme reflected the current project that we have called "Beyond Sustainability: Radical transformation through system thinking." We received a continually increasing number of poems in both languages for each contest. All poems are then collated into published e-books, which can be found at <https://brocku.ca/unesco-chair/sustainability-poetry-contest/> A YouTube video of the online celebration can also be found on the same site.



2021 & 2022 WINNING ENTRIES

2021

- "One Umbrella" by/par Shelley Anne Locke
- "Hospital Fruit" by/par Ethan Michael Birch
- "Ontario's Cornucopia" by/par Jonathan Vasiljev
- "Healthy & Happy" by/par Coral Foster
- "Mon Apprentissage des Fruits et Légumes" by/par Dominic Scibetta
- "Poème de paix et confiance" by/par Ambar Foster

2022

- "Nos eaux" by/par Maria E Maletta
- "La nature et la société" by/par Ambar Alvarado Foster
- "Beyond" by/par Snežana Obradović-Ratković
- "Infinite apple hack" by/par Amanda Andrews

I would also like to extend a special thanks to my Brock colleagues who served as the judging panel:

Catherine Parayre, Associate Professor and Director for the Centre for Studies in Arts and Culture; **Gregory Betts**, Professor with the Department of English; **Adam Dickinson**, Associate Professor of English and award-winning poet; and **Neta Gordon**, Associate Dean, Faculty of Humanities.

Appointment as Deputy chair of the Commission on Ecosystem Management (CEM) and CCBPP

At the World Conservation Congress during the International Union for Conservation of Nature (IUCN) Council's 106th Meeting in September 2021, I was officially appointed as Deputy Chair of the Commission on Ecosystem Management (CEM). The IUCN is the largest and best-known intergovernmental conservation organization in the world and was, in fact, established by UNESCO. Its objectives are supported by the CEM, which provides expert knowledge and policy advice on environmental, economic, social and cultural factors affecting the management of natural resources and biological diversity. I am honoured to be able to serve the commission in this new capacity as we work on pressing environmental priorities and the need to address the link between the co-existing climate and biodiversity crises. This is quite important when we look at several of the SDGs: especially SDG 13, 14 and 15.

During the World Conservation Congress, which took place in Marseille, France, from Sept. 3 to 11, we were able to organize a campus session with young professionals. I also contributed to the session on nature-based solutions and young professionals, and the promotion of the newly released Principles for ecosystem restoration to guide the United Nations Decade on Ecosystem Restoration 2021–2030. Adopting principles that support ecosystem restoration and improve biological diversity will be critical to achieving our sustainability goals in the future. Similarly, my work as the co-lead of the new thematic group on climate change and biodiversity policy and practice, will serve to re-emphasize the intricate links between these two important world challenges and their role in moving to a sustainable future.



Reflecting on CCUNESCO Presidency

After four years as President of the Canadian Commission for UNESCO (CCUNESCO), I can now reflect on this experience. My last executive committee was on April 20, where I provided the following reflections: Overall it was very busy, but also very positive. I made a lot of new connections and friends. It also gave me a great appreciation of the work that is happening in this area, a lot of which is done “behind the scenes,” as we often say. In this case it is really true.

I have been greatly appreciative of the secretariat of the CCUNESCO. They all do amazing work, and they maintain these connections with all the UNESCO networks such as the Geoparks, Biosphere, UNESCO chairs, associated schools, etc. I know that I will remain in contact with many of you as the work is never completely finished. I am still passionate about EDI, biosphere regions, and connecting with fellow UNESCO chairs. It also brought me closer to different divisions at UNESCO headquarters, such as the Man and Biosphere program, the Indigenous and cultural program, etc.

Linking Brazil and Canada

“The eyes of the communities:
Understanding the fishermen’s
perception about climate change

Written by: Marcela Faralhi

The idea of working with the fishing community came from my experience in Brazil, where I could see how much we can learn from them, listening and respecting the vision of those who are out there each day. In my first meeting with Dr. Vasseur, I noticed her great willingness to help me achieve my goals based on her broad experience and knowledge. This project also will have the collaboration of the Federal University of Lavras, Brazil, and is being funded by Global Affairs Canada through the Emerging Leaders Americas program.

Although as an international student I have always faced difficulties regarding knowledge of the study region and language barriers, the Niagara region, one of the most popular fishing regions in Canada, has offered me kindness, acceptance and support to do what I love: discover new insights into our planet, understand more about the impact we have on it, and how this reflects on our community and the environment.

Dr. Vasseur’s lab has brought me the opportunities, tools and inspiration to do this. Their confidence in our work changes everything. This project has opened my eyes to other possibilities and interests and will contribute greatly to my education as an academic and as a person. I look forward to sharing the results with the community.



PACHA: Improving the resilience of communities

In the Ecuadorian Andes, mainly in the province of Chimborazo, rural communities are struggling to maintain a good standard of living due to climate and environmental changes. Since 2017, with the Escuela Superior Politecnica de Chimborazo (ESPOCH) in Riobamba, we have been developing a project that aims to improve the resilience of the communities with focus on restoration and conservation of many environments, such as the paramos. This fragile wetland ecosystem is threatened by cattle and sheep that are not adapted to this system.

An effort is in place to reduce the use of these two animals with the dwarf alpaca, a native species that is adapted to the paramos and does not destroy it. With help from another university in Colombia, University El Bosque, and Lakehead University (Canada) the production of ancestral handicrafts in San Juan communities is now being developed with alpaca wool. This will give more opportunities for women to increase their livelihoods and income, and therefore, become more sustainable. Other projects are also starting from the interactions between the community, including sustainable tourism and the use of fertilizers from vicuña manure to improve sustainable agriculture and reduce impacts on the environment.

This long-term project contributes to several SDGs at the same time, including #1, 5, 8, 13 and 15. Support from different partners also contributes to SDG17. For example, in the past years, under the Emerging leaders of Americas Program of the Department of Global Affairs Canada, three students from ESPOCH have been able to come to Brock University to further their education and learn new skills that are now used for the project.

We all hope to have a new one in the coming year.



Ecuadorian Andes, in the province of Chimborazo.
Photo taken by: Liette Vasseur

The core group of the UNESCO Chair on Community Sustainability includes Drs. Christine Daigle, Diane Dupont and Christopher Fullerton.

More international colleagues will be added in the coming years, to collaborate and partner on local and global research initiatives.

Young Professional Exploration Group (YPEG): Moving beyond sustainability

Considering the current world challenges that today's youth will soon have to face, their opinions need to be heard. Young people do not see the world as most older adults do, and are highly concerned about what is to come and what the world the inhabit will be like in the future. The Beyond Sustainability project has thus decided to create a Young Professional Group, which has been working to develop blogs, videos and other communications materials that will show and share their own views of the world, and how it can be transformed to become more sustainable. The various materials that they are producing will soon be posted on the [Beyond Sustainability section of the UNESCO Chair website](#).

As another method of gaining public perspectives and insights, we have also launched a [call for photographs](#) where anyone can submit a photo with a short description to express their views of the world and its sustainability.

Sustainable agriculture: Local and Global Projects

Sustainable agriculture is an essential step toward achieving SDG2, Zero Hunger, as well as contributing to SDG 13 and 15. Our projects in Canada, China and Ecuador demonstrate the importance of looking at the various aspects of agriculture, from crop and soil to human needs and capacities.

Despite the COVID-19 pandemic, we have been able to continue some of these projects by working remotely and thanks to online communication methods. This long-term north-south-south collaboration is now also benefiting some of the Kichwa communities of the Chimborazo in Ecuador.

For example, the dwarf alpaca is being introduced as it does not damage the fragile paramos environment of the Andes, while also providing food and wool to the local farmers. Further, the wool is also giving women a chance to make different products that can be sold to tourists. This new income opportunity is welcome, as these are among the poorest communities in the province.



Women in science, IDEA, and L'Oréal Canada

Women in science and gender issues / EDI (equity, diversity, and inclusion) continue to remain an important subject for my UNESCO Chair. The third week of November 2021, we had the reception to celebrate the new L'Oréal Women in Science Laureates. We first had a lunch with the laureates and, in having discussions with them, we realised how many of the same topics that we discussed a couple of years before still remained the same today. It demonstrates that we still have much more work to do.

Indeed, I should say that we (Ellie Haine and Virginie Hotte-Dupuis from L'Oréal-Canada) have organized a session at the Canadian Coalition on Women in Engineering, Science, Trades and Technology in Halifax in May.

November was also busy as Jocelyn Baker and I published the Tool kit for research lab, which you can find on the CCUNESCO website and [the UNESCO Chair site](#).



Celebrating the new L'Oréal women in science laureates

We were inspired to do this work by a panel discussion that we had in 2019 in Ottawa where EDI changed to IDEA for Inclusion, Diversity, Equity, and Accessibility.

Since then, this has been adopted for the Tool Kit as well as the for the development of the IDEA Strategic Plan for the Faculty of Math and Science at Brock University, where I chair the committee working on this plan.

And, why not, Soapbox!

I took the podium at Soapbox Science Ottawa 2021 on September 22, with the goal of spreading the importance of the protection of our agroecosystems. The event was a public outreach platform for promoting women scientists and the science they do. The goal is to give audiences a forum to meet prominent female leaders in science, technology, engineering, mathematics and medicine (STEMM).

Chief organizer of Soapbox in Canada, Janelle Fournier, invited me to speak at the event (of course, virtually, due to COVID-19 restrictions at the time).

In my agroecosystem research we seek to protect the system through the use of more environmentally friendly techniques to reduce impacts on the environment, such as the reduction of pesticides and other agrochemicals. This is related both to sustainable agriculture as well as the important place that women have in this discipline.

Big news from the Niagara Escarpment Biosphere

The most recent big news for this project relates to the Niagara Escarpment Biosphere Network (note: we don't use Reserve anymore in Canada, due to the historical significance of the word), which received its incorporation at the end of March 2022. The Niagara Escarpment Biosphere region was managed by the Niagara Escarpment Commission, which played the conflicting roles of convenor and regulator.

In the fall of 2019, the Transitional Leadership Committee (TLC), which I am a member of, was established to develop a new governance structure and, especially, to rebuild trust and engagement with Indigenous peoples. In July 2021, the TLC signed a MOU with Plenty Canada and since then we have been working together to develop the new governance structure. On Friday April 22, we celebrated a major milestone that included new funding, as well as the celebration of Earth Day and the launch of the UN Decade on Indigenous Languages.

In the past summer and fall, a project on the inventory of indigenous plants on the Laura Secord Legacy Trail was also completed as part of the NEBN activities. All research data has now been given to Plenty Canada, and they are now working on the translation of the material into Mohawk and its eventual integration into the Great Niagara Escarpment Cultural Map project.

This represents a significant project that uses the Two-Eyed Seeing framework, where both western science and Indigenous knowledge are combined and are of equal importance and respect.



Niagara
Escarpment
Biosphere
Network

Moving even further in “Beyond Sustainability”

Trying to bring the discussion about this project to the public has been a complicated affair with the pandemic. In July 2021, with the help of Mike Halle from the Niagara Escarpment for Sustainable Travel, the research team turned to the social networking app Clubhouse. The Beyond Sustainability Hub on the Clubhouse platform was developed as an effective way to share information about our work and remove knowledge translation barriers between researchers and the public. This also answers the call of the UNESCO Recommendation on Open Science, bringing our research to the public locally and globally. This freely downloadable phone app is an audio-only social networking app that allows for discussion with people across the world. With over 700 members and growing, the research team has been able to discuss topics such as: What is beyond sustainability?; What is system thinking?; Why the sustainable development goals are not enough?; and Rethinking our connection to nature: a solution? The discussions are now recorded and can be heard by clicking on [Sustainable Travel Hub link](#).



Beach in Jurmala, Latvia, September 2019
Photo taken by: Liette Vasseur

India: EPTS 2022 Presentation

The advantage of the virtual life. I was honoured to be invited by Dr. Maneesha V. Ramesh, UNESCO Chair on Experiential Learning for Sustainable Innovation & Development, to speak at the International Symposium on Educational Pedagogies and Technologies for Sustainable Development (EPTS 2022), conducted from 24 to 26 January 2022. This event, which attracted more than 1275 participants, was a great opportunity to discuss education for sustainable development and how the use of technologies can support such work. I presented on “Reconnecting students to nature: it is never too late” as a keynote presentation. While technologies in the classroom can be great, it is important for schoolteachers and students to not lose the importance of the natural environment. There is another advantage, too: technologies can be used outdoors to also understand



our environment better. SDG #4 remains important for me, not only as a professor in a university but for communities. Quality education should include all parts of our lives and nature is an essential part, as without water, biodiversity, etc., there is no life. I know that two Canadian UNESCO Chairs working on experiential learning were present, we will certainly meet again very soon to discuss new opportunities.

Adding climate change resilience

For farmers, unpredictability of the weather can lead to crop and income loss. Under current climate change projections, extreme events have become more frequent in many regions of the world, including the Chimborazo and even the Niagara region in Canada.

Our project with organic vineyards is demonstrating the challenges for farmers in dealing with this unpredictability. In 2019, the spring and summer were cool and rainy but 2020, alternatively, was hot and dry, especially in the summer. While early 2021 was semi dry, the last months of the growing season were cool and wet. This led to high variation in yield and berry quality from year to year. To buffer these variations (which can also be daily as well as seasonal), cover cropping is promising, and our research suggests that biodiversity can support this advantage. Indeed, soil temperature can be cooler by several degrees when cover crops are added, even under the rows of vines. While more research is still needed to better understand which species are best in the local context, it is now important to think about how to transfer the information to other regions of the world where farmers are facing similar challenges, such as South America and Africa.



Organic vineyard research site in Niagara, Ontario.
Photo taken by: Liette Vasseur

Costa Rica: Symposium on Transformative Change

In this context, the topic of transformative change is relatively new in Costa Rica. I was invited to a symposium on transformative change and research within the Scientific Congress on Biodiversity and Conservation of Costa Rica, on November 19, 2021. This invitation came through the work on the “Beyond Sustainability Project” and the collaboration with Bernal Herrera-Fernández (who was one of the organizers of the congress).

This initiative was organized by the state universities, Tropical Science Center (the oldest Ngo of its character in the country) and the Commission on Ecosystem Management. The Congress Scientific Organizing Committee felt it was important to address the definition, dimensions, and its relationship with research. Indeed, transformative change is becoming an urgent topic in the sphere of sustainability and conservation. It is clear that business-as-usual can no longer be acceptable. Transformation requires a holistic view of the world where we recognize the importance of connecting aquatic, marine and terrestrial ecosystems, and as appropriate, urban-rural-nature interdependence. Similarly, all SDGs are connected and to embrace their interdependence, there is also a need to transform as working them. Continuing in silos is simply not going to work.

Food security in West Africa

Burkina Faso and Senegal were affected early on by the pandemic as the national authorities introduced very restrictive measures (curfew, temporary closure of markets, borders, schools, etc.) to counter it. The biggest impact of these measures was on food security in the two countries. In the fall of 2020, the Centre for International Studies and Cooperation (CECI) approached the UNESCO Chair to be the research lead in Canada for a new project. The aim of the project was to understand the impact of the pandemic on food security in rural communities of both Burkina Faso and Senegal as well as the degree of reconfiguration (negative or positive) of gender relations regarding food security following the crisis and the measures put in place to resolve it. The project showed how disruptive the prevention measures had been on the four pillars of food security, especially in relation to availability and accessibility. The border closure largely limited accessibility to markets for essential goods purchase and the sale of products. Women were especially affected due to gender violence and the priority of giving food to men and children before themselves. At the same time, the project showed that women were very creative and found new ways to access goods, even if sometimes illegally.



Two literature reviews have already been published showing the existing gaps related to food security and gender issues. A few more manuscripts are coming regarding the results. Policy briefs are being translated and will be available in French and English on the [Chair's website](#).

Path2Integrity Dialogues: April 7

On April 7, I had the honour of presenting in a Dialogue organized by [Path2Integrity](#), which is a Horizon 2020 Research Integrity. The topic was Higher Education and/or within Research Integrity and I was asked to talk about gender issues. As a researcher and a former research administrator, this is a topic close to my heart. The topic has taken a greater importance with the adoption of the UNESCO Recommendations on Science and Scientific Researchers (2017) and Open Science (2021). With a greater public exposure of research data and results, integrity is taking a central role in ensuring that the right information that is evidence-based is accessible.

It may also lead to greater detection of lack of integrity in many fields that have been pressured for a long time with the issue of "publish or perish." The gender angle of research integrity is also important. From my experience, while men and women may plagiarize relatively at the same level (cases caught while being an administrator), men tend to be more protective of their data and possible manipulations. As a Co-editor in chief, I have seen in some occasions of reviewers being harsher on female authors than male. The situation is especially obvious among different cultures. Much remains to do to understand these issues as they often exist within the realm of unconscious bias. What is also clear is the need for greater education, which should start as early as possible in universities and colleges. Quality education is required for quality science and scientific researchers.