



**Summer School in
BIODIVERSITY MODELLING**

May 13 - May 17, 2024



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Instructors and guest speakers

Erin Bayne

Professor in the Department of Biological Sciences at the University of Alberta and co-director of the ABMI Science centre.

Vincent Beauregard

Research Professional and Data Scientist at Biodiversité Québec, Université de Sherbrooke (UdeS)

Annie Chaloux

Professor at École de politique appliquée, UdeS

Diego Creimer

Director Finances and Biodiversity, Société pour la nature et les parcs (SNAP / CPAWS Québec)

Dominique Gravel

Professor, Canada Research Chair on Integrative Ecology, Director of BIOS² and co-director of Biodiversité Québec, UdeS

Katherine Hébert

Postdoctoral Fellow at McGill University

Gracielle Higinio

Postdoctoral Fellow at the University of British Columbia and BIOS² Coordination team

Guillaume Larocque

Research Professional and eco-informatics at Biodiversité Québec and Quebec Center for Biodiversity Science

Olivier Norvez

Ecologist & Scientific Mediator, Coordinator of the Pôle National de Données de Biodiversité (France)

Laura Pollock

Professor in Quantitative Ecology at McGill University

Ciara Raudsepp-Hearn

Director Key Biodiversity Areas at at Wildlife Conservation Society Canada

Mark Vellend

Professor in Biology at UdeS



Foreword

Welcome to the 2024 edition of our Summer School in Biodiversity Modelling! The theme for this year is “**Indicators to monitor biodiversity changes**”, and we'll discuss metrics to assess the health, diversity, and distribution of species, ecosystems, and genetic variability within an environment.

These indicators provide valuable insights into the status and trends of biodiversity over time, helping to inform conservation efforts, policy-making, and sustainable development practices. By tracking these indicators, scientists and policymakers can monitor changes in biodiversity, identify areas of concern, prioritize conservation actions, and evaluate the effectiveness of conservation strategies.

That's why the program will navigate through a variety of topics, such as data pipelines, finances, communication and policy. We hope to immerse you in the complexity of this task which is the monitoring of biodiversity, and to reassure the need for interdisciplinary thinking.

If you want to go fast, go alone. If you want to go far, go together.

The course is presented by the Université de Sherbrooke, as part of the BIOS² training program. The students and speakers are from Quebec and other parts of Canada. The BIOS² community places respect for diversity and equity at the heart of its values and therefore encourages participants to work in the language of their choice. Accompanying materials will be presented in English, but we leave the choice of presentation language to the partners and speakers.

We are looking forward to meeting you all, hearing about your projects, and practising these tools with you!

Best regards,

The Summer School Coordination team

Kim Gauthier Schampaert

Gracielle Higino

Dominique Gravel

Important information

Summer School address

📍 Centre de Villégiature Jouvence

131, Chemin de Jouvence Orford, QC Canada, J1X 6R2

<https://www.jouvence.com/>

Urgent matters

Call [911](#)

Nearest hospital

📍 Hôpital la Providence

50 Rue Saint-Patrice E, Magog, Quebec J1X 1T4

[+18198432572](#)

Nearest police station

📍 LA RÉGIE DE POLICE DE MEMPHRÉMAGOG

61 Chem. Southière, Magog, QC J1X 0P1

[+18198433334](#)

WiFi Password

Orford2021

Information or assistance

If you have any questions about the event or need assistance, you can contact Kim Gauthier Schampaert by email at Kim.Gauthier.S@USherbrooke or by phone at 819-678-4757.



General information about your stay

Arrival on site

- Check-in time is Monday, May 13, 2024, between 7:30 am and 9:30 am. The classes will start at 10 am.
- Jouvence is a pedestrian site. Upon arrival, you must leave your vehicle in the main parking lot and walk to the reception.
- A credit card per person will be required upon arrival to guarantee the room.
- If you need accommodation the day before the event, please contact Kim Gauthier Schampaert. A few places are available on Sunday evening for people from outside the region.
- For those arriving on Sunday, there will be no on-site food service that evening. The site is not within walking distance of a restaurant or store.

Lodging

- We will have exclusive access to La Petite Auberge for lodging, meals and classes.
- Rooms will be available from 4 pm on the day of arrival.
- Rooms must be vacated by 11 am on the day of departure (May 17, 2024), and keys returned to reception.
- Rooms include bed linens, bath towels and a work desk.
- La Petite Auberge includes: a refrigerator in the common room, a fireplace or slow-burning stove in the common rooms; a game room, and a beverage station (tea, coffee, juice, hot chocolate) available at all times.
- The quiet hour is 11 p.m. (inside and outside)
- A site map is attached.

Food and beverage

- Non-alcoholic beverages (tea, coffee, juice, hot chocolate) are available free of charge in the dining room, 24 hours a day.
- Allergy management: any food allergies or intolerances have been mentioned and forwarded to the chef. However, it is everyone's responsibility to identify themselves to a member of staff in the dining room before each meal and to find out what foods are on the buffet.

Jouvence's alcohol and cannabis policy

- It will be possible to buy alcoholic beverages on-site.
- It is forbidden to consume your own beverages inside the buildings, but you will be permitted to bring your own beverages in certain outdoor areas, including around the campfire in the evening.
- Glass containers are not allowed on site. It would be easier to bring a container (thermos-type cup) to carry your beverages.
- Jouvence being a public place, it is strictly forbidden to smoke cannabis.

Other details

- Wireless Internet is available in all buildings.
- There is no ATM on site.
- The site is not within walking distance of a restaurant or grocery store.
- The Jouvence site is exceptional. It is located directly at the foot of the Parc National du Mont Orford and is bordered by Lake Stuckley. It is therefore possible to hike or run and do several aquatic activities.
- An outdoor spa and sauna are accessible on reservation for free.

What to bring


- Soap, shampoo.
- Coffee mug and/or thermos-type cup.
- Board games/card deck.
- Clothing for outdoor activities, including rain gear.
- Swimsuit for the hot tub.
- Your computer!

Getting there

Centre de Villégiature Jouvence (<https://www.jouvence.com/>) is located at this address : 131, chemin de Jouvence, Orford (Québec) J1X 6R2.

By car

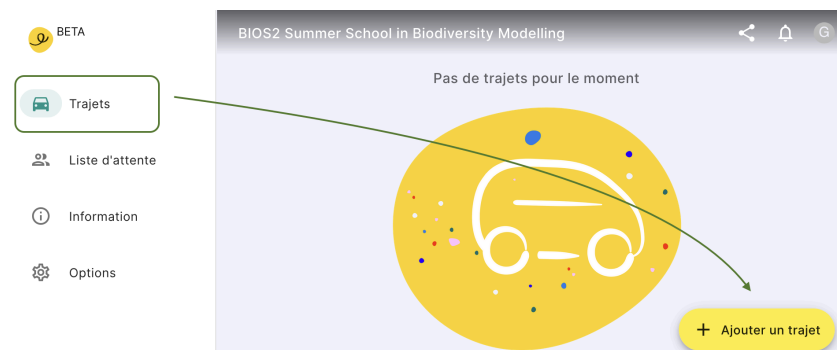
Information on how to get there by car can be found here:

 Jouvence Centre De Vacances

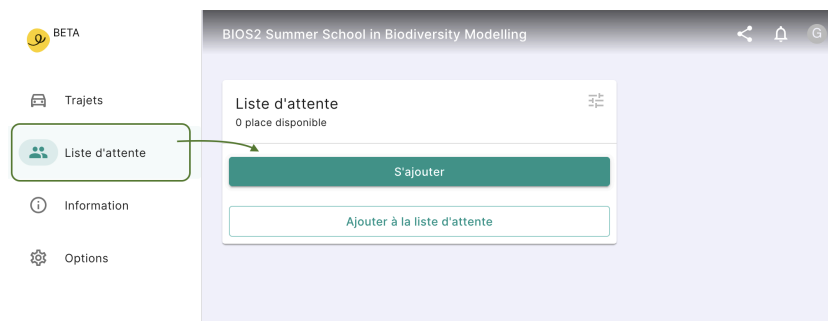
By carpooling

If you can drive someone with you or if you're looking for a ride, sign up for our carpool match system with this link: <https://bit.ly/3QwgBM5>

- To **offer** a carpool, click on "Ajouter un trajet" in the bottom right corner of the "Trajets" page.



- To **request** a ride, click on "Liste d'attente" and then on "S'ajouter".



By bus

You can get to Jouvence by bus with [Limocar](#) from Sherbrooke or Montreal. Disembark at the Magog bus stop, exit 115 - Couche-Tard. Jouvence is about a 20-minute drive from the bus stop.

If you plan to arrive by bus, please write to Kim by Wednesday, May 8th 2024, so she can plan a shuttle between the bus stop and the site.

If you have any questions or need assistance regarding your transportation, please contact Kim by email at Kim.Gauthier.S@USherbrooke or by phone at 819-678-4757.

Code of Conduct

As a BIOS² activity, we comply with its values and code of conduct. You can read more about these values and code [here](#), and below are some examples of expected behaviour:

- Make supporting research data freely available whenever possible.
- Respect privacy and confidentiality.
- Produce and share reproducible, re-usable data manipulation and analysis code, so people can understand our assumptions and workflows, and so future scientists can learn from our efforts without duplicating them.
- Publish final manuscripts AND intermediate research products in the most accessible formats available to us.
- Seek out expertise from conventional and unconventional stakeholders in our work. Invite comments and participation. Welcome feedback.
- Acknowledge contributions to our work. Provide territorial acknowledgements. Cite the ideas of others. Don't pretend we work in a vacuum.
- Be kind to yourself. Be mindful of your limits, and do not exhaust yourself.
- Be kind to others. Do not insult or put down other contributors.
- Behave professionally. Remember that harassment and sexist, racist, or exclusionary jokes are not appropriate.
- Give everyone a chance to talk and an opportunity to contribute.
- Be aware that your actions can be hurtful to others or contribute to a negative environment even if you had no intent of harm. Listen. Offer a genuine apology. Commit to learning and doing better.
- Much of our work in BIOS² may be in various online public spaces, such as GitHub, X, or Discourse forums. Please conduct yourself accordingly.

To report an issue you can contact: info.bios2@usherbrooke.ca

Where things are



Event management websites

[2024 - Biodiversity Modelling Summer School - Advanced schools - Université de Sherbrooke](#)

[École d'été 2024 - Modélisation de la biodiversité](#)



Notes

We have a document to take notes if you feel like it! Let's try to centralise our notes there so we can easily revisit them later.



BIOS2-SS2024-BiodivModel-notes



Tutorial on open data access

[On this link](#) you will find some guidance on how to deal with biodiversity data through R using APIs.

You will also find the reports used in the first activity of the week.



SMARTC grid



SMARTC grid



List of Indicators



Inventaire mondial d'indicateurs

Program

Day 01 - May 13

Biodiversity changes and the Global biodiversity framework

time	activity
07:30 - 10:00	Arrivals
10:00 - 11:00	Dominique Gravel: Biodiversity reports for Canada
11:00 - 12:00	Annie Chaloux: International negotiations Laura Pollock: Global Biodiversity Framework
12:00 - 13:00	Lunch
13:00 - 15:00	Dominique Gravel: Essential biodiversity variables
15:00 - 16:00	Diego Creimer: Biodiversity indicators for finance
16:00 - 17:00	Discussion: Table of contents for the status and trends of biodiversity in Canada
17:00 - 18:30	Free time
18:30 - 19:30	Dinner
19:30 - 20:00	Mark Vellend: Perspectives on biodiversity changes

Day 02 - May 14

Designing an indicator

time	activity
07:30 - 08:30	Breakfast
08:30 - 09:00	Kick-off
09:00 - 10:00	Katherine Hébert: Diving into the LPI
10:00 - 11:00	Laura Pollock: GEOBON indicators
11:00 - 12:00	Katherine Hébert: the Plan Nature consultation
12:00 - 13:00	Lunch
13:00 - 14:30	Open teamwork: Flash talks on indicator of choice
14:30 - 16:00	Open teamwork: Running the SMART evaluation grid
16:00 - 17:00	Dominique Gravel: build your own indicator
17:00 - 18:30	Free time
18:30 - 19:30	Dinner
19:30 - 20:00	Open teamwork: develop technical card

Day 03 - May 15

Data pipelines and automated computation

time	activity
07:30 - 08:30	Breakfast
08:30 - 09:00	Kick-off
09:00 - 09:30	Larocque: Bon-in-a-box project
09:30 - 10:00	Norvez: the Galaxy platform
10:00 - 12:00	Beauregard & Higino: open access datasets and workflows
12:00 - 13:00	Lunch
13:00 - 17:00	Open teamwork: visualize your data & workflow
17:00 - 18:30	Free time
18:30 - 19:30	Dinner
19:30 - 20:00	Open teamwork: visualize your data & workflow

Day 04 - May 16

Indicators for decision-makers

time	activity
07:30 - 08:30	Breakfast
08:30 - 09:00	Kick-off
09:00 - 11:30	Open teamwork: run data analysis
11:30 - 12:00	Bayne: the ABMI experience
12:00 - 13:00	Lunch
13:00 - 14:00	Open teamwork: critical assessment of biodiversity visualizations
14:00 - 15:00	Open teamwork: Break & defend your indicator
15:00 - 17:00	Open teamwork: run data analysis
17:00 - 18:00	Free time
18:00 - 19:30	Dinner
19:30 - 20:00	Raudsepp-Hearn: Key Biodiversity Areas

Day 05 - May 17

Reporting

time	activity
07:30 - 08:30	Breakfast
08:30 - 09:00	Kick-off
09:00 - 12:00	Open teamwork: write the interpretation guide
12:00 - 13:00	Lunch
13:00 - 15:00	Presentations
15:00 - 16:00	Closing circle
16:00 - 17:00	Departure