Indigenous perspectives ought to inform naming of novel microbial lineages

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What's in a name? While microbial ecology has evolving guidelines for naming that must be followed, typically people discovering and describing new lineages also get to name them. Microbial taxonomies can thus reflect the place where a species is found, its phenotype, the name of a researcher, or other motivations. Whether via traditional frameworks involving cultured isolates or more recent proposals to use genomic information as type material, naming new lineages leaves a lasting mark on the field. In this context, what principles or values should guide naming practices in microbial ecology, determine the labels we use, and influence the scientific lexicon?

Names do not normally reflect that scientific 'discovery' depends on samples from traditional territories of Indigenous Peoples. Giving microbial lineages a style disconnected from land, culture and community can entrench the subjugation of colonized peoples and cultures through unexamined conventions of Western science. Instead, microbial names can respect and promote the inherent rights of Indigenous Peoples. As affirmed in the United Nations Declaration on the Rights of Indigenous Peoples, these rights derive from Indigenous political, economic and social structures, cultures, spiritual traditions, histories and philosophies, as well rights to lands, territories and resources.

Current metagenomics approaches are driving explosive discovery of novel biodiversity. Opportunities to involve different worldviews in naming practices and weave Indigenous voices into the fabric of microbial ecology should not be squandered. Indigenizing microbial taxonomy through knowledge co-creation in this way promotes Indigenous self-determination in scientific research and advances reconciliation objectives shared around the world.

More Than Just Fairy Tales: Animated Storytelling to Broaden Science Communication

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Many know the feeling of sitting through a dense lecture or reading a textbook for hours, only to walk away more confused than before. This isn't necessarily a sign of lack of ability or effort, but often a mismatch between how information is presented and how it's best understood. Traditional scientific communication tends to favour one learning style, unintentionally leaving out general audiences. When information isn't communicated in ways that resonate, science can be overlooked or, worse, misunderstood, leading to confusion, mistrust, or the spread of alternative facts about important scientific topics.

Visual storytelling can help bridge this gap. Research shows that tools like comics, animation, and multimedia narratives can connect research to broader audiences, especially those who may not typically engage with traditional reading-focused science communication. Without accessible formats, environmental and health discoveries can stay trapped within academia or topic-specific audiences and risk leaving out the general public. Importantly, formats like visual storytelling through animation can appeal across age groups and reach a broader demographic.
Recognizing this need, we created a narrative animation for microbiology to increase accessibility and retention. We chose the topic "plastisphere"; the microbial communities living on microplastics, an emerging research topic with broader public interest. We created an animated short that blends visual and storytelling modes of learning with accurate scientific information, focusing on making the science relatable and easy to connect with for a broad audience. We chose the classical tale of Aladdin and his magical lamp as a relatable, widely understood story and weaved the concepts of plastic pollution, microplastics, and plastisphere through it. The process moved from storyboarding ideas to scriptwriting, animation asset creation in Adobe Illustrator, motion design, voiceover and sound production. With audio tracks in multiple languages and subtitles, the animation engages audiences from different linguistic backgrounds and includes people with different verbal abilities. Every creative choice was made with the goal of keeping the attention of general audiences without compromising the integrity of the science.
Initial viewing of the animated short showed strong engagement. Viewers from diverse educational and ethnic backgrounds showed increased curiosity and engaged in more open discussions about the science. Concepts that once felt distant or abstract became part of a memorable story, providing a way in for those who might've otherwise felt excluded from scientific conversations. This project demonstrates how different techniques in visual storytelling can create space in scientific communication for a wider range of learners and general audiences. This communication style is important for science with public and environmental health implications, like microplastic pollution. In a teaching and learning space, it's also an important tool for equity, diversity, and inclusion, by combining with traditional methods to reach learners of different abilities. Our work shows that with this combination of traditional methods, accessibility doesn't have to mean losing complexity. By first connecting people through story, we build a foundation people can draw from as they engage with deeper, more complex research.

Everyday Sexism in Academia: Not Who We Are!

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This project stemmed from common observations of sexist comments and acts that took place daily in our laboratories. These gestures might seem harmless, but they make it harder for women and gender minorities to pursue academic careers. Everyday sexism can lead to low self-esteem, lack of confidence, and sometimes it even leads to students

abandoning their studies. Therefore, we created the committee to act against everyday sexism! The main objectives of this committee were to develop a campaign that raises awareness about everyday sexism and encourages more positive attitudes toward gender equality. We collected testimonies from students and, with the collaboration of an illustrator, Sophie Bédard, we created 5 comic strips inspired by them. Posters of these comic strips were displayed throughout the four research centers of the National Institute of Scientific Research (INRS), including student offices and research laboratories. We also organized two conferences with renowned researchers recognized for their feminist engagement, Drs. Farah Alibay (NASA aerospace engineer, speaker, and author) and Stéphanie Gaudet (Full Professor at the University of Ottawa and specialist in gender inequalities in academia) which took place in 2024. From the feedback we collected after the campaign and conferences, it appears that our project created a sense of legitimacy and emotional recognition, but also a reassessment of some behavior. In addition, following the conferences between 70% and 95% of participants reported having gained new knowledge about gender inequalities. These conferences also gave the participants some tools to act against everyday sexism. Today, all the comics and a facilitation guide are offered on the website of the INRS to broaden the impact of the campaign and hopefully initiate similar action in other institute and universities.