AQUA HACKING 2017
UNITED FOR LAKE ERIE

REPORT
OCTOBER 2017

AQUA FORUM

THE 2017 CHALLENGE AGENDA

LAUNCH

Univ. of Waterloo
MARCH 29

APRIL 8
Univ. of Waterloo

CHALLENGE DAY #1

Team formation activities

CHALLENGE DAY #2

Design Thinking workshop by IBM

Univ. of Waterloo
APRIL 30

MAY 13
Univ. of Waterloo

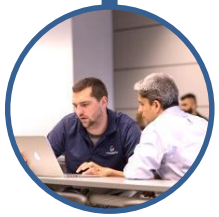
CHALLENGE DAY #3

Work on solutions

CHALLENGE DAY #4

Work on solutions

Univ. of Waterloo
MAY 28



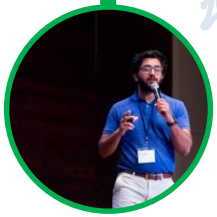
JUNE 10
Univ. of Waterloo

CHALLENGE DAY #5

How to pitch solution at the semi-final

SEMI-FINAL

JUNE 21
CIGI, Waterloo



AUG. 19-20
Lake Erie watershed and Pelee Island

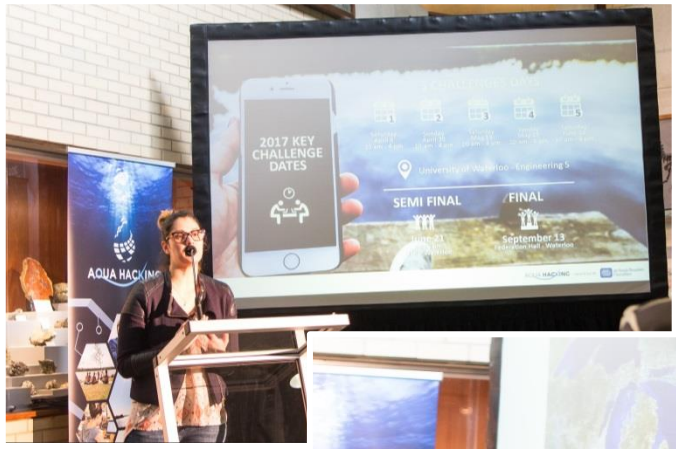
FINALISTS EXPEDITION

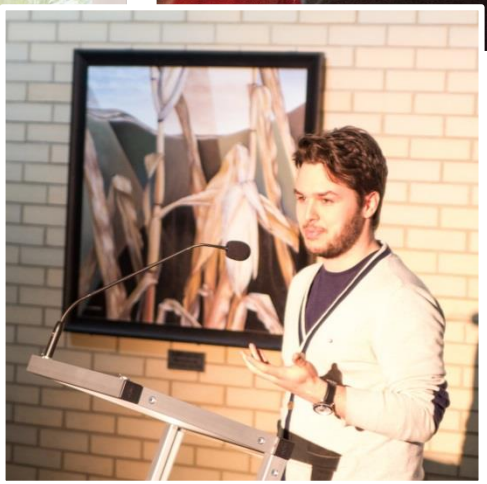
How to pitch solution at the final

FINAL

SEPT. 13
Fed Hall, U. Waterloo

CHALLENGE KICK OFF





THE 2017 CHALLENGE FORMULA

5 challenges to tackle

- Taking on the ALGAE monster
- Stopping the INVADERS to keep our fisheries fishable
- Stemming the PLASTIC tide
- All EYES on Erie
- Spreading #LakeErieLove

1 formula

- **10 weeks** up to the semi-final
- **5 challenge days** mentors + space + food
- 3 **workshops**
- 1 semi-final to select **5 finalists**
- **$2,000** bursary
  1 Lake Erie **expedition**
  8 weeks to refine
- **$75,000** acceleration & mentorship

7 mentors available for teams

Nima Tahami
Mobile Apps/Coding mentor

Simone Philpot
Water mentor

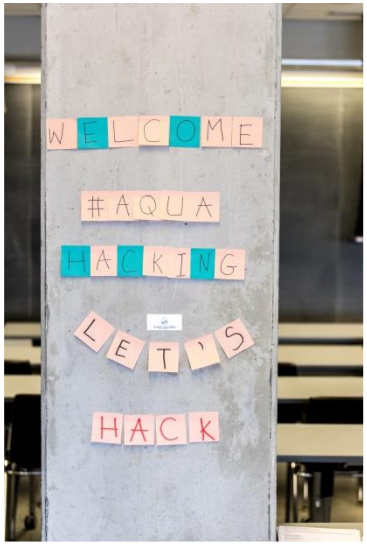
Jared Evans
Business, Entrepreneurship & Tech mentor

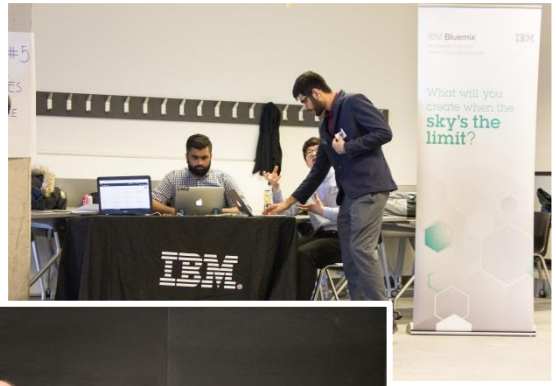
Maricor Arlos
Water mentor

Claudia Ribeiro
AquaHacking mentor

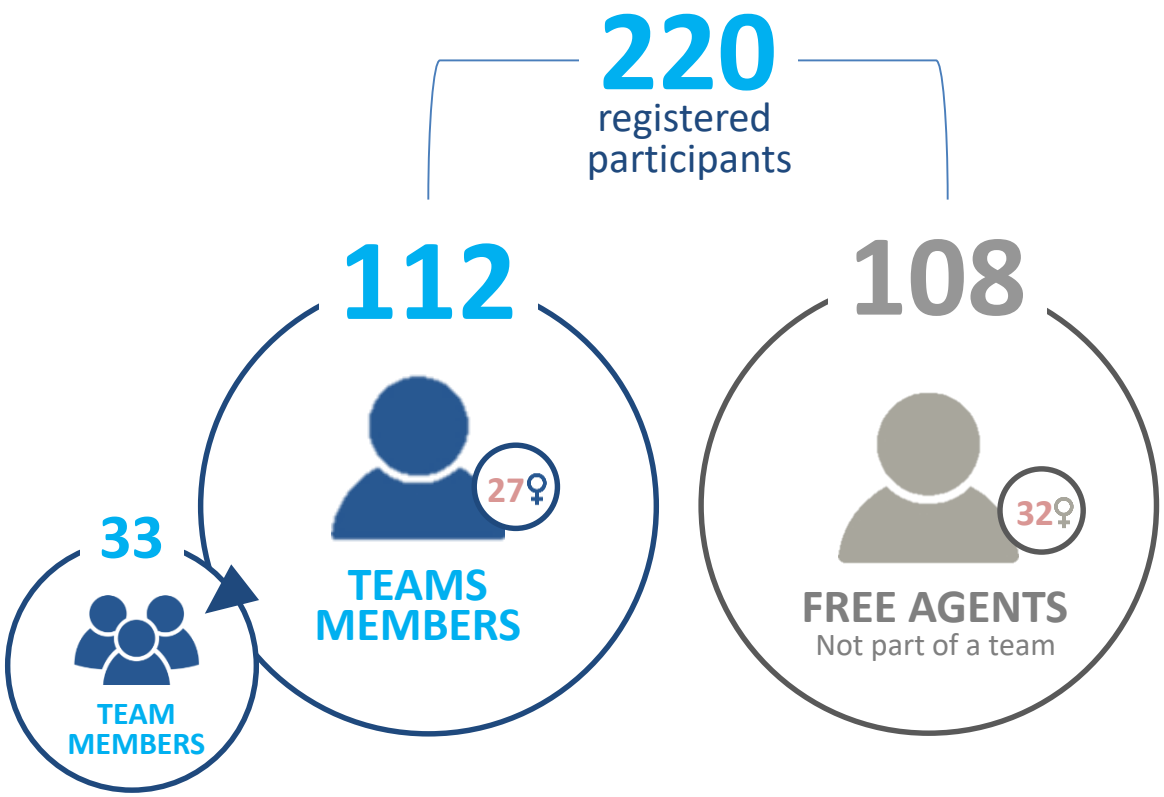
2 IBM experts
IT & Bluemix mentors

CHALLENGE DAYS



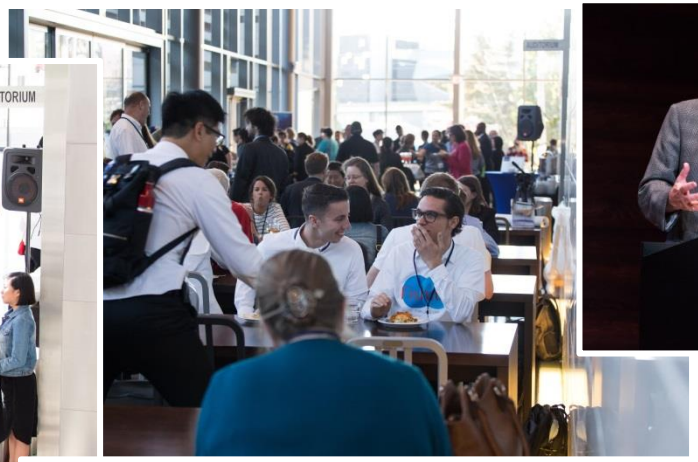


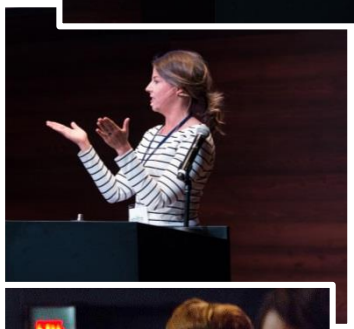
THE 2017 CHALLENGE PARTICIPANTS



QUEBEC CITY, QC (1)
MONTREAL, QC (3)
TORONTO, ON (1)
REGION OF WATERLOO/KITCHENER (25)
CHICAGO, USA (2)
EINDHOVEN, THE NETHERLANDS (1)

CHALLENGE SEMI-FINAL





THE 2017 CHALLENGE JURY MEMBERS

SEMI-FINAL

5 min. pitch + 3 min. of questions + 30 min. to deliberate

ROY BROUWER
Executive Director
Water Institute
University of Waterloo

RAAD SERAJ
Senior Research Analyst
WaterTAP Ontario

TOM EBEYER
Coordinator, Incubation and New Ventures
LaunchPad, Schlegel Centre for Entrepreneurship and Social Innovation

ADRIEN CÔTÉ
Science Lead and Business Advisor
Velocity

DAVID HUSSEY
Client Experience and Facility Coordinator (Hardware Innovation Lab)
Accelerator Centre

FINAL

7 min. pitch + 3 questions + 30 min. to deliberate

JEAN ANDREY
Dean and Professor
Faculty of Environment
University of Waterloo

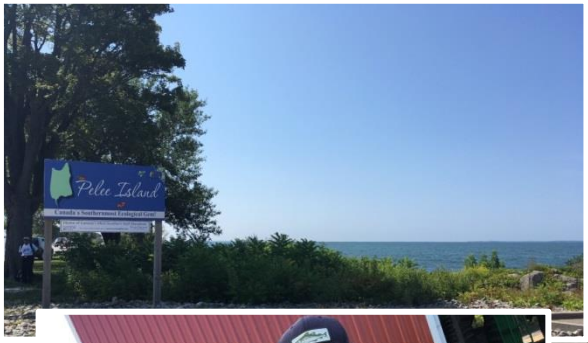
PHILIPPE III DE GASPÉ BEAUBIEN
President and CEO
de Gaspé Beaubien Foundation

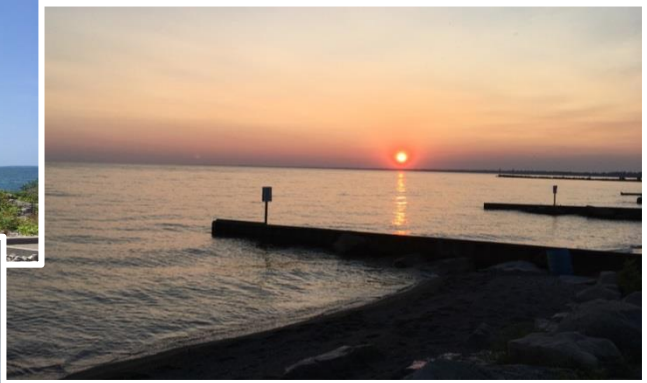
SANDRA COOKE
Senior Technical Lead for Water Quality and Chair Managers
Grand River Conservation Authority

RANDALL HOWARD
General Partner
Verdexus

ALLEN LALONDE
Senior Innovation Executive and Director Research & Development Center
IBM Canada

FINALISTS EXPEDITION





THE AQUAHACKING CHALLENGE • SINCE 2015 | 2017 ONLY

REGISTERED HACKERS

547 | 220

TEAMS

71 | 33

HACKING/MENTORING HOURS

131 | 46

FINANCIAL PRIZES

$141K | $75K

COUNTRIES/PROVINCES REPRESENTED

3 countries:
Canada, USA, Netherlands
2 provinces / **1** state:
Ontario, Quebec, Illinois

ACTIVE SOLUTIONS

8 | 5

Water Rangers (2015 winner)
Info-Baignade (2016 winner)
GoExplo (2016, 4th place)
SIM Labs (2017 winner)
EMAGIN (2017, 2nd place)
Fertilizer Burn (2017, 3th place)
PolyGone (2017, 4th place)
ImPONDerable (2017, 5th place)

TECH PARTNERS

16

Including
5 accelerators/incubators
Montreal, QC:
Centech; District 3; FounderFuel;

Waterloo, ON:
Velocity; LaunchPad

THE 2017 CHALLENGE WINNING TEAMS

Proprietary AI-powered imaging system that probes micro-organisms using different spectrums of light to enable the capture of unique optical fingerprints, enabling the proprietary AI engine to generate reliable and accurate identification, enumeration, and prediction data right on-site. This system will not only remove user bias, but the team envisions that this system will travel to the source of the water for in-situ measurements as a field portable device, saving valuable time and resources.

1

FIRST PLACE
$25,000
ACCELERATION PRIZE: $10K

A novel AI driven real-time event-management platform that aims to enhance the operational performance of municipal sewage collection infrastructure. The platform is designed to predict the heterogenous occurrence of storm events; ensure operators have sufficient information on how the sewer system will respond to these storm events; and provide real-time recommendations to optimize sewer flow routing to minimize overflow events.

2

SECOND PLACE
$15,000
ACCELERATION PRIZE: $5K

Development of a mobile soil testing lab and mobile application that will provide real-time, in-situ soil data to the user. The mobile lab can be fitted onto existing farming equipment (tractor or trailer) and be operated without interference with other tasks that the farmer may be completing concurrently. The soil data collected during usage is stored locally on the mobile device, and synchronized to a cloud application when internet access is available.

3

THIRD PLACE
$10,000
ACCELERATION PRIZE: $3K

Development of a product to capture microfibers that shed off clothing during the washing process: a sheet made of a fine filter with a polymer coating to attract and 'catch' microfibers as they float through laundry water. Made from recycled material, this sheet can be easily cleaned and disposed of when no longer capturing microfibers effectively.

100% women

4

FOURTH PLACE
$5,000

Monitoring kit & app, addressing 3 problems common to citizen science: ensuring credible data (small kit containing removable cartridges with colour change test strips); engaging & motivating citizens (appealing to people's personal interests, the test will immediately tell whether the water is safe to swim in or not); data accessibility (make it easy for researchers, data collectors, and recreation users, to get more spatially-relevant data about harmful bloom risk throughout the Lake).

5

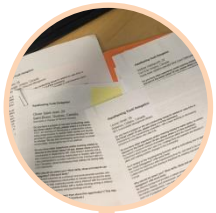
FIFTH PLACE
$2,000

THE 2017 YOUTH DELEGATION AGENDA & OUTCOMES

Coordinated by waterlution

CALL FOR APPLICATIONS

MAY 8



MAY 26

DELEGATE SELECTION

12 out of
21 applications

1ST VIRTUAL MEETING

MAY 31

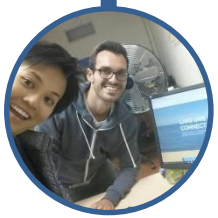
JUNE 23-25

LAKE ERIE RETREAT WORKSHOP

OUTCOMES DEVELOPMENT & FOLLOW-UPS

- Poem
- DAP recommendations
- Questions for Summit panelists
- Delegate message in program
- #LakeErieConnect platform
- Youth vision for Lake Erie 2020

JULY - SEPTEMBER



PRESENTATION OF PLATFORM AND VISION AT 2017 SUMMIT

YOUTH DELEGATION RETREAT / KICK OFF

Coordinated by waterlution

THE AQUAHACKING 2017 YOUTH DELEGATION

Coordinated by waterlution

12

1 QUEBEC
8 ONTARIO
3 USA

7

5

2

2 participated in the AH Challenge
(1 finalist, Team PolyGone)

THE AQUAHACKING SUMMIT

EVENT FORMAT

2015-16
2-day event
Stand-alone event

2017
1-day event
Embedded in a 3-day event

September 13, 2017
Federation Hall
University of Waterloo

REGISTERED PARTICIPANTS

Since 2015
808

In 2017
211

VALUE OF ATTENDEE BAGS
$25

DIGNITARIES

- The Hon. Elizabeth Dowdeswell
- Chief Ava Hill, Six Nations
- US General Consul Juan Alsace
- MPP Arthur Potts (OMECC)
- Mayor John Paterson, Leamington

2 KEYNOTE SPEAKERS

- Peter Annin, author & journalist
- Adam van Koeverden, Olympic gold medalist, spring kayaker

2 DISCUSSION PANELS

- Multi-stakeholders *(Academia, NGO, Municipalities, Tourism, Agriculture)*
- Decision makers *(First Nations, MECC-Ontario, MECC-Canada, IJC)*

YOUTH DELEGATION and their outcomes

CHALLENGE FINAL
5 finalist teams/ 5 jury members

AQUAHACKING SUMMIT

THE AQUAHACKING PR CAMPAIGN (March – October 2017)

70
pieces of coverage

100,977,801
MRP impressions

82.32%
quality score
(Industry average 70%)

Dessine-moi un dimanche

Le dimanche de 6 h à 10 h

Franco Nuovo

Environnement

Jici Lauzon, l'optimiste environnemental

Le dimanche 30 avril 2017

L'acteur et humoriste JiCi Lauzon. Photo : Alexis Gacon

« Il y a énormément de batailles à mener en environnement. » Désormais, pour l'acteur et humoriste Jici Lauzon, le travail artistique est indissociable de sa conscience écologique. En spectacle ou en chanson, il mène le combat, mais il constate aussi le chemin parcouru. « Je suis un écologiste optimiste, dit-il, et je sais aussi applaudir quand l'humanité arrive à provoquer des changements. »

les affaires

bourse | mes finances | blogues | techno | stratégie | dossiers | savoir d'entreprise | événements | pro

technologie de l'information | internet | produits électroniques

AquaHacking: sauver l'eau douce des Grands Lacs, une technologie à la fois

Publié le 09/08/2017 à 14:56

PAR ALAIN MCKENNA

Les Grands Lacs, c'est connu, sont la plus grande réserve d'eau douce sur la planète, représentant 21 % de sa totalité. On leur doit aussi 40 millions d'emplois. Sauf qu'on les néglige. D'ici 2019, le hackathon AquaHacking de la Fondation De Gaspé Beaubien compte changer ça.

The Magazine for Clean Capitalism

Corporate Knights

CHANNELS | PERSPECTIVES | MAGAZINES | REPORTS | SUBSCRIBE

WATER

A snapshot of water resources, why they're under threat, and efforts to conserve this life-giving liquid.

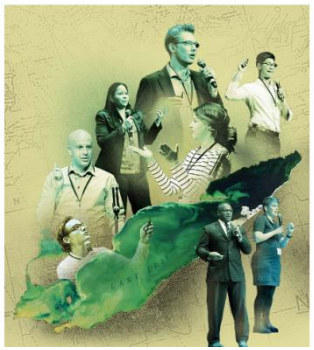
Hacking the watershed

BY ANDREW REEVES

POSTED OCTOBER 6, 2017

FALL 2017 ISSUE

How the de Gaspé Beaubien Foundation is corralling a tech-savvy younger generation to tackle freshwater issues



NATIONAL POST

NEWS · FULL COMMENT · CULTURE · LIFE · SPORTS · DRIVING · CLASSIFIEDS · CONTESTS · JOBS · SUBSCRIBE · FINANCIAL POST

CISION

Aquahacking Summit Promotes New Solutions for Threats to Great Lakes

WATERLOO, ON, Sept 13, 2017 /CNW Telbec/ - Leaders from government, First Nations, philanthropically minded businesses, and engaged youth activists were hosted by the de Gaspé Beaubien Foundation and the Water Institute at the University of Waterloo at the 2017 AquaHacking Summit to address the many issues facing the Great Lakes and St. Lawrence Basin – specifically Lake Erie.

AquaHacking is a collaborative movement that brings together representatives from federal and provincial government ministries, NGOs, communities, water experts, local incubators and technology firms including Founding Partner IBM Canada, and dozens of "AquaHackers" to foster the quality and responsible use of precious fresh water resources.

AQUAHACKING SUMMIT

THE AQUAHACKING SOCIAL MEDIA COVERAGE

JUNE-SEPT. CAMPAIGN

REACH

167,780

REACH

18,100,100

REACH

988

MENTIONS

3,722

Mentions by other accounts generated **80%** of the conversation

FOLLOWERS

+ 7,095

(to 12,085)
46% are Canadian

INFLUENTIAL TWITTER USERS
mentioning #AquaHacking or @AquaHacking

- Environment Canada
- Ontario Innovation Ministry of Research
- Sandra Cooper Mayor of Collingwood
- Rahm Emanuel Mayor of Chicago
- Glen Murray Director of Pembina (Non-profit)
- Paul Dyster Mayor of Niagara Falls
- Environment Ontario
- Water TAP Tech Accelerator
- U of T Faculty Engineering and Science

SUMMIT EVENT

MENTIONS

911 mentions
(from 180 accounts)
the largest conversation generated in a single day in #AquaHacking history

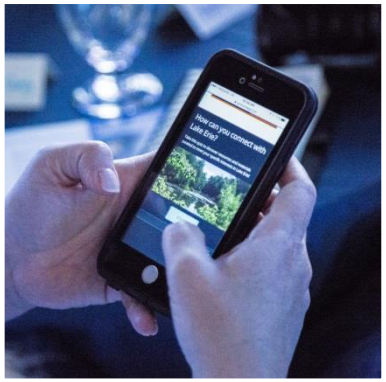
TRENDING

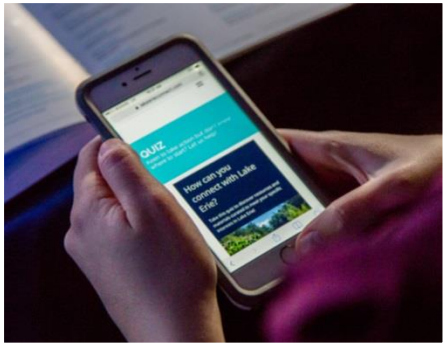
In **TORONTO**
by 10AM

REACH

2016, 2 days	2017, 1 day
5,458	**12,745**

AQUAHACKING SUMMIT





AQUAHACKING OUTCOMES

5 active **SOLUTIONS**

1st, 2nd and 3rd place AquaHacking finalists received **SPOTS WITH LOCAL ACCELERATORS** to develop their start-ups and support the **BLUE ECONOMY**

2017 Winner
SIM Labs

Invited to present solution to the **Honorable Catherine McKenna**, Minister of Environment and climate change.

Will showcase solution at **Ontario Water Innovation Week in Toronto, hosted by WaterTAP.** OWIN offers unparalleled opportunities to strengthen global networks, share best practices, and explore innovative solutions for water challenges.

Will pitch solution at **the Ocean Technology Transition Project** meeting at NOAA Great Lakes Environmental Research Laboratory in Michigan. *The OTT is a federal program designed to speed theoretical technology into operation. A 3-year grant totaling approximately $2.1M is dedicated to technology addressing harmful algal blooms.*

2017
YOUTH DELEGATION

Invited to provide **input** on **Canada-Ontario Domestic Action Plan** by the **Ontario Ministry of the Environment** and Climate Change.

Created an **interactive online platform**, ***#LakeErieConnect*****,** that connects people to take direct and **immediate action**, locally through a simple quiz.

Freshwater Future invited the Youth Delegation to join the **Great Lakes Network**, *which works to protect and restore water in the Great Lakes region by providing a structure for diverse, independent groups to collaborate, share tools and information, and take coordinated action.*

2017

Unveiling of the **QUEBEC WATER STRATEGY 2017-2032** by the Ministry of Environment of Quebec

Launch of the **PUBLIC CONSULTATION** on Quebec's water strategy

YOUTH DECLARATION "VISION ST. LAWRENCE 2030"

Development of **14 TECH SOLUTIONS - including 5 WINNERS**
Goal: Preservation of the St. Lawrence River

2016

2015

Creation of a **JOINT ONTARIO-QUEBEC COMMITTEE ON WATER MANAGEMENT**

Official signature of the **GATINEAU DECLARATION,** which acknowledges a shared responsibility to preserve the biodiversity, the quality of the water and the well-being of communities within the Ottawa River Watershed

Development of **10 MOBILE/WEB APPS – including 3 WINNERS**
Goal: Preservation of the Ottawa River

CHALLENGE FINAL

AQUAHACKING TEAM UPDATES

2015 WINNER

waterrangers.ca

Imagine a world where researchers and active citizens work together to share information on when water is healthy and when it needs help**. WATER RANGERS** wants everyone to have the tools they need to protect waterways.

Their platform allows anyone to discover existing data, report issues like algae blooms and record observations of their lakes, streams and rivers. It also gives tools (like test kits and challenges!) to groups so they can mobilize volunteers to make an impact on their watersheds.

Water Rangers is currently being used by more than 50 groups located in Ontario, Quebec, New Brunswick, Alabama and Florida. They have over 17,000 observations from different sources, including one indigenous community, two municipalities, three schools, two conservation authorities and ten NGOs. They have partnered with nine key organisations to support their solution.

2016 WINNER

cannforecast.com

During the 2016 AquaHacking Challenge, INFO-BAIGNADE (now CANN FORECAST) wanted to find a more reliable way to predict the risk of recreational water contamination in the city of Montreal.

CANN Forecast analyzes data in order to predict water issues by applying the best machine learning algorithms in scientific literature. They kept refining their AquaHacking machine learning model, and several iterations later, their main product, CANN Watch, was born. CANN Forecast's mission is to help smart cities manage their water, one drop at a time.

In February 2017, CANN Forecast signed a service contract with the City of Montréal (water service division) to test their statistic model in specific areas of the St. Lawrence. Before the end of 2017, they aim to enter an Acceleration program at District 3 (Montreal) in order to further develop their start-up and solution.

4TH PLACE, 2016

goexplo.ca

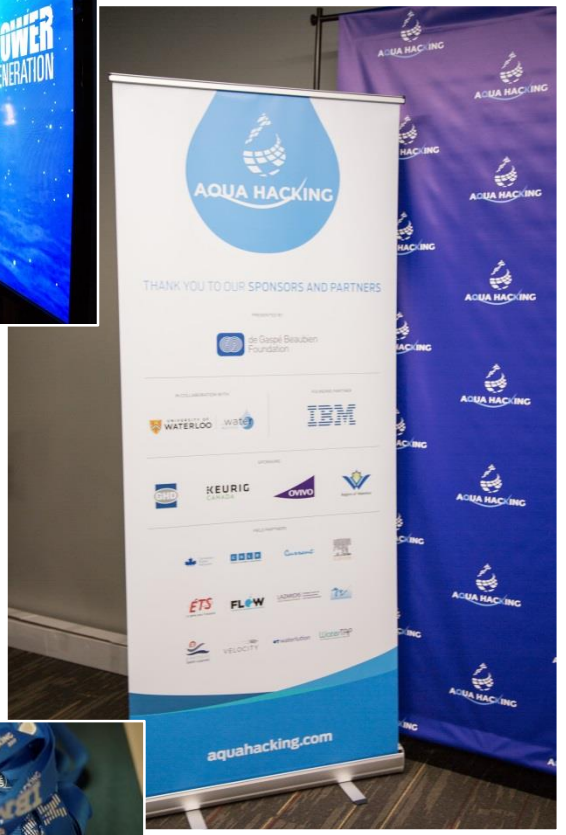
GO-EXPLO's platform takes St. Lawrence River scientific data and translates it into easily understandable information for the general public. The NGO received a grant from the Quebec Minister of Economy, Science and Innovation to help them further develop their platform. Since then, they have integrated 30 technical sheets and six pedagogical workshops. In 2018, Go-Explo will be used as a learning tool in Quebec high schools.

2017 SEMI-FINALIST

poly-mer.org

After participating in the 2016 Challenge, the start-up **POLY-MER** participated again in the 2017 edition of the AquaHacking Challenge. They developed a non-restrictive solution to collect and identify microplastics in lakes and rivers and are working on a toolbox to help municipalities take action and raise awareness about microplastic issues. They received official support from GLSL Cities Initiative to develop the first charter of mayors committed to fight pollution by plastic waste in the Great Lakes and St. Lawrence River Basin.

SUMMIT SPONSORS' VISIBILITY



PRESENTED BY

de Gaspé Beaubien Foundation

IN COLLABORATION WITH

University of Waterloo | the water INSTITUTE

FOUNDING PARTNER

IBM

FINANCIAL CONTRIBUTION $250K

SPONSORS

GHD

KEURIG CANADA

OVIVO

Region of Waterloo

ONTARIO POWER GENERATION

FIELD PARTNERS

Canadian Water Network

CGLR Council of the Great Lakes Region

Current

Elsevier

ÉTS Le génie pour l'industrie

FLOW Forum for Leadership on Water

Lazaridis School of Business & Economics | Schlegel Centre for Entrepreneurship and Social Innovation

Stratégies Saint-Laurent

Velocity

waterlution

WaterTAP Technology Acceleration Project