



## **2021 C.D. Nelson Award**

**Dr. Isabel Desgagné-Penix**

**Université du Québec à Trois-Rivières**

Dr. Desgagné-Penix holds a Canada Research Chair (Tier II) in Plant Specialized Metabolism as well as a Partnership Research Chair in Microalgae Metabolic Engineering funded by Mitacs, NSERC and Algae-C. Since her faculty appointment in 2013, Dr. Desgagné-Penix has developed a multifaceted research program that has engaged over 53 undergraduate and graduate students and 19 postdoctoral fellows, research associates and technicians in elucidating biosynthetic pathways responsible for the production of plant specialized metabolites with valuable bioactive properties, and more recently applying this knowledge to the problem of bioengineering microalgae to synthesize such molecules. Benefits of bioengineered microalgae include reduced use of land, resources, and energy and improved consistency and quality control compared to conventional methods of purifying metabolites from cultivated plants. This innovative research has resulted in the filing of four patents related to engineering microalgae for the production of cannabinoids. Dr. Desgagné-Penix has written or co-authored 31 publications in the last six years that appeared in a wide range of peer-reviewed journals, and has given invited keynote presentations at international conferences on plant metabolism, biosynthesis and bioengineering.

Her contributions have been recognized by the award of a provincial innovation partnership prize, the Prix Innovation Partenariat technologique from the Association pour le développement de la recherche et de l'innovation du Québec (2018), a Mitacs Award for Exceptional Leadership for significant achievements while participating in a Mitacs-funded program (2018), and the Lee Lorch Award (2019) from the Canadian Association of University Teachers, given annually to an academic who has excelled in teaching, research, and service to the institution and to the community. Of indigenous descent, Dr. Desgagné-Penix is active in promoting the participation, advancement and retention of individuals from all under-represented groups in science. She is Co-Chair of her university's Committee on Equity, Diversity and Inclusion. Dr. Desgagné-Penix's efforts to engage indigenous youth were recognized by awards from the Quebec Aboriginal Science and Engineering Association in 2017 and 2018, and she was lead organizer for the 2020 Aboriginal Science-Expo Conference (unfortunately cancelled due to the COVID-19 pandemic).

Dr. Desgagné-Penix is an inspiring leader to many, including young women in Science and Indigenous Peoples. The CSPB/SCBV is delighted to honour Dr. Isabel Desgagné-Penix as the recipient of the 2021 C.D. Nelson Award.