The 2018 Sustainability Network Environment & Economy Fellowship (SNEEF)

This program of our Economic Literacy Project builds on the successes of last year which was the first time we delivered this offering.

In the spring of 2018, seven York University FES grad and undergrad students were matched with six ENGOs "ELP workshop series alumni" to work on summer internships.

- **Petra Bartlett Velandia at the Toronto Region Conservation Authority (TRCA) on "Advancing the Development of an Access to Greenspace Indicator". ENGO supervisors and mentors: Laura DelGiudice, Shari Dahmer, and Angela Wallace.**

  The Toronto and Region Conservation Authority's (TRCA) mission is to work with partners to ensure that The Living City is built upon a natural foundation of healthy rivers and shorelines, greenspace and biodiversity, and sustainable communities. This project will advance the development of an access to greenspace indicator for the Toronto region. A literature review will help determine the lower limit of greenspace per capita for TRCA and examine minimum size and quality thresholds for greenspace to provide meaningful and measurable benefits. Key municipal partners will be engaged to explore how greenspace is defined and classified, as well as to document progress on implementation of access or proximity to greenspace targets. The literature review will also uncover approaches to calculating the extent to which specific demographic groups have access to greenspace. Finally, methods to assess other barriers, such as quality of greenspace or cultural barriers that limit true access to greenspace will be examined. Findings will be summarized in a report with recommendations for TRCA.

- ***Omar Elsharkawy at the University Health Network (UHN) on "A Social Enterprise Framework for Urban Farming". ENGO supervisor and mentor: Adeline Cohen.***

  This study is looking at the feasibility and potential benefits of developing an urban farm at the Toronto Rehabilitation Institute. The research project, led by UHN OpenLab, uses a social enterprise framework to assess financial, health and social benefits associated with the farm. As part of a business plan and feasibility study, the SNEEF Fellow is assessing the environmental, emergency preparedness and climate change resilience benefits from development of an urban farm on institutional land. This project seeks to analyze the potential impacts an urban farm at a public institution would have on food supply chains. It also aims to facilitate a more holistic view of healthcare, where food and farming are included as a part of the therapeutic process. If the farm were to go through, this project would the first of its size and scale at a hospital or rehabilitation center in Ontario.

- ***Mikaela Kyle at Freshwater Future on "Using Environmental Economics to Promote Effective Methods of Compliance with Environmental Laws." ENGO supervisor and mentor: Nancy Goucher.***

Laws and regulations are not effective without a strong compliance and enforcement framework. Governments utilize various methods to ensure that individual landowners and companies are complying with water laws, such as self-reporting, financial penalties, education and outreach and audits and this project evaluates the applicability of environmental economics in improving compliance with water protection laws. The SNEEF Fellow will use environmental economic literature to identify the theoretical principles of effective regulatory enforcement including through the use of legal (i.e., prosecution, fines) and other less aggressive tools (e.g., education, warnings, bargaining, etc.). The framework will then be tested against the compliance regime that exists in Ontario using a case study. Using a combination of economic theory and empirical research, the research outcome will be a set of recommendations for improving Ontario's compliance framework with respect to water protection. Freshwater Future Canada will use this to inform its recommendations to Ontario as part of a larger campaign to reduce phosphorus loading to Lake Erie and prevent harmful algal blooms.

- ***Christian Coldea at the Federation of Ontario Cottagers' Associations (FOCA) on water quality impacts on waterfront real estate values. ENGO supervisor and mentor: Terry Rees.***

  The Federation of Ontario Cottagers' Associations (FOCA) represents volunteer associations and individual property owners and works to protect thriving and sustainable waterfronts across Ontario. Building on considerable anecdotal information, and a number of quantitative and qualitative studies from a number of North American jurisdictions, the FOCA SNEEF Fellow will develop an Ontario-centric perspective to characterize the impact of lake water quality on proximate property values. This, as part of an ongoing effort to articulate the fiscal aspects of protecting / retaining environmental (water) quality. The work is primarily a literature review and synthesis of existing work from Minnesota, Maine, Norway, and a Canadian Water Network report on valuing water quality changes. If possible, some specific Ontario cases studies might be included, such as lake-specific financial impacts from cyanobacteria impacts on inland lakes. FOCA hopes that the analysis of these existing can reinforce the economic importance of clean and usable surface waters.

- ***Mallory Nievas with the Friends of the Greenbelt Foundation on "Developing a Business Case for EcoHealth". ENGO supervisor and mentor: Thomas Bowers.***

  The role that natural heritage plays in supporting healthy populations in Ontario is well documented but the distribution and access to nature and green spaces and associated health outcomes varies enormously. Limited access to green spaces can incur social costs and provision of more green space can reduce costs. This project supports the EHO Research Working Group which is developing a framework for making the business case for ecohealth in Ontario, help quantify the health value of existing green spaces at different scales (e.g. urban parks and rural forests) and show the return on investment for increasing the amount, quality and accessibility of new green spaces. The SNEEF Fellow will: (1) survey members of EHO to collect the different perspectives on what the business case needs to address, appropriate scales of analysis, how and where it will be used, and options for how such a study can be conducted; (2) undertake a literature review and interviews with health and environmental economists to collect examples of similar types of work, and, (3) analyse the results and describe options for how to complete the business case for different scales and audiences.

- **Jason Robinson at the Toronto Region Conservation Authority (TRCA) on "Examining the Development and Application of Ecohealth Indicators in the Toronto Region". ENGO supervisors and mentors: Laura DelGiudice and Meaghan Eastwood.**

  This project will help Toronto and Region Conservation Authority (TRCA) analyze the benefits of ecosystem services regarding ecohealth (the systemic approach of human health and well-being in the context of social and ecological interactions) within watershed reporting. An academic and grey literature review will examine the development and application of ecohealth indicators in various jurisdictions including those used by local public health agencies. For each indicator, the methodologies used to collect data, the targets set and systems used to track change, and how the information has been reported will be reviewed. A final report will include recommendations for TRCA including considerations for resources needed, the feasibility of filling data gaps, alignment of the indicator with recommendations from TRCA's Public Health partners and how the indicator will help track progress against TRCA's Strategic Plan and Watershed Plans.

- ***Cristian Hurtado at Green Roofs for Healthy Cities on "Valuation of Green Infrastructure Benefits". ENGO supervisor and mentor: Rohan Lilauwala.***

  In this project, the SNEEF Fellow will summarize and distill a wide range of non-market methods used to value the benefits of green infrastructure. The lack of knowledge and capacity in the public and private sector around green infrastructure's costs and benefits leads to poor decision making and this project aims to build a database of methods that have been used by others to value green infrastructure's benefits, including the context, assumptions, method, and limitations. Many important benefits, like flood reduction and improved health, can be included for an even more holistic approach to capturing green infrastructure's benefits. The database can then be used to as a tool by public and private stakeholders who would like to value green infrastructure benefits in their own communities. This project may also include updating and improving our green infrastructure cost-benefit matrix, a proprietary tool developed by the Green Infrastructure Foundation that allows for quick aggregate-level economic analysis of green infrastructure investments. Ultimately, a robust database of non-market methods can be used to value the benefits of green infrastructure, along with a cost-benefit tool that will enable quick comparisons and streamlines decision making by public and private sector stakeholders.