STAN SCIENCE & TECHNOLOGY AWARENESS NETWORK

RSST RESEAU DE SENSIBILISATION SCIENCES ET TECHNOLOGIE

FEB 27-29, 2024

THINKING OUTSIDE THE BOX

VIRTUAL CONFERENCE

Day 1: February 27, 2024

11:00 Word of welcome and Land Acknowledgement

11:30 –12:45

Sustaining Canada's Economic Growth: a critical need to foster STEM Equity

Dr. Poh Tan (she/her), Past President, Society for Canadian Women in Science and Technology (SCWIST)
Dr. Melanie Ratnam (she/her), President, Society for Canadian Women in Science and Technology (SCWIST)

It is critical, for Canada's economic development and global competitiveness, that inequities in STEM are addressed, as a diverse and inclusive STEM sector can unlock the full potential of Canada's labour force. Inclusive STEM practices also enhance problem-solving and innovation by leveraging diverse perspectives and knowledge. By focusing on key systemic issues including pay equity, IDEA in STEM, childcare/parental leave/flex work, education, and leadership and GBV, Canada can lead the way in creating an equitable and sustainable STEM future.

Followed by open networking on the STAN Zoom account

13:30-14:00

Annual General Meeting

If you are an active member of STAN, your presence is requested to help move forward the STAN agenda.

14:00 – 15:15

It Looks Like You're Trying to Use AI. Can I help?

Andy Forest (he/him), CEO, Steamlabs
Melissa Valdez (she/her), Lead Consultant at Zafin, Lead Educator at Enterprise Quantum

AI is disrupting the way we work and the careers of the (very near) future. Organizations that are afraid to think outside the box are banning or ignoring this new technology, whereas organizations who think outside the box are actively asking themselves what does this mean for me? For the communities I serve? In this session we will explore practical ways to leverage AI to advance your organization's outreach goals and equip your team with the tools to harness AI as a catalyst for positive change. Equally important, we will discuss the ethical considerations surrounding the use of AI. We'll highlight best practices to ensure fairness, accountability, and transparency are a central part of your initiatives.

15:15 – 16:00

Networking: Meet Your Fellow STAN Members

Lead and Moderated by STAN Board

After briefly laying down the ground rules, we will be shuffling participants into small breakout groups of about 3 or 4 people. You will have about 5 minutes to introduce yourselves and what brings you to the Conference and exchange information before we reshuffle you into new rooms, with new people. Later, you can reconnect with your peers on the STAN Conference Slack channels, or catch up in one of the mini networking sessions following our presentations.

Join Slack!
Chat with other delegates at the Conference
https://join.slack.com/t/stanrsstconfe-qo92427/shared_invite/zt-2cio5zf1c-Fp0gQNrWqxWt5eZrJfnOew

Day 2: February 28, 2024

11:00 **Check-in | Coffee & Open Chat**

11:30 – 12:45

Leading Change in the SETT Workplace

Carrie Vos (she, her), MA, BSc, CET

This session will focus on leading change, one of the core competencies for leaders in technical workplaces. The ability to manage and lead change is directly related to success professionally and personally. This interactive session will explore opportunities to embrace change and practice a simple framework to lead change more effectively.

This session will be facilitated by Carrie Vos, a board member with the Canadian Centre for Women in Science, Engineering, Trades and Technology (WinSETT Centre). WinSETT is an action-oriented, non-profit organization that creates and fosters opportunities that encourage women to enter, stay, grow and lead in science, engineering, trades and technology careers. The WinSETT Centre develops and delivers professional development for up-and-coming leaders tailored to early and mid-career female engineering, science, trades and technology professionals and the people with whom they work. The WinSETT Centre has also developed a certificate program to provide managers with the skills to improve workplace culture.

Followed by open networking on the STAN Zoom account

13:30-14:30

Advancing the E in STEM

Rebecca White (she/her), CEO, Engineers of Tomorrow
Kim Bouffard (she/her), Manager, Belonging & Engagement, Engineers Canada

As of 2022, the gender imbalance in the engineering profession is stark, with a threefold increase in male-identifying engineers compared to their female-identifying counterparts. Recognizing the urgency of this situation, this interactive session intends to explore a collaborative and systematic approach to advancing the 'E' in K-12 STEM education, a crucial step towards achieving gender balance in engineering.

An initial group of core partners (including post-secondary institutions, NGO's, industry & educators) have convened and developed a common agenda and strategic plan to identify community needs, influential factors, barriers, measurable outcomes and specific strategies. The group has adopted a Collective Impact approach for this work. Collective impact is a network of community members, organizations, and institutions who advance equity by learning together, aligning, and integrating their actions to achieve population and systems level change.

The goal of this session is to assess the readiness of the K-12 STEM ecosystem by holding dialogue with STAN members to help with understanding the community context, and current available resources. This information will help to inform a community engagement plan and map the landscape as we move into Phase 2: Initiate Action.

BREAK

14:45-16:00

STEM Equity Community of Practice: a collective impact approach for more diversity in STEM

Catherine Paisley, Vice-President Strategic Initiatives, Ontario Science Centre
Dr. Julia Lalande, Director, Research and Impact, Ontario Science Centre
Sandra Corbeil, Director, Strategic Partnership and Networking, Ingenium

On October 19, 2023, Ingenium and the Ontario Science Centre held a webinar where they facilitated a discussion on STEM Equity with the STAN network and introduced the idea of a community of practice regarding STEM Equity. We know that it is more important than ever to ensure that STEM subjects are accessible and inclusive and to bridge the gap between formal and informal learning. Museums and Science Centres and other stakeholders in informal STEM learning have an interest in evidence-based STEM opportunities that support diverse communities. STEM equity ensures that all people, throughout their lives, have barrier-free access and the opportunity to learn about and appreciate the value and application of Science, Technology, Engineering and Mathematics (STEM). We understand that we cannot address these issues on our own, but that we need a collective impact approach – many organizations tackling access to STEM in a variety of ways. The proposed community of practice offers an opportunity and platform for organizations and individuals to exchange approaches and ideas, to learn from each other and align efforts in a collaborative atmosphere. Ultimately, we are aiming to launch a STEM Equity/Science Capital survey to build a better evidence base of the barriers and solutions to access in STEM. This session is meant to raise awareness about the critical issue of STEM Equity and the existence of this community of practice and ensure that many different voices are heard. The opportunity to reach a broad audience and have breakout sessions to stimulate in-depth conversations. The organizations will provide dedicated facilitators to support each breakout room and ensure that the discussions are adequately captured and integrated into the future work of the community of practice and a potential survey.

Followed by open networking on the STAN Zoom account

Day 3: February 29, 2024

11:00 **Check-in | Coffee & Open Chat**

11:30 – 12:45

A Greener Tomorrow: creative approaches to sustainability education

Alexandra Gellé, Knowledge mobilization consultant & Scientist in residence - with the Climate Change Advisory Committee
Aloïs Gallet, Co-founder, EcoNova Education

Constantin Kozlow, Workshop facilitator, Climate Fresk
Amanda Stanger, Amanda is the Indigenous Programs Manager for Relay

Breaking the silence on sustainability, climate change, and energy transition is crucial, even if these subjects may seem complex and anxiety-inducing. Recognizing their significance for the next generations, this panel aims to demystify these topics by exploring innovative strategies.

From science-art contests to hands-on experiences, serious games, and other engaging methodologies, we will delve into unconventional approaches. Our goal is to offer insights into the effectiveness of these methods, sharing success stories, lessons learned, and best practices.

Attendees can anticipate gaining valuable perspectives on integrating creative and experiential techniques into their sustainability initiatives, contributing to the cultivation of a more informed and empowered community. Let's turn these vital discussions into accessible and inspiring conversations.

Followed by open networking on the STAN Zoom account

13:30 – 14:30

Data Visualization

Sadish D (he/they/she/ze), Transdisciplinary Scientist, Artist, and Innovator in Data Sonification
Curtis Collier, Senior Game Designer at Red Meat Games

Scientists rely predominantly on visualizations to explore data and communicate results. The medium of visuals is inherently inaccessible to the blind and visually impaired. Sonification—- the representation of data as sound—- is an alternative. By turning data into sound, blind and visually impaired students can not only consume science, but independently participate in the creation of scientific knowledge. In this presentation, we will listen to examples of data sonification created using novel software, and explore what role sound has in science.

To further explore the theme of interactive data visualization, we will explore “Project Dark”, an audio-only video game developed by Red Meat Games, to explore how art, science and accessibility intersect. In a world first, we will meet the team grappling with design and user experience questions around navigating an interactive narrative experience-- with your eyes closed!

15:00 – 16:00

Finding Your Seat at the Table: improving equity in STEM through Outreach

Rebecca McCullough MEd, BEd, BKin, WWEST (Westcoast Women in Engineering, Science and Technology) Program Manager
Alina Perrault, Indigenous Women in Tech Coordinator
Jarman Ley (He, Him) BEng, Lead Program coordinator, SuperNOVA at Dalhousie University
Jo-Ann Coggan, Operator, BIG Little Science Centre (moderator)

In this session you will hear about 4 uniquely different outreach programs that have one thing in common, they are breaking barriers to reach under represented audiences in the STEM world.

The WWEST team has developed various programs to address the disparity and disadvantage of some regions in BC. Rural, remote, Indigenous and other underrepresented persons face challenges in accessing equitable, engaging, and meaningful STEM experiences. WWEST has piloted programs and developed strategies to support exposure to STEM through the use of hands-on activities, and fostering role modelling through mentorship of Indigenous post-secondary students to lead hands-on STEM activities. This approach supports post-secondary students in

developing career ready skills, and builds relationships across communities, to increase awareness and access that sparks curiosity for lifelong STEM pursuits.

Changing Saskatchewan's Tech Ecosystem to Empower Indigenous Women has been the focus for Ethical Digital. They are 'changing the trajectory of the Internet' by working with leading organizations to build a better digital society. A better digital society that is more responsive to everyone's needs can be built if everyone, especially Indigenous women are included. This is a two-year project that aims to understand the challenges and barriers that have prevented Indigenous women from pursuing careers in technology.

SuperNOVA is a not-for-profit initiative at Dalhousie University in Halifax, Nova Scotia, that aims to empower youth across Atlantic Canada through educational experiences in STEM that cultivate curiosity and an attitude for lifelong learning. SuperNOVA's programming engages youth in STEM through a variety of hands-on workshops and projects, as well as through mentorship and site visits with industry professionals. SuperNOVA aims to make STEM education accessible to all youth regardless of geographic location, socio-economic situation, ability, gender, or lived experience. Barriers concerning access to STEM for youth and educators are identified, and strategies are developed to reduce or eliminate these barriers.

SuperNOVA is also focused on creating inclusive lesson plans for Deaf and Hard of Hearing students. The presenter is a member of the Deaf community and is a first language user of American Sign Language (ASL). In 2019, the National Deaf Center released a study reporting that Deaf students are 50% less likely to graduate from higher education. In order to address this disparity, we must approach education through a culturally responsive lens. This will empower students to see STEM as a viable future option.
The challenge with working with deaf students is that our methodologies for education are historically focused on oral learning creating a barrier to Deaf students. Restructuring existing lesson plans
through a cultural lens will break the traditional barriers that deaf students in STEM experience.

Each presenter in this session will discuss methods of reducing barriers to specific equity-deserving and underserved audiences and communities through specific programs.

Closing Remarks

Thank you to our sponsors.