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Workplace health and safety and nanotechnology on the global scale

PRRD represented on Canada's delegation at the ISO/TC 229 conference in Australia



Consultations on Occupational Exposure Limits (OELs)

The PRRD is seeking stakeholder input on proposed changes to OELs



Consultations on Occupational Health and Safety (OHS) Regulation amendments

The PRRD is requesting feedback on proposed amendments relating to Part 6 and Part 26 of the OHS Regulation



Upcoming public hearings

Stakeholders are invited to participate in public hearings regarding proposed amendments to Parts 8, 16, 20, and 21 of the OHS Regulation



What's new in research

Research Services announces the outcomes of the 2019 Innovation at Work competition



Fostering the future

Introducing the recipients of the 2019 Research Training Awards

Did you know?

Research Services will be launching a request for proposals for the Innovation at Work grant competition in November. Learn more at worksafebc.com.

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Workplace health and safety and nanotechnology on the global scale

The [International Organization for Standardization](#) (ISO) is an independent, non-governmental organization that maintains international standards that affect most industries.

Recently, PRRD senior policy advisor Mark Teo attended the ISO/TC 229 Interim Working Group Meeting in Sydney, Australia. ISO/TC 229's scope is on the standardization in the field of nanotechnologies.

About 100 nanotechnology subject matter experts and stakeholders were there representing industry, academia, governments, and regulators from around the world. Participants focused on revising and updating nanotechnology standards, as well as developing standardized methods for determining toxicity of nanomaterials and conducting exposure assessments.

Innovating at a minuscule scale

A nanometer is one-billionth (10^{-9}) of a metre. Nanomaterials, or materials with external dimensions or internal structures in the nanoscale, are used in a range of industries and workplaces, including the manufacture of fuel cell catalysts, antimicrobial materials, paints, plastics, and cosmetics. Workers need to take precautions when handling some types of nanomaterials since ingesting, inhaling, or coming into contact with these materials can lead to adverse health effects.

"Nanotechnology is one of those emerging areas in which stakeholders around the world have taken proactive measures to ensure worker health and safety is addressed at an early stage," Teo explains. "The countries that are actively participating in ISO/TC 229 are passionate about ensuring worker health and safety issues are addressed at a global level."

While nanotechnology has many promising applications, Teo notes that conducting nanotechnology-related health and safety research can be complex and requires a lot of resources. That's why working groups within

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ISO/TC 229 are so valuable because subject matter experts from around the world are collaborating.

Expanding knowledge

Canada holds leadership positions in a number of work items within the ISO/TC 229 working groups, including terminology and nomenclature, measurement and characterization, and health, safety, and environmental aspects of nanotechnologies.

Teo feels the level of awareness within Canada about nanotechnologies is much higher today, compared to ten years ago. One key contributing factor is that the Canadian Standards Association (CSA Group) has adopted a number of international standards as voluntary national standards. Some of the CSA standards are considered by Canadian stakeholders to be the de facto health and safety standards for nanotechnology in the country.

Teo adds that he was honoured to represent Canada on a global stage as part of the Canadian delegation.

"What I enjoyed most were the people that I interacted with – among the Canadian delegation, and also with scientists and delegates from other countries," he says. "I got to learn and expand my knowledge on research projects that are going on in the field of nanotechnology, including ones related to worker health and safety."

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Consultations on Occupational Exposure Limits (OELs)

Every year, the American Conference of Governmental Industrial Hygienists (ACGIH) publishes a list of substances for which they have set new or revised Threshold Limit Values (TLVs). A TLV is an airborne concentration of a chemical substance to which, if exposed, nearly all workers are believed to experience no adverse health effects over a working lifetime.

The Occupational Health and Safety Regulation states that these TLVs are generally used as a basis for WorkSafeBC's Occupational Exposure Limits (OELs) for hazardous chemical substances. Before adopting new or revised TLVs, WorkSafeBC reviews and consults with stakeholders.

WorkSafeBC is requesting stakeholder feedback on proposed OELs for 31 substances. Feedback will be accepted until 4:30 p.m. on Friday, September 27, 2019.

Visit [worksafebc.com](https://www.worksafebc.com) for details on how to provide feedback.

WorkSafeBC's existing OELs will continue to be in effect until the Board of Directors makes a decision on which new or revised ACGIH TLVs to adopt.

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Consultations on Occupational Health and Safety Regulation amendments

WorkSafeBC's Policy, Regulation and Research Division (PRRD) is requesting feedback on proposed amendments to the Occupational Health and Safety Regulation. These consultations give stakeholders an opportunity to provide feedback before proposed amendments are taken to public hearing. All stakeholder feedback is carefully considered and analyzed, and provided to the Board of Directors of WorkSafeBC as part of their decision-making process.

Friday, September 27, 2019 deadline

Stakeholders are invited to provide feedback on the following two proposed regulatory amendment packages by 4:30 p.m. on September 27:

- Part 6, Substance Specific Requirements, sections 6.89–6.90 (Restricted Entry Intervals and Authorization to Enter)
- Part 26, Forestry Operations and Similar Activities, sections 26.1, 26.67, 26.68, 26.69

View the [draft proposed amendments](#) with explanatory notes.

Tuesday, October 15, 2019 deadline

Stakeholders are invited to provide feedback on the following proposed regulatory amendment package by 4:30 p.m. on October 15:

- Part 6, Substance Specific Requirements, sections 6.43 to 6.58.01 (Cytotoxic Drugs)

View the [draft proposed amendments](#) with explanatory notes.

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Upcoming public hearings

WorkSafeBC will be holding public hearings about proposed amendments to the Occupational Health and Safety Regulation from the end of October through mid-November.

The following amendments are under consideration:

- Part 16, Mobile Equipment — Full review of Part 16 with consequential amendments to Parts 1, 8, 10, 12, 14, 17, 26, 28, 31
- Part 8, High Visibility Apparel, section 8.24 — Incorporate the latest edition of the Canadian Standards Association's standard on high-visibility apparel
- Part 20, Equipment Inspection, section 20.47 — Enhance the requirements for inspecting concrete pumps and placing booms
- Part 21, Blasting Operations, multiple sections — Update blasting requirements to address changes to equipment and associated safe work practice, and ensure consistency with federal blasting requirements

Date	Location	Address
October 29	Prince George	Ramada Prince George 444 George Street Prince George, B.C.
November 5	Kamloops	Coast Kamloops Hotel & Conference Centre 1250 Rogers Way Kamloops, B.C.
November 7	Victoria	Delta Hotels Victoria Ocean Pointe Resort 100 Harbour Road Victoria, B.C.
November 14	Richmond	Pacific Gateway Hotel 3500 Cessna Drive Richmond, B.C.

Visit [worksafebc.com](https://www.worksafebc.com) for more information.

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What's new in research: Innovation at Work 2019

Following a rigorous evaluation process, eight applicants have been awarded Innovation at Work (IAW) research grants for 2019.

IAW projects are aimed at solving specific problems for workplaces, and putting the latest scientific knowledge to work. This year's initiatives span a variety of topics, sectors, and approaches and include the following:

- Evaluating cab guard designs for log trucks, in order to develop a cost-effective design for retrofitting existing cab guard structures to improve safety
- Refining a liquid skin substitute product to treat pressure ulcers in patients with spinal cord injuries, eliminating the need for lengthy hospital stays and reconstructive surgeries
- Investigating how organizational climate and culture influence bullying and harassment for tradeswomen in B.C. and Alberta, with a focus on mental health and gender
- Looking at how anti-cancer drugs are handled in veterinary settings, and assessing surface contamination to better understand how to prevent potentially harmful exposure for veterinarians and staff
- Developing a set of practical messages for sun safety to prevent skin cancer, heat stress, and eye damage, for outdoor workers and their employers
- Building and testing a system to alert drivers to the presence of oncoming vehicles on resource roads
- Evaluating whether metal concentrations in welders increase with exposure, and if exhaled breath condensates can be used as an alternative marker of metal exposures
- Using artificial intelligence to optimize assessment and sampling of surface contamination, in order to improve assessment of worker exposures and mitigate contact with hazardous materials

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"The diverse ideas and questions that come to us through IAW help us to understand emerging issues in occupational health and safety. We welcome proposals from any field, with a focus on workers and workplace health and safety," says Lori Guiton, director of the Policy, Regulation, and Research Division at WorkSafeBC. "We seek to build research partnerships between workplace experts and academic researchers. It's always exciting to see the fruits of those collaborations and the innovations they drive."

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Fostering the future: Introducing the 2019 Research Training Awards recipients

Research Services is pleased to announce the six recipients of Research Training Awards for 2019. These awards support students as they work with established researchers in our province, developing their skills and advancing their careers.

Research Training Awards are available to full-time graduate students in B.C. whose research focuses on occupational health and safety.

"WorkSafeBC has always put a focus on supporting emerging workplace health researchers," says Deepani Weerapura, senior manager of Research Services at WorkSafeBC. "We are laying the foundation as they develop their careers in research, policy, medicine, and science."

Emerging researchers

This year's funding is going to students from across the province.

- Juliano Schwartz, a doctoral student at UBC Okanagan, will look at causes of cognitive fatigue for fire coordinators in wildland fire centres by studying 40 participants working out of the Kamloops Fire Centre over a period of two years.
- Prashant Pandey, a PhD candidate at UBC, will study the effectiveness of ultrasound imaging to replace x-rays during pelvic fracture surgeries, with a goal of limiting worker exposure to radiation.
- Jessica McDougall, a doctoral student at UBC, is carrying out a pilot study to examine the effectiveness of building pain tolerance through aerobic exercise, with the objective of improving pain control for workers with chronic pain.
- Kaela Cranston, a PhD candidate at UBC Okanagan, will develop a prevention program for populations at higher risk of developing diabetes. Kaela will work closely with four Indigenous communities and their leaders to ensure cultural sensitivity and effectiveness in reaching affected workers.

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- Kendra Todd, a doctoral student at UBC Okanagan, will develop evidence-based exercise guidelines to reduce chronic pain and improve well-being in workers with spinal cord injuries.
- Juma Orach, a master's student at UBC, will measure health effects of diesel exhaust exposure, aiming to develop reliable methods of monitoring and assessing workers exposed to potentially harmful pollutants.
- Tony Ngo, a master's student at SFU, will measure potential worker exposure to cytotoxic (anti-cancer) drugs, with the aim of minimizing contact with substances that are known to cause cancer in healthy people.

Look for updates on their work in future issues of Insight.

The next Research Training Awards competition will launch in early 2020. To learn about new opportunities, visit worksafebc.com and sign up to receive automatic [email notifications](#).