



## LOYOLA SUSTAINABILITY RESEARCH CENTRE

ANNUAL REPORT 2022 - 2023

## Loyola Sustainability Research Centre

## 1. Mission Statement

The Loyola Sustainability Research Centre (LSRC) promotes a transdisciplinary approach to research and education about relationships among natural, human, and technological systems through basic and applied research, research creation, and art and design. Our understanding of environmental issues and their societal context emphasizes interactions between social and ecological systems from local to global scales, a problem-oriented choice of methods, and solution-oriented integration of results from different perspectives. The LSRC brings faculty members, students, and post-doctoral associates from across the university together to explore the many facets of sustainability and resilience. The LSRC supports research synthesis and knowledge transfer relevant to decision-making, policy, and a transition toward a culture of sustainability.

## 2. Membership (name and affiliation)

## 2.1. Core members

- 1. Matthew Barker (Philosophy / Loyola College for Diversity and Sustainability)
- 2. Pascale Biron (Geography, Planning and Environment / Science College)
- 3. Natasha Blanchet-Cohen (Applied Human Sciences)
- 4. Selvadurai Dayanandan (Biology)
- 5. Emma Despland (Biology / Science College / Loyola College for Diversity and Sustainability)
- 6. Rebecca Dziedzic (Building, Civil, and Environmental Engineering)
- 7. Dylan Fraser (Biology)
- 8. Matthias Fritsch (Philosophy)
- 9. James Grant (Biology / Loyola College for Diversity and Sustainability / Science College)\* Co-director of the LSRC from January 2023 to present
- 10. Jochen Jaeger (Geography, Planning and Environment / Loyola College for Diversity and Sustainability)
- 11. Philippa K. Langshaw (Design and Computation Arts / Loyola College for Diversity and Sustainability)
- 12. Jean-Philippe Lessard (Biology)
- 13. Shannon Lloyd (Management / Loyola College for Diversity and Sustainability)
- 14. Damon Matthews (Geography, Planning and Environment)
- 15. Elizabeth Miller (Communication Studies / Loyola College for Diversity and Sustainability) \* Co-director of the LSRC from July to December 2022
- 16. Katja Neves (Sociology and Anthropology / Loyola College for Diversity and Sustainability)
- 17. Raymond Paquin (Management / Loyola College for Diversity and Sustainability)
- 18. Pedro Peres-Neto (Biology)
- 19. Eric Pederson (Biology)
- 20. Amy Poteete (Political Science)
- 21. Rajshree Prakash (Management)

- 22. Sam Rowan (Political Science)
- 23. Jeannine Marie St-Jacques (Geography, Planning and Environment)
- 24. Craig Townsend (Geography, Planning and Environment)
- 25. Sarah Turner (Geography, Planning and Environment \* Co-director of the LSRC 2022-2023
- 26. Robert Weladji (Biology)
- 27. Anya Zilberstein (History)

#### 2.2. Associate Members (Internal Associates)

- 1. Bengi Akbulut (Geography, Planning and Environment)
- 2. Anjali Awasthi (Concordia Institute for Information Systems Engineering)
- 3. Michael Bossert (CERC Smart, Sustainable, and Resilient Communities and Cities)
- 4. Joel Bothello (Management)
- 5. William Bukowski (Psychology / Loyola College for Diversity and Sustainability)
- 6. Carmela Cucuzzella (Design and Computation Arts)
- 7. Ricardo Dal Farra (Music)
- 8. Amelie Daoust-Boisvert (Journalism / Loyola College for Diversity and Sustainability)
- 9. Effrosyni Diamantoudi (Economics)
- 10. Jill Didur (English)
- 11. Ursula Eicker (Building, Civil, and Environmental Engineering)
- 12. Yves Gelinas (Chemistry and Biochemistry)
- 13. Govind Gopakumar (Centre for Engineering in Society)
- 14. Thibaud Henin (Political Science)
- 15. Kregg Hetherington (Sociology and Anthropology)
- 16. Angela Kross (Geography, Planning and Environment)
- 17. Simon Langlois-Bertrand (Political Science)
- 18. Alex Matveev (Geography, Planning and Environment)
- 19. Catherine Mulligan (Building, Civil, and Environmental Engineering)
- 20. Monica Mulrennan (Geography, Planning and Environment)
- 21. Ali Nazemi (Building, Civil, and Environmental Engineering)
- 22. Ketra Schmitt (Centre for Engineering in Society)
- 23. David Secko (Journalism)
- 24. Stefania Strantza (Economics)
- 25. Rebecca Tittler (Loyola College for Diversity and Sustainability / Geography, Planning and Environment)
- 26. Peter van Wyck (Communication Studies)
- 27. Carly Ziter (Biology / Loyola College for Diversity and Sustainability)

#### 2.3. Junior Associate Members (graduate students and post-docs)

- 1. Jacob Baby (PhD Student)
- 2. Isabelle Boucher (PhD Student)
- 3. Debdeep Chaterjee (PhD Student)
- 4. Jenny Chaverri (PhD Student)

- 5. Pramila Choudry (PhD Student)
- 6. Jonathan Cole (PhD Student; Geography, Planning and Environment)
- 7. Chloe Cull (MSc student)
- 8. Miguel Ángel Del Pino (MASc Student)
- 9. Joëlle Dubé (PhD Student)
- 10. Stephanie Eccles (PhD Student)
- 11. Elahe Fakoor (PhD Student)
- 12. Ahad Farnood (PhD Student)
- 13. Kyleisha Foote (PhD Student; Geography, Planning and Environment & Biology)
- 14. Clara Freeman-Cole (MSc Students; Geography, Planning and Environment)
- 15. Marie Gagné (Post-doctoral Fellow; Political Science)
- 16. Brian Gallagher (PhD Student; Biology)
- 17. Mikaela Gerwing (PhD Student)
- 18. Julia Ginsburg (PhD Student; INDI program)
- 19. Maida Hadziosmanovic (PhD Student; Geography, Planning and Environment)
- 20. Olha Hnatyshyn (PhD Student; Economics)
- 21. Kyle Krumsick (Postdoctoral Fellow; Biology)
- 22. Semini Kushara Nawalage (PhD)
- 23. Mark Kwakye Frimpong (PhD Student; Political Science)
- 24. Caroline Lesage (MSc Student; Geography, Planning and Environment)
- 25. Rubens Lima Moraes (PhD Student; Political Science)
- 26. Tayebeh Malmir (MASc Student)
- 27. Sepideh Mosharafian (MSc Student)
- 28. Alexander Pace (PhD Student; Geography, Planning and Environment)
- 29. Gerald Pond (PhD Student)
- 30. Kian Rahimi (PhD Student; Mechanical, Industrial, and Aerospace Engineering)
- 31. Negarsadat Rahimi (PhD Student)
- 32. Sreelakshmi Ramachandran (PhD Student)
- 33. Isabella Richmond (PhD Student)
- 34. Paul Savary (Post-doc)
- 35. Faisal Shennib (PhD Student)
- 36. Allegra Spensieri (MSc Student)
- 37. Brogan Stewart (PhD Student; Geography, Planning and Environment)
- 38. Andrée Tremblay (PhD Student; Communication Studies)
- 39. Jordi Vilanova I Broto (PhD Student)
- 40. Hadassah Winters (PhD Student)
- 41. Nicole Yu (MSc Student)
- 42. Larissa Zemke (MFA Student; Design and Computation Arts)

#### 2.4. External Associate Members

- 1. Eric Abitbol (Universalia)
- 2. Anna-Liisa Aunio (Dawson College)
- 3. Piero Genovesi (IUCN Invasive Species Specialist Group
- 4. Christopher Gore (Ryerson University)

- 5. William V. Kennedy (UNEP)
- 6. Sandy Lamalle (Earth Systems Governance Representations of and Rights for the Environment Workgroup)
- 7. Cristina Romanelli (World Health Organization)
- 8. Tonia Ruppenthal (Hochschule Fulda University of Applied Sciences)
- 9. Laura Shillington (John Abbot College)
- 10. Peter Stoett (Ontario Tech University)
- 11. Owen Temby (University of Texas Rio Grande Valley)
- 12. Scott Vaughan (International Institute for Sustainable Development)

#### 2.5. Advisory Board Members

- 1. Jason Ens Executive Director, Academic Policy, Planning, and Strategic Initiatives, Office of the Provost and Vice-President, Academic Affairs
- 2. James Grant Co-Director of the Loyola Sustainability Research Centre / Principal of the Loyola College for Diversity and Sustainability / Department of Biology, Faculty of Arts and Science
- 3. Patrick Leroux / Aaron Johnson Associate Dean Research, Faculty of Arts and Science
- 4. Elizabeth Miller Co-Director of the Loyola Sustainability Research Centre / Department of Communication Studies, Faculty of Arts and Science
- 5. Rebecca Tittler Coordinator of the Loyola Sustainability Research Center / Loyola College for Diversity and Sustainability
- 6. André Tremblay Ph.D. Student and Student Associate Member of the Loyola Sustainability Research Centre / Department of Communication Studies, Faculty of Arts and Science
- 7. Manon Tremblay Senior Director, Indigenous Directions, Office of the Provost and Vice-President, Academic Affairs

#### 2.6. Administrative Board Members

- 1. Natasha Blanchet-Cohen Department of Applied Human Sciences, Faculty of Arts and Science
- 2. James Grant Co-Director of the Loyola Sustainability Research Centre / Principal of the Loyola College for Diversity and Sustainability / Department of Biology, Faculty of Arts and Science
- 3. Shannon Lloyd Department of Management, John Molson School of Business / Loyola College for Diversity and Sustainability, Faculty of Arts and Science
- 4. Elizabeth Miller Department of Communication Studies / Loyola College for Diversity and Sustainability, Faculty of Arts and Science
- 5. Katja Neves Department of Sociology and Anthropology / Loyola College for Diversity and Sustainability, Faculty of Arts and Science
- 6. Raymond Paquin Department of Management, John Molson School of Business / Loyola College for Diversity and Sustainability, Faculty of Arts and Science
- 7. Sarah Turner Department of Geography, Planning and Environment, Faculty of Arts and Science

## 2.7. Collaborators

LSRC members collaborated with more than 125 researchers in other institutions across the world this year.

2.8. Partner Organizations<sup>1</sup>

(Non-University e.g., Industry; NGOs; governmental; community)

- 1. Canada Space Agency
- 2. Canadian Coalition for the Rights of Children (Toronto, ON)
- 3. Casa da Criança e do Adolescente (Brazil)
- 4. Child Rights Connect (Switzerland)
- 5. Child Welfare Political Action Committee Canada (Toronto, ON)
- 6. Children's Parliament (United Kingdom)
- 7. Compute Canada
- 8. Concordia University (Montréal, QC)
- 9. Corridor Appalachien
- 10. Éco-corridors Laurentiens
- 11. Environment and Climate Change Canada
- 12. Equal Education (South Africa)
- 13. Equitas: International Centre for Human Rights Education (Montréal, QC)
- 14. Eurochild (Belgium)
- 15. Families Canada (Ottawa, ON)
- 16. Fisheries and Oceans Canada
- 17. Future Earth / Sustainability in the Digital Age
- 18. Genome Canada
- 19. Government of New Brunswick (Fredericton, NB)
- 20. Hydro Quebec
- 21. International Center for Research and Policy on Childhood (Brazil)
- 22. International Child Protection Network of Canada (Mississauga, ON)
- 23. International Institute for Child Rights and Development (Victoria, BC)
- 24. Learning for Well-being Foundation (The Netherlands)
- 25. Leibniz Institute for Ecological Spatial Development (IOER)
- 26. Les amis des Champs de Possibles (Montreal)
- 27. McGill University (Montréal, QC)
- 28. *Mila (Quebec)*
- 29. Ministère de l'environnement et de la lutte contre les changements climatiques (Quebec)
- 30. Ministère des Forêts, de la Faune et des Parcs (Québec)
- 31. Ministry of Public Safety (Quebec)
- 32. Ministry of Transportation (Quebec)
- 33. National Film Board of Canada
- 34. Natural Resources Canada
- 35. Observatoire International sur les Impacts Sociétaux de l'IA et du Numérique (Quebec)
- 36. Ouranos Research Consortium (Quebec)

<sup>&</sup>lt;sup>1</sup> Note that this list is not exhaustive.

- 37. Parks Canada
- 38. People for Education (Toronto, ON)
- 39. Plan Canada (Toronto, ON)
- 40. Public Health Agency of Canada (Ottawa, ON)
- 41. Reimagine AI
- 42. Sauvons la Falaise (Montreal)
- 43. Save the Children Canada (Toronto, ON)
- 44. SHERPA (Montréal, QC)
- 45. Southern Cross University (Australia)
- 46. Swiss Federal Institute for Forests, Snow, and Landscapes (WSL)
- 47. Terre des hommes (Switzerland)
- 48. The Transition Accelerator
- 49. United Nations (Italy)
- 50. United Nations (South Africa)
- 51. University of Cape Town (South Africa)
- 52. University of Dundee (United Kingdom)
- 53. University of Edinburgh (United Kingdom)
- 54. UrbaNature (Montreal)
- 55. World Vision (Monrovia, CA)

#### 2.9. Other Concordia University Partners

The LSRC has an official partnership with the Next-Generation Cities Institute. However, the LSRC also has associations with Milieux; the Indigenous Futures Research Centre; the Concordia Institute for Water, Energy, and Sustainable Systems; the Sustainability in the Digital Age; the Leadership in Environmental and Digital Innovation for Sustainability (LEADS) program; and the Centre for Oral History and Digital Storytelling.

#### 2.10. Networks

LSRC members are affiliated with the following networks:

- NSERC Create LEADS (Leadership in Environmental and Digital Innovation for Sustainability)
- The Quebec Centre for Biodiversity Research
- The Centre for Forest Research
- The Network for Sustainable Agriculture
- Le Groupe de recherche interuniversitaire en limnologie
- Future Earth

#### 2.11. Staff

Rebecca Tittler is the only staff member of the Loyola Sustainability Research Centre. Her official title is Research Administration Coordinator. In addition to providing support for the LSRC,

Rebecca is the academic advisor for all the students of the Loyola College for Diversity and Sustainability, where she also provides the only administrative support for the unit and is responsible for coordinating and running the internship program, managing the budget, scheduling classes, organizing the part-time and TA hiring processes, liaising with student organizations on campus, and much more. She is also involved in all curriculum development at the College. Although her LCDS/LSRC position is full-time, the College portfolio requires upwards of 60% of her time.

## 3. Governance Structure

## 3.1. Organization Chart

The administrative structure of LSRC consists of two Co-Directors or a Director, the Administrative Board, the Advisory Board, the Annual Assembly, and Special Assemblies.



## 3.2. Co-Directors / Director: Responsibilities and Selection

As a research centre recognized by the Faculty of Arts and Sciences, the LSRC is led by two Co-Directors or, if this is not possible, by one Director. These positions report to the Dean or Associate Dean of Research in the Faculty of Arts and Science. The responsibilities of these positions are as follows:

- overseeing the scientific direction and administration of the research unit

- overseeing the coordination of LSRC activities, including outreach, special events, and management of communications both within the unit and externally to partner institutions, external members, funding agencies, and the community.

- managing the day-to-day staff operations of the unit

-ensuring that the unit conforms to the relevant Collective Agreements and policies in effect within Concordia University

- managing or overseeing the management of the budget of the unit

- preparing or overseeing the preparation of the annual report, which includes reporting on budget, human resources, internal relations with other Concordia units such as departments and faculties, and inter-institutional affiliations

- reviewing material for renewal of the recognition status

- developing and revising plans for securing external and internal funding for the unit's operations and research activities.

These positions are elected for three years and may be re-elected for a second three-year term without re-nomination. An outgoing Co-Director or Director can be re-nominated for a third term following the procedure outlined below. When there are Co-Directors, their terms are staggered.

The nomination and election procedure for Co-Directors and Directors is as follows: A call for nominations is sent out to Core Members<sup>2</sup> by the second week of the last winter semester of an outgoing Co-Director or Director's term. Ten working days are allowed for nominations. Nominees must be Core Members. Self-nominations are not allowed. Following the nomination process, the Coordinator circulates the CVs of the nominees to Core Members, who are then given ten working days to vote. A non-vote is treated as an abstention. The nominee with the majority of the votes cast is appointed to the position, subject to the approval of the Dean or Associate Dean of Research in the Faculty of Arts and Science. In the event that this process is unsuccessful in filling at least one Director's position, it is repeated. The directorship term runs June 1-May 31. When there is a single Director, a call for nominations for a Co-Director occurs the second week of January every year until the position is filled.

Upon approval of the current document, the sitting Co-Directors will complete the terms to which they have already been elected. Their replacements will be elected according to the procedures detailed above.

#### 3.3. Administrative Board (AB)

This seven-member body oversees the strategic direction and administration of LSRC. The AB is responsible for determining the Centre's policies and procedures, advising on operations and activities, and selecting the members of the Advisory Board. In addition to the two Co-Directors, the AB consists of the Principal of the Loyola College for Diversity and Sustainability, one previous Director or Co-Director of the LSRC, and three other Core Members. The Coordinator of the LSRC serves as the recording secretary. The Coordinator does not have voting rights unless elected as one of the representative Core Members on this body. The Core Members and the previous LSRC Director/Co-director (if there is more than one interested) are elected to serve two-year terms. The election procedure is the same as for the Co-Directors (see 2a) except that self-nominations are allowed. There are at least two meetings each year.

<sup>&</sup>lt;sup>2</sup> Core members are internal Concordia researchers from any faculty whose primary internal research affiliation is with the LSRC. Note that this does not include postdoctoral fellows. See 3 and 4 for details on membership.

Upon approval of the current document, the administrative board will be formed in accordance with the procedures detailed above.

## 3.4. Advisory Board (AdvB)

This seven-member body is responsible for providing general guidance and advice on LSRC operations and events and serves to facilitate information exchange. In addition to the two Co-Directors / Director, the AdvB consists of the Dean or Associate Dean of Research of the Faculty of Arts and Science, the Coordinator of the LSRC, two to three Concordia representatives who are not affiliates of the LSRC (two if there are Co-Directors, three if there is a Director), and one current Concordia student. The three Concordia representatives and the student are appointed by the AB, the former for a two-year and the latter for a one-year term. There is at least one meeting each year.

Upon approval of the current document, the advisory board will be reconstituted in accordance with the procedures detailed above.

## 3.5. Membership, participation, and reporting

All affiliates of the LSRC are expected to be active in the intellectual life of the LSRC, attending seminars and/or workshops whenever possible. Affiliates are encouraged to participate via web conference when they are not local to reduce carbon costs of travel. Anyone wishing to become an affiliated member of LSRC must have a clear link to the LSRC mission. Those applying for Core Membership, Internal or External Associate, or Visiting Associate status must submit a *curriculum vitae* and/or bio. New applications will be vetted by the Centre's Coordinator and, except for potential Student and Post-doctoral Associate, or External Associate of the LSRC, their *curriculum vitae* and/or bio will be circulated to all Core Members, who will then have ten business days to vote on their inclusion. A failure to vote within this timeframe will be taken as an abstention. New Core Members, Internal Associates, and External Associates will be accepted based on a majority of Core Member votes in favour. Affiliates are expected to acknowledge the contribution of LSRC in their work when appropriate.

The Loyola Sustainability Research Centre subscribes to the Statement on Equity, Diversity and Inclusion (EDI) set forth by the Tri-Council funding agencies of the Government of Canada and to that set forth by Concordia University. It is committed to

- Supporting equitable access to funding opportunities for all researchers and trainees;
- Promoting the integration of equity, diversity and inclusion-related considerations in research design and practices; and
- Increasing equitable and inclusive participation in the research system, including on research teams.

The LSRC will work to develop the inclusive culture needed for research excellence and to achieve outcomes that are rigorous, relevant and accessible to diverse populations.

## 3.6. Categories of affiliation

LSRC has the following five broad categories of affiliation:

#### 3.6.1. Core Members

University researchers or practitioner researchers/creators/artists who are deeply invested in the research activities and intellectual life at LSRC and for whom LSRC is their primary Concordia research centre association. The Coordinator, hired by the Faculty of Arts and Sciences, will be a researcher or practitioner researcher and thus a Core Member. As individuals whose connection to LSRC is substantial and long-standing, Core Members advise the Administrative Board in setting the Centre's strategic direction through their participation in Annual Assemblies and Special Assemblies.

#### 3.6.2. Internal Associates

University researchers or practitioner researchers/creators/ artists based at Concordia whose primary Concordia research centre association is not with the LSRC. This category also includes those who are at Concordia but have neither a permanent nor a tenure-track position, as well as retired former Core Members. LSRC Internal Associates are still expected to significantly advance the mission and outreach of LSRC through regular collaboration and attendance at LSRC events but will not be expected to take on an unpaid administrative load.

#### 3.6.3. External Associates

University researchers or practitioner researchers/creators/ artists or community-based researchers and artists not based at Concordia whose activities enrich the community of practice of the LSRC. External Associates are still expected to significantly advance the mission and outreach of LSRC through collaboration and, if possible, attendance at LSRC events, but will not be expected to take on an unpaid administrative load.

#### 3.6.4. Student and Post-doctoral Associates

Affiliated researchers who are working under the supervision of a Core Member or Internal Associate or whose affiliation is recommended by a Core Member or Internal Associate. Student and Post-doctoral Associates will have the option to be profiled on the LSRC website and will be invited, whenever possible, to participate in LSRC events.

#### 3.6.5. Visiting Associates

Visiting researchers who have applied to be affiliated with LSRC during their stay in Montreal. The duration of these residencies is a maximum of one year, renewable.

#### 4. Research Objectives and Program

## 4.1. Mission in relationship to Concordia and the Faculty strategic plan and to the landscape of other similar research units, provincially and nationally

The mission of the Loyola Sustainability Research Centre (LSRC) is to promote a transdisciplinary approach to research and education about relationships among natural, human, and technological systems through basic and applied research, research creation, and art and design. This mission is relevant to several of the 9 Strategic Directions of the University, including Double our Research, Mix it Up, Experiment Boldly, and Get your Hands Dirty. This mission is also in line with the Sustainability Action Plan of the University. Specifically, the

LSRC supports inter-disciplinary networking, collaboration, and research in sustainability and provides grant application support for interdisciplinary sustainability researchers. It also runs conferences and events that increase the visibility of sustainability research at Concordia and this year, it helped develop and piloted the Concordia Sustainable Events certification for online events.

The mission of the LSRC is complementary to that of several other research units at Concordia and within the province, filling an important gap. Within Concordia, several members and affiliates are also associated with the Next Generations Cities Institute (NGCI); Milieux; the Indigenous Futures Research Centre (IFRC); the Concordia Institute for Water, Energy, and Sustainable Systems (CIWESS); and the Centre for Oral History and Digital Storytelling (COHDS). Provincially, members are also associated with the Quebec Centre for Biodiversity Research (QCBS), the Centre for Forest Research (CFR), and the *Groupe de recherche interuniversitaire en limnologie*. However, it is the only research unit that explicitly supports transdisciplinary sustainability research writ large; most other units are more specifically devoted to particular aspects of sustainability, for example, as it pertains to biodiversity (QCBS), forests (CFR), cities (NGCI), etc. It is also the only sustainability-focussed research unit housed within the Faculty of Arts and Science.

Nationally and internationally, several members are associated with Future Earth. Future Earth is a global network of sustainability researchers across disciplines. In some ways, the missions of the LSRC and of Future Earth are similar, although they function at different scales. The LSRC focusses on developing collaborations across disciplines within Concordia, whereas Future Earth has a global focus. Here again, though, the two are complementary; 7 of the 8 Concordia researchers who are part of the NSERC CREATE LEADS (*Leadership in Environmental and Digital innovation for Sustainability*) program *are members of the LSRC. In addition, Future Earth does not host events (seminars, conference, Ignite sessions) to foster conversation across disciplines in the same way that the LSRC does.* 

## 4.2. Overarching goal of centre / institute

Recognizing that many of the wicked sustainability problems of the day cannot be effectively addressed from a single disciplinary perspective, the overarching goal of the LSRC is to foster the conversation and support the development of impactful sustainability research at Concordia, with a particular focus on discussion and research across disciplines.

## 4.3. Research activities in the previous year<sup>3</sup>

In addition to all of the research projects outlined in the Funding, Scholarly Output, and Training of Highly Qualified Personnel sections below, the LSRC runs various events, an annual Ignite session, and an annual Sustainability across Disciplines conference. In 2022-2023, we ran the following:

<sup>&</sup>lt;sup>3</sup> This list is not complete.

In October, we hosted two events: a panel discussion on Wellness and Sustainability and an outside workshop on Urban Smellscapes. The first featured Professor <u>Susan Clayton</u> and practicing psychologist Dr. <u>Inês Lopes</u> in discussion about the increasingly urgent issues of climate and eco-anxiety. The second featured Anna Sigrithur, a current Media Studies MA student, writer and multidisciplinary artist workshopping tools to begin to map the smellscapes of local greenspaces and the urban environment.

In December, LSRC members Emma Despland, Sarah Turner, Rebecca Tittler and PhD student Leila Vaziri attended the 15<sup>th</sup> Conference of the Parties of the Convention on Biodiversity (COP 15); they brought their insights to a lively January panel discussion entitled *International Cooperation at the UN: What came out of the 2022 COPs?* 

As we do every year, in February, the LSRC hosted a closed Ignite session to foster collaboration among members. So as to maximize conversation among and participation of LSRC members, this two-hour event is split into 20-minute blocks of presentations interspersed with 20-minute blocks of discussion. With 35 LSRC members participating in the discussion, this year's presenters were junior associate member Alex Pace, CU Urban Agriculture and Biodiversity Coordinator Jackie Martin, and faculty LSRC members Peter Stoett, Jochen Jaeger, James Grant, Sam Rowan, Carly Ziter, Liz Miller, Sarah Turner, and Rebecca Tittler. As usual, the presentations fostered exciting conversations and mutual learning.

In March, the LSRC teamed up with the Loyola College for Diversity and Sustainability (LCDS) to host its annual Sustainability across Disciplines conference, this year with the theme of *Research that matters: Sustainability, biodiversity, and justice in a time of crisis*. Hosted both online and in person at Concordia's 4TH Space and in the conference centres on both campuses, this weeklong conference featured a series of panels, discussions, workshops, and presentations focussed around the theme. Of particular note were keynote addresses given by Concordia's own Professor Rassim Khelifa (Biology), as well as outgoing Director of Future Earth Eliane Ubalijoro. Other panels featured Indigenous elders Bill Jones (of the Pacheedaht First Nation) and Otsitsaken:ra Charles Patton (of the Kanien'keha:ka Community of Kahnawa:ke). Over 300 people attended the conference synchronously on Zoom or in person and hundreds more have viewed the recordings posted on YouTube.

Finally, in May, several LSRC members hosted a collaborative walking tour of the Loyola campus entitled *Walking with our senses: Grounded pedagical encounters on the Loyola Campus*. This event featured outgoing LSRC co-director Liz Miller in conversation with Rebecca Tittler, Faisal Shennib and Érik Chévrier (of CultivAction), Jackie Martin, and Professors Satoshi Ikeda (Sociology and Anthropology) and Alan Nash (Geography) discussing their work in the context of sensory experience. The tour was attended by about 40 people.

In addition, this year, LSRC Co-Directors James Grant and Liz Miller, Rebecca Tittler, Shannon Lloyd, Damon Matthews, and Catherine Mulligan, in collaboration with Andreas Athienitis (from the Centre for Zero Energy Building Studies) and Monica Mulrennan (Associate Member of the LSRC and Associate VP Research) completed their work on a proposal for a Concordia Incubator for Sustainability Research to fulfill one of the key strategies of the University's Sustainability Action Plan. The proposal was written by Rebecca Tittler, Shannon Lloyd, Liz Miller, and James Grant. The proposed Incubator would support the work of the LSRC and other sustainability-oriented research units and researchers by hosting ideation sessions and providing support and seed funding for the development of impactful, cross-disciplinary sustainability research projects, thus supporting the ongoing work of LSRC and other sustainability researchers across the University.

## 4.4. Future research activities for the next year: workshops, symposia, conferences, summer schools<sup>4</sup>

In the 2023-2024 academic year, the LSRC will again host events throughout the year, including a conference tentatively entitled *How to find hoping in an uncertain future*? in March and an Ignite session in February. Plans are currently in development but some of the issues we are planning on focussing on through these events include engaging local communities and pursuing the pedagogical and research implications of the insights that came out of last year's events, and addressing eco-anxiety.

In addition, the LSRC will collaborate with the Centre for Teaching and Learning to support the incorporation of sustainability into courses across the University, as called for by the 2019 Sustainability Action Plan of the University.

The LSRC will also host the annual conference of the Quebec Centre for Biodivdersity Science in February of this year.

# 1.5. Future long-term objectives: Plans for joint publications, collaborative grants, recruitment of faculty, students, or partner organizations.

Moving forward, the LSRC will continue to support current collaborations and develop new ones, as well as the hiring of sustainability researchers and recruitment of HQP. The LSRC will also continue to support the development of a cross-disciplinary graduate student community. A particular focus in our recruitment is outreach to BIPOC researchers and deepening of relationships with local Indigenous groups and other BIPOC communities.

New collaborations that will be supported in applying for external funding in the coming year include the following:<sup>4</sup>

1.5.1. Enhancing biodiversity, social inclusion, and climate resilience through informal urban green spaces

This project involves LSRC members Amy Poteete, Emma Despland, Liz Miller, Carly Ziter, and Rebecca Tittler and received funding for a pilot year plus a summer's extension from the <u>Sustainable Transitions Team Research Initiative</u> program from the <u>Office of Research</u>, as well by the <u>Canada Summer Jobs</u> program through a partnership with <u>UrbaNature</u>. This year, the research team (1) piloted methods to evaluate the contributions of informal urban green spaces to biodiversity (SDG 15), social inclusion (SDG 11), and climate resilience (SDG 13); (2) assessed the applicability of these methods across four informal green spaces in Montreal with diverse socio-ecological characteristics (Falaise St. Jacques, Technoparc, Champ des Possibles, Boisé Vimont); and (3) engaged urban residents in collaborative learning and reflection in collaboration with community partners. The pilot study lays the foundation to seek external funding to pursue the longer term objectives of (1) evaluating the contributions of informal urban green spaces to biodiversity, social inclusion, and climate resilience; (2) analyzing relationships among various ecological, social, and climate

<sup>&</sup>lt;sup>4</sup> This list is not complete.

buffering traits of these site; (3) raising awareness of the social as well as ecological values, of these spaces; and (4) identifying ways to enhance their contributions to socio-ecological sustainability.

As part of this work, for the second summer in a row, the research team collaborated with local NGO UrbaNature to hire a team of students to run environmental education programs in addition to doing fieldwork at the study sites, thanks to additional funding from the Canada Summer Jobs program (UrbaNature) and Colleges and Community Innovation Program (Emma Despland). This year, the team has been providing regular environmental education programming to underprivileged children in the area through collaborations with local city daycamps.

Several other students will be taken on to work on this project this year.

## 1.5.2. Ongoing collaborations with external funding <sup>5</sup>

In addition, the following collaborations are already externally funded and will continue into the next year(s):

- Damon Matthews (PI), Pedro Peres-Neto, Jeannine-Marie St-Jacques, Sarah Turner, Carly Ziter, Pascale Biron, Bengi Akbulut, and 25 others from other institutions: NSERC CREATE (Science Leadership for Global Sustainability or LEADS). \$1,650,000, 2020-2026.
- Dylan Fraser (PI), Monica Mulrennan and 32 other co-investigators and collaborators from other institutions: Genome Canada Large Scale Applied Research Program FISHES (Fostering Indigenous Small-scale fisheries for Health, Economy + food Security). \$14,415,415; 2019-2023.
- Selvadurai Dayanandan, Emma Despland, Dylan Fraser, James Grant, Jochen Jaeger, Jean-Philippe Lessard, Katja Neves, Eric Pedersen, Pedro Peres-Neto, Sarah Turner, Robert Weladji, Carly Ziter and 91 from other universities across Quebec (PI Andrew Gonzalez from McGill): Fonds Québécois de la Recherche sur la Nature et les Technologies (FQRNT) Regroupement Stratégique (Québec Centre for Biodiversity Science). \$3,000,000 total (1% per LSRC researcher); 2021-2026.
- Emma Despland, Jeannine-Marie St-Jacques, and 72 others (PI Pierre Drapeau, Université du Québec à Montréal): Fonds Québécois de la Recherche sur la Nature et les Technologies (FQRNT) Regroupement Stratégique (Centre for Forest Research). \$3,300,000 (2% per LSRC researcher); 2019-2024.
- Govind Gopakumar (PI), Craig Townsend and 3 others from other institutions: SSHRC Insight. \$280,995; 2020-2024.

## 5. Research Infrastructure and Recourses (if applicable)

The LSRC operates out of the Loyola College for Diversity and Sustainability on the Loyola Campus. Although members do sometimes share equipment, the Centre itself has no infrastructure or physical resources.

<sup>&</sup>lt;sup>5</sup> This list is not complete.

## 6. Budget

## 6.1. Funding for which core members are Principal Investigators<sup>6</sup>

LSRC Core Members brought it over \$1.7 million in research funding this year alone, mostly but not exclusively from SSHRC and NSERC.

## 6.1.2. Funding for which core members are co-investigators or collaborators<sup>7</sup>

LSRC members were collaborations and co-investigators on external grants worth more than \$2.8 million /year.

## 7. Publications (core members only)<sup>8</sup>

- 1. Abe, H., **Fritsch, M.,** & Wenning, M. (Eds.). (2022). *Environmental Philosophy and East Asia: Nature, Time, Responsibility*. Taylor & Francis.
- Amini, M., & Dziedzic, R. (2021, May). Comparison of machine learning classifiers for predicting water main failure. In *Canadian Society of Civil Engineering Annual Conference* (pp. 501-512). Singapore: Springer Nature Singapore.
- 3. Arranz, I., Fournier, B., Lester, N. P., Shuter, B. J., & Peres-Neto, P. R. (2022). Species compositions mediate biomass conservation: The case of lake fish communities. *Ecology*, 103(3), e3608.
- 4. **Barker, M. J.** (2022). We are nearly ready to begin the species problem. In *Species Problems and Beyond: Contemporary Issues in Philosophy and Practice* (pp. 3-38). CRC Press.
- 5. Barker, M. J., & Fraser, D. J. (2023). Misrelating values and empirical matters in conservation: A problem and solutions. *Biological Conservation*, 281, 109966.
- Behnisch, M., Krüger, T., Jaeger, J. (2022): Wie hoch zersiedelt sind die deutschen Planungsregionen? Räumliche Analyse und Trends 1990-2014 (What is the extent of urban sprawl in Germany's planning regions? Spatial analysis and trends 1990-2014). *Natur und Landschaft* 97(12): 551-560. <u>https://doi.org/10.19217/NuL2022-12-02</u>. – R
- Behnisch, M., Krüger, T., Jaeger, J.A.G. (2022): Rapid rise in urban sprawl: Global hotspots and trends since 1990. *PLOS Sustainability and Transformation* 1(11): 0000034. <u>https://doi.org/10.1371/journal.pstr.0000034</u> – R
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<sup>&</sup>lt;sup>6</sup> This list is not complete.

<sup>&</sup>lt;sup>7</sup> This list is not complete.

<sup>&</sup>lt;sup>8</sup> This list is incomplete.

- Bjørn, A., Lloyd, S., & Matthews, D. (2022). Reply to Comment on 'From the Paris Agreement to corporate climate commitments: evaluation of seven methods for setting "science-based" emission targets'. *Environmental Research Letters*, 17(3), 038001.
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- Bjørn, A., Tilsted, J. P., Addas, A., & Lloyd, S. M. (2022). Can science-based targets make the private sector Paris-aligned? A review of the emerging evidence. *Current climate change reports*, 8(2), 53-69.
- 14. **Blanchet-Cohen, N.** (2022). Holly Doel-Mackaway, Indigenous Children's Right to Participate in Law and Policy Development. *The International Journal of Children's Rights*, *30*(2), 605-608.
- Blanchet-Cohen, N. B., Cooper, A., & Mackaway, H. D. (2023). (Re) Imagining children's participatory rights with decolonial learning. *O Social em Questão*, 26(56), 61-88.
- 16. **Blanchet-Cohen, N., &** Grégoire-Labrecque, G. (2022). The Transformative Potential of Human Rights Education for Youth Engagement in the Community. *The International Journal of Children's Rights*, *30*(2), 356-377.
- 17. **Blanchet-Cohen, N.,** Cooper, A., & Doel-Mackaway, H. (2023). Re imagining children s participatory rights with decolonial learning. *o Social em Questão*, 2(56).
- 18. **Blanchet-Cohen, N.,** Drouin-Gagné, M. E., & Bellefleur, D. (2022). Favoriser le menuinniun: la voix des élèves innus sur l'identité et la réussite éducative à l'école québécoise. *Enfance en difficulté*, *9*, 33-55.
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## 8. Training of Highly Qualified Personnel<sup>9</sup>

LSRC members supervised over 120 graduate and undergraduate research students this year.

## 9. Awards and Recognitions<sup>10</sup>

This year, Selvadurai Dayanandan received the Mary E. Elliott Award from the Canadian Botanical Association (2022) and was conferred a foreign fellowship into the Society for Science of Climate Change and Sustainable Environment (2020).

## 10. Partnership and Collaborators

Most of the active partnerships and collaborators of the LSRC and its members are reflected above and below.

<sup>&</sup>lt;sup>9</sup> This list may be incomplete.

<sup>&</sup>lt;sup>10</sup> This list is not complete.

#### 11. Other

This year, LSRC Co-Director Sarah Turner earned an ARRE grant for \$4,450 from OVRGS for the March conference entitled *Research that matters: Sustainability, biodiversity, and justice in a time of crisis.* This is a matching fund. The an equal amount was contributed by the Loyola College for Diversity and Sustainability, the Science College, the School of Community and Public Affairs, and the departments of Biology; Communication Studies; Geography, Planning and Environment; Sociology and Anthropology; and Political Science. Just over 400 Concordia and external community members participated in the conference for free.