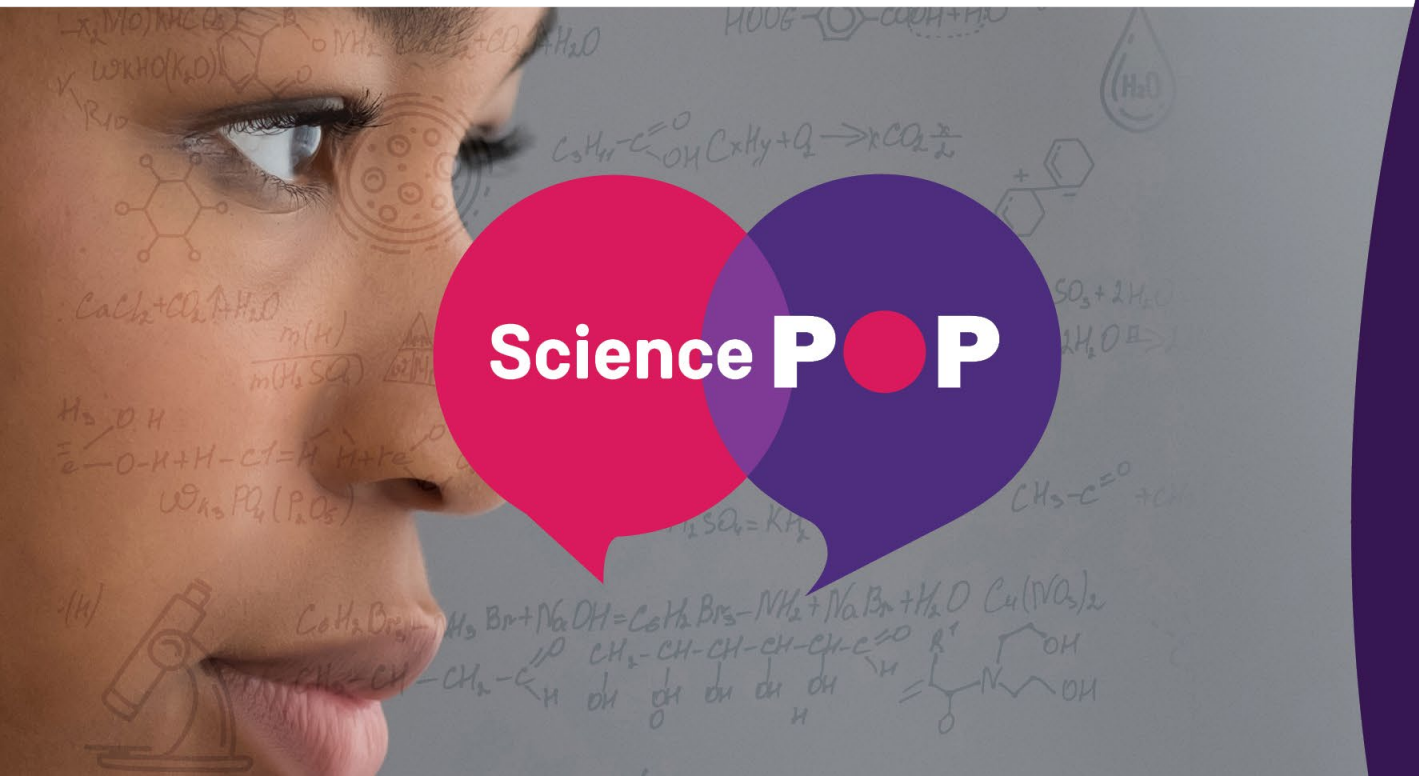
Information about challenges



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Information about challenges

The purpose of this document is to provide candidates with all the necessary information about taking on a Science POP challenge and preparing a successful, on-point presentation.

Popularization challenge

Popularization challenge

Explain a central element of your research project!

About the challenge

College, university, internships, a Master's Degree…
then might come a PhD, perhaps even one or two postdoctoral fellowships.
So many years devoted to acquiring deep knowledge, cutting-edge expertise and a precise but universal jargon to effectively communicate with your peers.

But could you explain your research topic to an uninformed audience in less than 5 minutes?

To meet this challenge, you must first cut apart your research project and identify the core concept(s) that are necessary to understand it. Then, use your educational skills and your creativity to translate this into clear, simple and accessible language!

Popularization challenge

Explain a central element of your research project!

Terms of the challenge

Format:

- ✓ Educational speech
- ✓ Solo challenge (no teams)

Presentation length:

- ✓ Five (5) minutes maximum

Visual aid:

- ✓ Primary – Unlimited number of slides
- ✓ Secondary, if needed – One (1) accessory

Popularization challenge

Explain a central element of your research project!

Additional guidelines

The topic of your presentation must be directly related to the research project you are conducting as part of your current training (graduate studies or postdoctoral fellowship).

Your presentation should not be a simple overview of your research project (context, purpose, results, perspectives…), nor should you explain every scientific notion it implicates. You must target a specific, central element that the audience needs to grasp properly and completely in order to understand the overall purpose of your work.

Example: Your research project aims to demonstrate that a particular species of bacteria simulates IkB phosphorylation, leading to the expression of pro-inflammatory cytokines? Chances are your audience won't even know what signaling pathways are… Explain this concept as a whole and frame it in the context of your research! The goal is for the public to grasp the basis and key concepts of your work, rather than to understand all aspects and subtleties.

Popularization challenge

Explain a central element of your research project!

Examples of notions to explain in layman's terms (non-exhaustive list)

Biological component or process (apoptosis, neurotransmission, DNA polymerase, endocytosis, pharmacodependence, etc.), **scientific approach** (randomized double-blind clinical study, limit of detection, statistical analysis, etc.), **laboratory technique or method** (electroencephalogram, electronic microscopy, functional magnetic resonance imagery, CRISPR-Cas, systematic observation, sample collection, etc.), **experimental model** (tissue transplant, organoid, immortalized cell line, genetic validation in mice, etc.), **disease** (type 1 or 2 diabetes, cancer, etc.), **pathology or clinical manifestation** (anaphylactic shock, cirrhosis, inflammation, etc.), **therapy or medication** (triple combination therapy, RNA vaccine, etc.), **evaluation or measurement** (diagnostic criteria, cognitive tests, psychometric tests, etc.)

I Popularization challenge

Explain a central element of your research project!

Evaluation criteria

Educational value of the presentation

Credibility and knowledge depth, clarity of explanations, educational efficiency (your audience can retain the information and could in turn share it to others), absence of jargon or acronyms (if they are unavoidable, they are well defined and in limited quantity), simple and accessible response to questions

Quality and originality of the visual aid

Eye-catching slides, adequate visibility, relevant and creative content (images, metaphors, excerpts from daily life, etc.), reasonable amount of text, external sources well cited

Popularization challenge

Explain a central element of your research project!

Evaluation criteria

Speech delivery

Coherent and logical structure, enthusiasm, professional posture (body/hand gestures, movements on stage, etc.), diction (tone, volume, speed, etc.)

Interaction with the audience

Eye contact and engaging presence on stage, capacity to spark an interest (passion about the topic, sensibility, sharing experiences, etc.), welcoming and respectful attitude during the question period

Valorization challenge

I Valorization challenge

Highlight the benefits of your research project!

About the challenge

Scientific research is primarily supported via public funds, awarded to researchers through highly competitive programs. Scientists thus learn to write grant applications in a way that supports their proposed research plan, with hard data and statistical tests.

Could you convince a lay audience of the relevance of your work?

To take on this challenge, you must first get a clear picture of the general context behind your research project and identify its short- and long-term benefits and outcomes. Then, delve into the world of scientific journalism to make your work shine!

Valorization challenge

Highlight the benefits of your research project!

Terms of the challenge

Format:

- ✓ Step 1: News release
- ✓ Step 2: Pitch-style presentation
- ✓ Solo challenge (no teams)

Presentation length:

- ✓ Two (2) minutes maximum

Visual aid:

- ✓ One (1) static slide **OR** one (1) accessory

Valorization challenge

Highlight the benefits of your research project!

Additional guidelines

Step 1: Writing a news release

The focus of your news release must be directly related to the research project you are conducting as part of your current training (graduate studies or postdoctoral fellowship).

Your news release must not be longer than 400 words and must be written in the third person, with double spacing. It must contain the following elements: title, lead, development and conclusion, as well as your contact information, a graphic element (image) and a summary for social media. It must highlight, succinctly, the importance of the work: the societal issue it addresses, its innovativeness, potential partnerships, and short/mid/long-term benefits, etc.

Valorization challenge

Highlight the benefits of your research project!

Additional guidelines

Step 1: Writing a news release (continued)

You must submit your news release to the contact person or the organizing committee of your participating institution, no later than 5 days before the date of the internal competition. Your text will then be forwarded to the jury and published online, on your institution's chosen platform (website, Facebook page or other).

A document explaining how to write a news release is provided in the Science POP toolkit, available on the program website www.sciencepop.ca.

I Valorization challenge

Highlight the benefits of your research project!

Additional guidelines

Step 2: Pitch-style presentation

Imagine having only the length of an elevator ride to explain the importance of your work, whether to a journalist, a philanthropist or a future commercial partner. Your presentation must start with an opening line that catches your audience's attention, and end with a strong, persuasive conclusion. The focus of your speech must be directly related to your ongoing research work and pick up the key elements of your news release.

You must therefore go straight to the point and try to convince and captivate your audience, enough that they will feel compelled to go read your news release for further information.

I Valorization challenge

Highlight the benefits of your research project!

Examples of project outcomes and benefits (non-exhaustive list)

Example 1

Project: Studying the impact of a chemical molecule, found in cosmetics, on cellular processes
Short-term benefit: Identification of a toxic effect on tissue development
Mid- and long-term benefits: Warning about the harmfulness of this ingredient; Cosmetic product taken off shelves or reformulated; Increased security for consumers
Issues addressed: Inadequate or insufficient pharmaceutical norms; Consumer right to information

Valorization challenge

Highlight the benefits of your research project!

Examples of project outcomes and benefits (non-exhaustive list)

Example 2

Project: Development of an experimental model for leukemia in *Drosophila* (fruit flies)
Short-term benefit: Capacity to study the role of certain genes without needing biopsies
Mid- and long-term benefits: Discovery and validation of the pharmacological potential of new molecules; Development of a new anti-cancer therapy avenue
Issues addressed: Limited knowledge about the disease; Current treatments are toxic, inefficient or too expensive

Valorization challenge

Highlight the benefits of your research project!

Examples of project outcomes and benefits (non-exhaustive list)

Example 3

Project: Studying the half-life of viral particles under different conditions
Short-term benefit: Discovery that the virus displays weak resistance on dry surfaces
Mid- and long-term benefits: Better understanding of the viral mode of transmission; Adaptation of prevention and control measures
Issues addressed: Fast-propagating, unknown emerging virus; Compromised public safety and health

Valorization challenge

Highlight the benefits of your research project!

Examples of project outcomes and benefits (non-exhaustive list)

Example 4

Project: Evaluating the link between attention deficits and anxiety in young populations
Short-term benefit: Uncovering a strong correlation between anxiety and examination days
Mid- and long-term benefits: Improvement of the procedure to follow up on student learning and psychological state; Fight against discrimination and social/school exclusion
Issues addressed: Increase in drop-out rates and anxiety in young populations

Valorization challenge

Highlight the benefits of your research project!

Evaluation criteria

Efficacy of the media coverage - News release

Credibility and knowledge depth, attention-grabbing title, absence of acronyms or jargon (if they are unavoidable, they are well defined and in limited quantity), proper structure, the importance of the research is well supported (the text highlights the innovative aspects of the work, the issues it addresses, the short- and long-term outcomes and benefits, the partnerships that may stem from the project, etc.)

Efficacy of the media coverage - Pitch

Fluid and convincing speech, clear message that is easy to retain, short sentences, well thought-out selection of information to highlight considering the limited time

Valorization challenge

Highlight the benefits of your research project!

Evaluation criteria

Quality and originality of the visual aid

Creativity, adequate visibility, efficacy in supporting or conveying the message

Speech delivery

Enthusiasm, professional posture (body/hand gestures, movements on stage, etc.), diction (tone, volume, speed, etc.)

Interaction with the audience

Eye contact and engaging presence on stage, capacity to spark an interest (passion about the topic, sensibility, sharing experiences, etc.), welcoming and respectful attitude during the question period

Mobilization challenge

Mobilization challenge

Showcase your personal commitment to sustainable health!

About the challenge

The mad scientist, muttering hypotheses and working as a recluse in his laboratory, is an outdated stereotype. Yet, the image portrayed in popular culture references, dehumanized and filled with robotic equipment, isn't any more inspiring. To make sure science helps society move forward, scientists color their work with a sense of devotion and commitment to their community.

And you, how do you plan on contributing to the development of sustainable health?

To take on this challenge, you must first ponder about your role in Quebec's society as citizen, but first and foremost as a scientist. Then, share your vision with the public by presenting a personal initiative aimed at promoting sustainable health!

Mobilization challenge

Showcase your personal commitment to sustainable health!

Terms of the challenge

Format:

- ✓ TEDx conference
- ✓ Solo **OR** team (2*) challenge

Presentation length:

- ✓ Ten (10) minutes maximum

Visual aid:

- ✓ Unlimited number of minimalistic slides
- ✓ Optional: One (1) accessory

**Both candidates must sign up. Any prize won will be split evenly.*

Mobilization challenge

Showcase your personal commitment to sustainable health!

Additional guidelines

You must present an initiative, an endeavour, a development plan, an invention, a tangible gesture or any other form of personal project that conveys your commitment to contribute to society by promoting sustainable health. You must either be the instigator of the project or one of the main organizers.

The project can be under development, in the process of implementation or completed for less than one (1) year by April 2023. It does not have to be related to the research you are currently conducting.

Your visual aid must be minimalistic (one object, one photo, etc.) and be free of any text longer than a few single words, excluding text appearing on an image (ex: social media screenshot, newspaper, etc.).

Mobilization challenge

Showcase your personal commitment to sustainable health!

Examples of projects to promote sustainable health (non-exhaustive list)

Creation, development, writing or broadcasting of educational material (blog[1], YouTube channel, website[2], journal, magazine, TV or radio show[2], podcast[3], social media[2], artistic production[4], etc.), **event organization or management** (awareness campaign, fundraiser,[5], conference[6], school activity, door-to-door, etc.), **collaboration with political leaders, healthcare professionals and other stakeholders** (public health regulations, recommendations or norms, participatory research, precision medicine, etc.)

[1] **Éliane Dussault**, PhD candidate in Sexology, blog editor, *TRACE*. [2] **Kevin L'Espérance**, PhD candidate in Public Health, science communicator, media. [3] **Myriam Beaudry,** PhD candidate in nutrition, podcast host, *Tête-à-tête avec la science*. [4] **Jack Bauer**, PhD in Molecular Biology, street artist and illustrator, *SciwalkArt*. [5] **Catherine Laferté**, student in Medicine, co-initiator, *Cuistots… le temps d'une pandémie*. [6] **Marion Cossin,** PhD in Biomedical Engineering, co-founder, *ComSciCon-QC* conferences and workshops.

Mobilization challenge

Showcase your personal commitment to sustainable health!

Examples of themes (non-exhaustive list)

Biological and genetic traits affecting health (age, gender, ethnicity, familial/genetic/epigenetic predispositions, microbiome, etc.), **healthy lifestyle** (diet, sleep, physical activity, drugs, sexual practices, hygiene, etc.), **environment and quality of life** (biodiversity, air/soil/water quality, nosocomial infections, access to healthcare, poverty, malnutrition, etc.), **communicable and non-communicable diseases** (diabetes, heart disease, obesity, cancer, sexually transmitted and blood-borne infections, rare or neglected diseases, etc.), **maternal or infant mortality** (postnatal hemorrhage, sepsis, premature birth, asphyxia, unsafe abortion, etc.), **mental health** (war, poverty, trauma, sickness, access to jobs, access to education, discrimination, etc.), **pollution** (single-use products, water treatment, domestic or industrial waste management, etc.)

Mobilization challenge

Showcase your personal commitment to sustainable health!

Evaluation criteria

Inspirational value of the speech

Engaging presentation, delivered with conviction (the public is compelled by the story), evident link with current news and/or health issues, capacity to make the audience reflect on the topic

Value and strength of the proposed commitment

Feasibility of the project, level of involvement, tangible and well-defined targets, range of project outcomes (scope and sustainability), mobilizing effect (individuals, communities, political leaders & other stakeholders, healthcare professionals, not-for-profit organisations, etc.)

Mobilization challenge

Showcase your personal commitment to sustainable health!

Evaluation criteria

Quality and originality of the visual aid

Creativity, relevance, minimalistic appearance (if applicable), adequate visibility

Speech delivery

Coherent and logical structure, enthusiasm, professional posture (body/hand gestures, movements on stage, etc.), diction (tone, volume, speed, etc.)

Interaction with the audience

Eye contact and engaging presence on stage, capacity to spark an interest (passion about the topic, sensibility, sharing experiences, etc.), welcoming and respectful attitude during the question period

Rules & information

Science POP competition

Rules & information – Registration as a candidate

You cannot register as a candidate for more than one (1) internal Science POP competition.

You must sign the Candidate Commitment Form at the moment of signing up to take on a Science POP challenge.

If the participating institution holding the internal competition for which you are a candidate allows it, you can take on additional challenges, though out of competition. You must indicate, when you sign up, which challenge should be evaluated and eligible for a prize & access to the provincial final.

Science POP competition

Rules & information – Visual aid

Your presentation must be delivered in the form of a speech (no songs, poems, mimes, etc.) and must not contain soundtracks or pre-recorded narration.

The visual aid (slides or accessory) is not mandatory, but highly recommended.

The accessory must be a personal object, discrete and easy to carry. The accessory cannot be installed or placed on stage prior to your presentation, nor stay there after.

A laser pointer is not considered an accessory.

Science POP competition

Rules & information – Visual aid

You must be the author of any image, drawing, animation or video used as visual aid. If the visual aid comes from an external source, it must either be free of any copyrights or you must have authorization to use it & provide a full reference.

Any slide used as visual aid must be designed under the 16:9 format and be compatible with the Microsoft PowerPoint software.

Presenter notes and memory aids are forbidden, whether they are on a computer, in your hands or on the podium.

Science POP competition

Rules & information – Time management

Each challenge has a different time constraint. You are responsible of getting informed of all guidelines specific to the challenge you are taking on.

We recommend that you use a clear sign (ex: raising your hand) as a signal for the judges to start the timer. In the absence of a clear signal, judges will consider your presentation as officially started as soon as you speak you first words, start using your visual aid or address the audience.

The timer cannot be reset to zero in the event of memory loss or hesitation. Only the competition host is authorized to stop the presentation and restart the timer, should a technical problem occur.

Science POP competition

Rules & information – Time management

You must finish delivering your speech, including any associated movements and slides, before the end of the allotted time. Judges will subtract 1 point for each 15-second bracket that exceeds this time: 0-15 seconds = 1 point; 15-30 seconds = 2 points; etc.

At the provincial final:

A timer will be readily visible to monitor the length of your presentation. A light signal will announce the final 30 seconds of the allotted time.

Science POP competition

Rules & information – Evaluation

Each challenge will have a distinct jury to evaluate candidate presentations.

Juries will be composed of citizens, in addition to scientists and/or experts in scientific outreach (**Popularization challenge**), philanthropy advisors (**Valorization challenge**), and individuals known for their commitment towards sustainable health (**Mobilization challenge**).

Standardized evaluation rubrics, common across all competitions held by participating institutions, will be used by the juries to evaluate presentations and select finalists.

Science POP competition

Sources of inspiration – Presentations in layman's terms (French OR English)

Winners – 3-minute thesis:
Nancy Mourad , Yohann Thenaisie , Alphanie Midelet , Geneviève Zabré

Winners - SciPOP 2021 :
Céline Schott , Maria Galipeau , Laure Monteillet

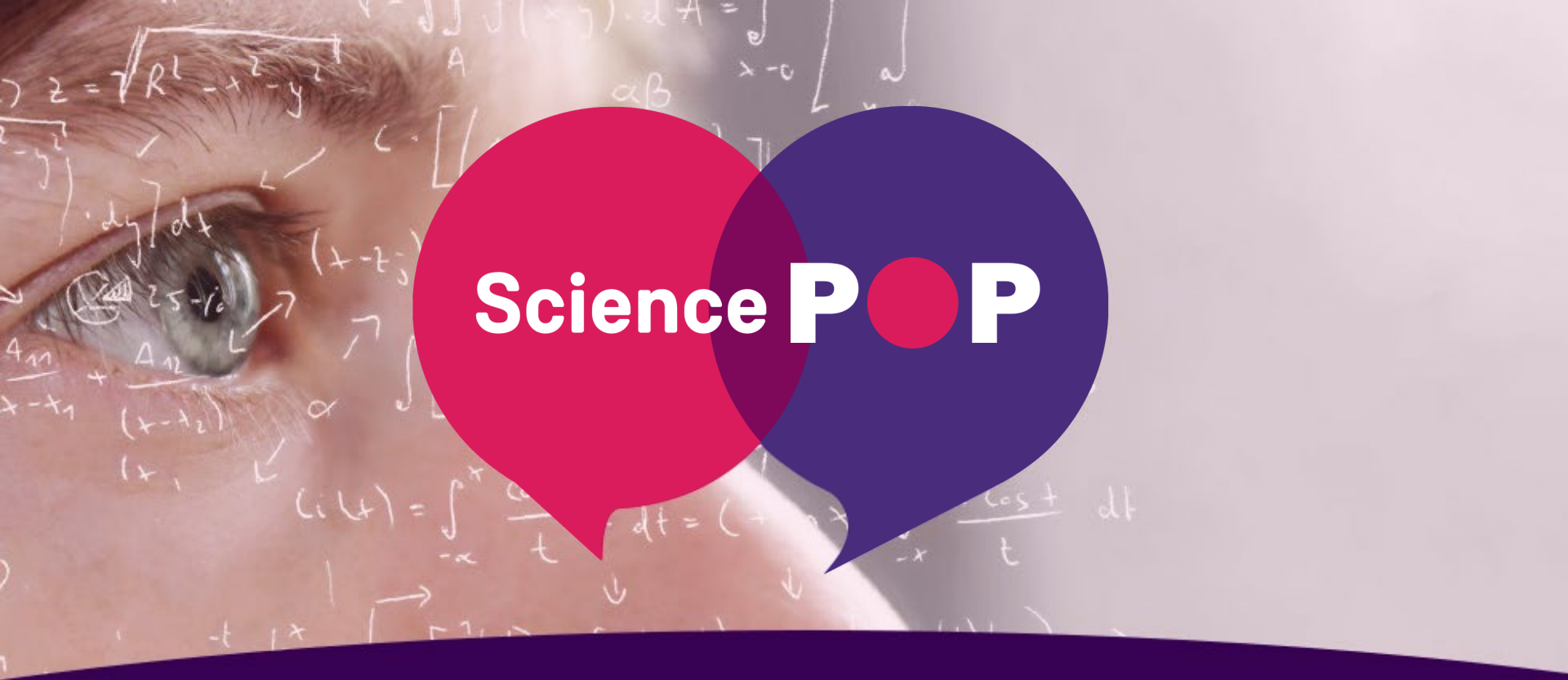
TEDx conferences:
Ogie Shaw , Jimmy Mohamed , Ali Safavi , Thomas Durand

Science POP competition

Sources of inspiration – Tips on scientific communication

The Amercian Association for the Advancement of Science and an international forum for cell biology: **In-Person Engagement** , **Communication fundamentals** , **Best Practices in Science Communication** , **How to give a killer presentation**

Science communication consultancy- Agent majeur : **Science communication skills: our top 10 tips** , **Pitch: advice from speakers** , **Prepare a talk with the SELL Method®**



Pour any question, contact Sara Marullo
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sciencepop.ca