CATALOGUE

SCWIST SCIENCE SYMPOSIUM

A NATIONAL SCIENCE COMPETITION FOR YOUNG WOMEN SCIENTISTS ACROSS CANADA (2021)

40 SCWIST

40 YEARS OF STEM IMPACT

Messages

Dr Noeen Malik
Chair and Lead
SCWIST Science Symposium

As a Chair and Lead of SCWIST Science Symposium, I would like to say thanks to all students who participated in this competition. When I conceptualized this idea, the only thing in my mind was how it might benefit the undergraduate and graduate students ? My own experience as a student in the laboratory helped me to channelize it for successful execution. It was amazing to see it blossoming when it received participation of 88 students from 38 universities / institutes across Canada (9 Provinces).

I congratulate to the top 3 winners and wish all the best. My message for other students is to not lose hope. World does not end here. All abstracts were highly competitive and we had to select only top three overall.

Stay enthusiastic and determined in what you like to achieve in life.

Ashley van der Pouw Kraan
Vice Chair and Co-Lead
SCWIST Science Symposium

As the Vice Chair and Co-Lead of the Science Symposium, I am honoured to welcome you all the the inaugural event.

The Science Symposium provides a unique and long-overdue opportunity for young scientists: a platform to present and discuss their work with students and professors in their field from across the country, all while contributing to their professional development and growth.

I would like to thank each student who submitted an abstract for taking the time to share your ideas, knowledge and expertise with us. You are making the world a better, brighter place for future generations.

Best of luck to all, and hope you all enjoyed the event!

Symposium Board Committee

Dr. Thomas J Ruth
Emeritus Professor,
Department of Medicine, UBC
Emeritus Scientist, TRIUMF & BCCRC
Fellow of Royal Society of Canada
Category: Drug Discovery — Oncology & Neuroscience

Dr. Isabel Trigger
Senior Scientist, TRIUMF
Adjunct Professor, University of Victoria
Category: Physical Science — Particle Physics

Dr. Bethany Edmunds
Board Member, Women in Machine Learning,
Director of Computer Science,
Northeastern University
Category: Machine Learning — Artificial Intelligence

Dr. Monica Granados
Policy Advisor
Environment and Climate Change, Canada
Scientific Data Scientist (Federal & Municipal Dept.)
Category: Global Warming — Earth and Environmental Science

Dr. Sara Mahshid
Assistant Professor
Bioengineering, McGill University
Category: Bioengineering/technology — Biosensing

Symposium Judges (Round#2)

Category: Bioengineering/technology — Biosensing

Dr. Brittany Pequegnat
Tetanus Toxoid vaccine
manufacturing Expert
Sanofi Pasteur, Canada

Dr. Anjana Govindarajan
Director & Strategic Business
Consultant
ANRS Consulting Inc., Canada

Category: Drug Discovery — Oncology & Neuroscience

Dr. Aashima Khosla
Research Scientist,
QuadroCore
Canada

Maria S Athanassiou, PhDc
Biomedical Science
University of Montreal, Canada
Medical Science Liaison, Canada
MPH Public Health, UK

Category: Global Warming — Earth and Environmental Science

Claris Canta (MSc, Australia)
Internal Systems Coordinator
Student Energy
Canada

Cecilia Sierra-Heredia
MSc, MA (UBC)
Lecturer
Faculty of Health Sciences
SFU Canada

Symposium Judges (Round#2)

Category: Machine Learning — Artificial Intelligence

Dr. Nidhi Rastogi
Research Scientist
Rensselaer Polytechnic Institute, USA

Dr. Gabriella Pizzuto
Postdoc Research Associate
University of Liverpool, UK

Category: Physical Science — Particle Physics

Dr. Nedaa-Alexandra Asbah
Postdoctoral Fellow
Harvard University, USA

Dr. Otilia Ducu
Senior Research Fellow
CERN, Switzerland
IFIN-HH , Romania

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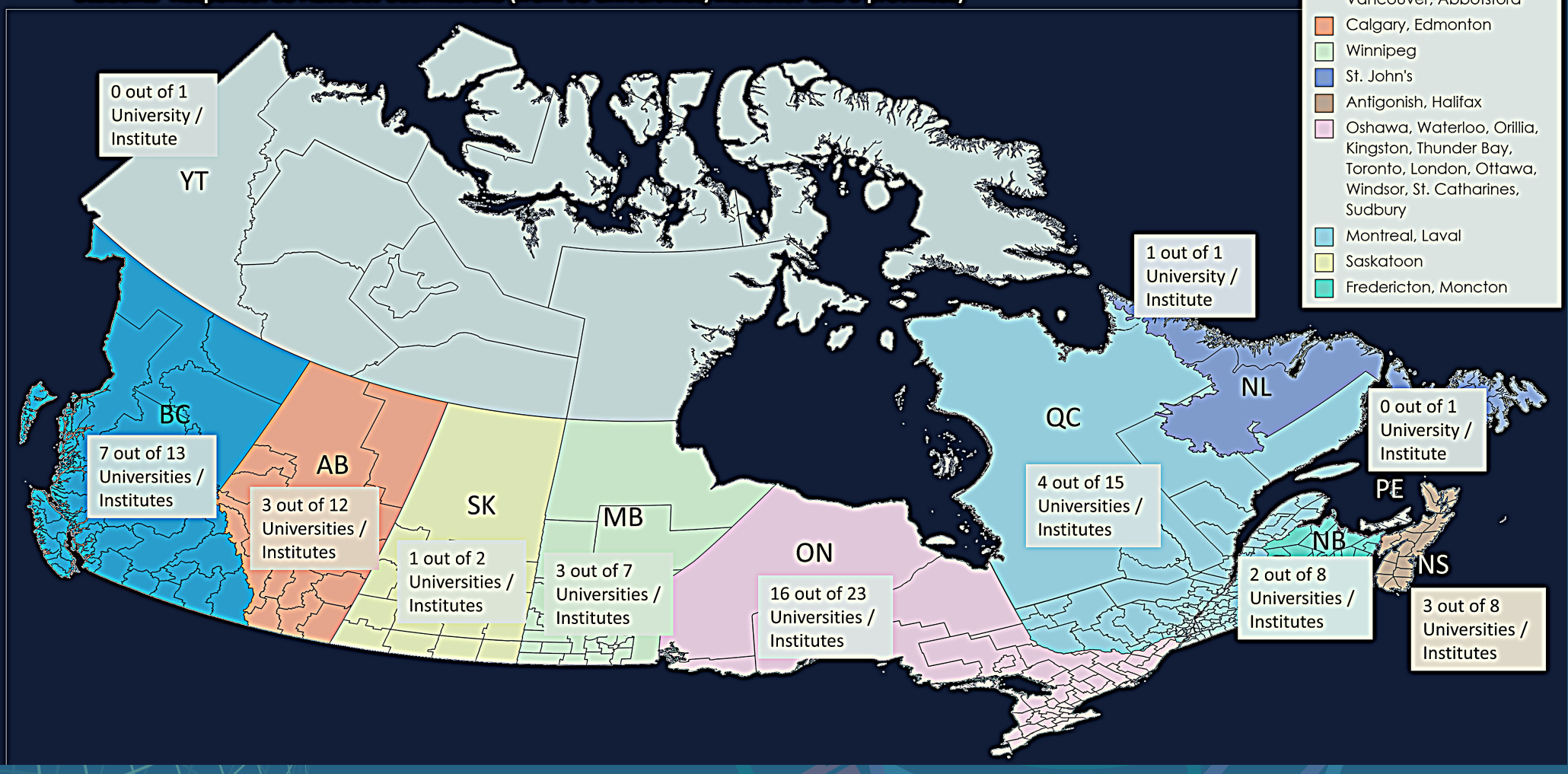
PRIZES / GIFTS	AMOUNT
First Prize (Robin Hayes)	$1500
Second Prize (Kristen Hayward)	$1000
Third Prize (Jaime Korner)	$750
12 Finalists Cash Prize (150$ each)	$1800
10 Judges Gift Cards (100$ each)	$1000
5 Committee Members (Gift Cards)	$500
15 Finalists 20$ Starbucks Gift Cards	$300

STATISTICS

SCWIST Science Symposium (National Science Competition in Canada)

- **Input:** 91 Universities / Institutes (from 11 provinces) were contacted across Canada (via 280 emails to ca. 1500 *Scientists)
- **Students' Response: 88 Abstract-Submissions (from 38 universities/institutes and 9 provinces)**



Category	Institutes/ Universities	Provinces
Global Warming — Earth and Environmental Science	16	5
Machine Learning — Artificial Intelligence	15	6
Drug Discovery— Oncology & Neuroscience	16	7
Physical Science — Particle Physics	9	5
Bioengineering/technology — Biosensing	8	5

TOP 15 FINALISTS

Category: Bioengineering/technology — Biosensing

Anat Usatinsky
Ryerson University
Canada

Tofa Begum
INRS-Institut Armand Frappier Health Biotechnology, Canada

Gagan Gill
Wilfrid Laurier University, Canada

Category: Drug Discovery — Oncology & Neuroscience

Jaime Korner
University of Victoria
Canada

Tanya Saxena
University of British Columbia, Canada

Melissa D'Amaral
Ryerson University
Canada

Category: Machine Learning — Artificial Intelligence

Banafshe Felfeliyan
University of Calgary
Canada

Jueqi Wang
St. Francis Xavier University
Canada

Veena Logithasan
University of Alberta
Canada

TOP 15 FINALISTS

Category: Physical Science — Particle Physics

Robin Hayes
TRIUMF/UBC, Canada

Shahrzad Taherizadegan
University of Calgary, Canada

Danika MacDonell
University of Victoria, Canada

Category: Global Warming — Earth and Environmental Sciencee

Amy Heim
Saint Mary's University, Canada

Kristen Hayward
Queen's University, Canada

Dilrukshi K Liyanage
University of Alberta, Canada

ABSTRACTS

(Alphabetical Order, First Name)

1

Abir Rahali (University of New Brunswick)

Didroid: Android Malware Classification And Characterization Using Deep Image Learning

2

Abir Rahali (Université de Moncton)

Malbert: Using Transformers For Cybersecurity And Malicious Software Detection

3

Abir Rahali (Université de Moncton)

Automatic Misogyny Detection In Social Media Platforms Using Attention-Based Bidirectional-LSTM

4

Alexandra Schoen (University of Manitoba)

Simulated Heatwave And Fishing Stressors Alter Corticosteroid And Energy Balance In Neonate Blacktip Reef Sharks, Carcharhinus Melanopterus.

5

Alice Santilli (Queen's University)

Domain Adaptation And Self-Supervised Learning For Surgical Margin Detection

6

Alicia Howse (University of Ottawa)

Drains Vs Natural Streams: A Comparison Of Fish Communities In The South Nation Watershed

7

Alisha Szozda (University of Ottawa)

Investigating Educators’ Perspectives Toward Systems Thinking In Chemistry Education Approaches

8

Alix Tole (Red River College/ University of Winnipeg)

Feasibility Study For The Incineration Of Municipal Solid Waste For Norway House, Manitoba

9

Amy Heim (Saint Mary's University)

Variation In Environmental Stress And Heterogeneity Led To The Development Of Distinct Green Roof Plant Communities

10

Anastasiia Stepanchuk (University of Calgary)

Shedding More Light On Alzheimer’s Disease: Enhanced Detection Of Protein Aggregates Using Novel Photophysical Properties Of K114

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Anat Usatinsky (Ryerson University)

Engineering Protein Reagents Towards The Development Of A Portable Immunoassay To Detect SARS-Cov-2 Neutralizing Antibodies

12

Ashley Elgersma (The King's University)

The Sounds Of Spectra – Combining Auditory And Visual Modes To Facilitate Understanding The Chemistry Of Climate Change

13

Auriane Canesse (McGill University)

First Observation Of WYY Triboson Production In Proton-Proton Collisions.

14

Banafshe Felfeliyan (University of Calgary)

Toward Accurate MRI Bone And Cartilage Segmentation In Small Data Sets Via An Improved-Mask-R-CNN: Data From The Osteoarthritis Initiative

15

Caitriona Douglas (Dalhousie University)

EEG Methods For Detecting Neural Markers During Conversation

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Carolin Jaworski (University of Alberta)

Reducing Protodeboronation In The Late Stage Copper-Mediated 18F-Fluorination Using Novel Boronic Esters

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Christie Lavallée (University of Manitoba)

The Use Of Nocturnal Flights For Barrier Crossing In A Diurnally Migrating Songbird

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Christine Leclerc (Simon Fraser University)

Headwater Stream Network Length: Underestimated And Highly Sensitive To Climate Change

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Claudie Ratté-Fortin (HEC Montréal)

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Danika MacDonell (University of Victoria)

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Elena Kurakina (TRIUMF)

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Eliana Feygin (University of Waterloo)

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Gagan Gill (Wilfrid Laurier University)

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Gouri Deshpande (University of Calgary)

Social Data Mining And Analytics For Improving Services: A Novel Decision Support System For Social Data Mining And Analytics For The City Of Calgary Municipality

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Hebah Mejbel (University of Ottawa)

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Hongchen Ji (York University)

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Karissa Kilby (Lakehead University Thunder Bay)

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