**Summer Research Assistant(s) (Paid): Developing a gamified platform to understand preferences for urban green space in Montreal**

***Project Background:*** With the majority of the world’s people living in urban areas, and humanity facing joint biodiversity and climate crises, urban ecology has gained rapid attention as a key part of sustainable city-building. A central urban ecology challenge is the protection and management of urban green spaces, which play an important role in biodiversity conservation, and provision of ecosystem services (the benefits people receive from nature, such as temperature regulation, improvement of air and water quality, and promotion of mental and physical wellbeing). Understanding the preferences and values of urban residents is a critical step in designing and managing effective urban green spaces, however, there are still many gaps in our understanding of which ecological qualities people appreciate in an urban green space, and why. The Next Generation Cities Institute is designing a video game (CityPlayer) that city-dwellers, planners, and researchers can use to help envision and build more liveable and sustainable cities. The Ziter Urban Landscape Ecology lab is collaborating to integrate a “design your green space” feature into the CityPlayer platform so that we can ask research questions about the interactions between people and nature in our urban green spaces.

**Read about CityPlayer:** <https://www.concordia.ca/news/stories/2023/01/09/concordia-students-are-developing-a-video-game-to-assess-urban-livability-and-sustainability.html>

***Outline of the student’s role***: The student will work closely with ecology PhD student Sarah Chamberland-Fontaine to conceptualize the ecological elements that need to be integrated into the existing CityPlayer platform. The student will also work closely with the CityPlayer development and programming team to develop a prototype of the “design your green space” feature.

***Required Skills and Experience:***

* Background in computer science, engineering, computational arts, or a related field.
* Basic understanding of Game Design and Game Programming principles and best practices.
* Familiarity with Unity game engine concepts such as:
  + Coroutine, UI system, Cinemachine, Scriptable Objects, Audio system, Particle system, and performance optimization techniques.
* Solid programming skills in C#:
  + including knowledge of data structures, inheritance, interfaces, and state machine design.
* Ability to read, understand, modify, maintain a medium to large code base.
* Ability to develop event-based gameplay systems.
* Demonstrated ability to write clean, efficient, and maintainable code.
* Ability to work effectively in a team and communicate clearly.

***Helpful Skills and Experience:***

* Art skills (2D and 3D)
* Having made your own video game(s)
* Interest in learning more about urban ecology and biodiversity
* Experience with AR/VR development in Unity.
* Experience with version control systems, such as Git.
* Eagerness to contribute to game feature design and gameplay systems.
* Passion for games and gamified simulation tool development.

**Salary** is approximately $17.50/hour.*Please note that students who are eligible and competitive for a* [*Concordia Undergraduate Student Research Award (CUSRA)*](https://www.concordia.ca/research/students-and-postdocs/undergraduate-opportunities/cusra.html) *or NSERC USRA will be given priority. CUSRA projects are full time summer positions (~35 hours per week for 16 weeks).*

**If interested, please contact Dr. Carly Ziter (**[**carly.ziter@concordia.ca**](mailto:carly.ziter@concordia.ca)**) by noon on February 16th, and cc:** [**ziterlab@gmail.com**](mailto:ziterlab@gmail.com) **in your email.**

**Please include:**

* Resume/CV
* Portfolio (if applicable)
* (Unofficial) Transcript
* A short cover letter (a paragraph in your email is fine!) expressing your interest in this position