

2022 International Symposium on Toxicity Assessment



**AUGUST 15 – 18, 2022
University of Saskatchewan | Saskatoon**

ISTA 20 Organizing Committee

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Tracy Collier

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Table of Contents

ISTA 20 Organizing Committee.....	1
Message from the ISTA 20 Chair	2
History of ISTA	4
Essential Information.....	5
City Welcome	6
Map of Downtown Saskatoon.....	7
Local Restaurants	8
Map of University of Saskatchewan	9
Program at a Glance	10
Important Notes about Program	12
At a Glance – Monday, August 15 th	13
At a Glance – Tuesday, August 16 th	14
At a Glance – Wednesday, August 17 th	16
At a Glance – Thursday, August 18 th	17
Dr. Doris Au Student Excellence Award.....	18
Keynote Speaker – Dr. Kristin Schirmer.....	19
Keynote Speaker – Dr. Deo Florence L. Onda.....	20
Posters.....	21
Gold Sponsorship.....	23
Silver Sponsorship	24
Bronze Sponsorship.....	25
Notes.....	26

Message from the ISTA 20 Chair

A very warm welcome to Saskatoon and the 20th International Symposium on Toxicity Assessment (ISTA 20).

2022 marks a special year for ISTA. The symposium returns to its origin in Canada, after it took a three-year break due to the COVID pandemic. Many of you have pledged your support and expressed the importance to re-connect with colleagues and friends despite the challenges continuing pandemic-related travel restrictions may pose. Thank you for your dedication and support! We look forward to meeting all of you over the next four days, and we are excited to provide you with a week full of exceptional science, networking, and social activities.

We are proud to dedicate ISTA 20 to the memory of Dr. Doris Au, who sadly passed away in 2020. Doris was one of our greatest champions and we pledge that her passion for science and ISTA will live on through the Symposium. To celebrate Doris' legacy, we are honoured to announce the first *Dr. Doris Au Student Excellence Award in Toxicity Testing*. This special award will be given to two outstanding students during the Saskatoon and all future ISTA meetings.

ISTA 20 will also provide us with the opportunity to celebrate one of the pioneers and pre-eminent ecotoxicologists of our era, Dr. John P. Giesy. John will be officially retiring from the University of Saskatchewan in the fall of 2022, and we will hold a special session on Monday morning to celebrate his exceptional career and life-time accomplishments. We will hear testimonies from some of John's mentees, colleagues and friends and we will toast to his amazing life as a scientist during the wine and cheese event at the beautiful Boffin's gardens on Tuesday evening.

We would like to take this opportunity to thank our many sponsors. Without their generous support, we would not have been able to deliver the quality of a meeting you will experience this week. Please take a moment during the Symposium to thank them for supporting ISTA 20 (delegates from sponsoring organizations are identified with a star on their name badge).

The ISTA 20 meeting in Saskatoon will feature exceptional science and social programs. We have gathered two top international keynote speakers who will give lectures on the timely topics of alternative toxicity testing approaches and microplastics pollution. The Symposium also boasts a diverse series of sessions addressing contemporary and traditional issues in toxicology ranging from the recent discovery of the acute toxicity to fish of chemicals leaching from rubber tires to human health impacts and next generation toxicity testing.

Message from the ISTA 20 Chair

We are also looking forward to sharing some of Saskatchewan's rich history with you during the Symposium. One of the highlights will be the excursion to Wanuskewin Heritage Park, a gathering place of Indigenous peoples from across the Northern Plains for the past 6000 years. Wanuskewin has been nominated as a UNESCO World Heritage Site. During the Thursday banquet at the Western Development Museum, you will have the opportunity to explore the more recent story of early European settlers in Saskatchewan.

Welcome to ISTA 20! We wish you a successful meeting and a very enjoyable visit to Saskatoon!

Sincerely,



Markus Hecker
ISTA 20 Conference Chair



History of ISTA

The ISTA symposium series has met regularly since 1983 when it was held for the first time in Burlington, Ontario. It provides a platform for scientists from around the world to discuss the latest developments in understanding levels of toxicity and mechanisms of action for chemicals of global concern, to better inform regulatory toxicology focused on public health and environmental safety. Current advances in the fields of toxicity assessment, biomarkers and bioindicators, environmental chemistry and green chemistry, exposomics, new approach methods, systems toxicology, risk assessment, and remediation and mitigation methodologies and technologies will be covered.

Previous ISTA symposia have been held in 19 cities in 13 different countries:

- Burlington, Canada (1983)
- Banff, Canada (1985)
- Valencia, Spain (1987)
- Las Vegas, USA (1989)
- Kurashiki, Japan (1991)
- Berlin, Germany (1993)
- Santiago, Chile (1995)
- Perth, Australia (1997)
- Pretoria, South Africa (1999)
- Québec City, Canada (2001)
- Vilnius, Lithuania (2003)
- Skiathos Island, Greece (2005)
- Toyama, Japan (2007)
- Metz, France (2009)
- Hong Kong, China (2011)
- Cape Town, South Africa (2013)
- Bellingham, USA (2015)
- Limeira, Brazil (2017)
- Thessaloniki, Greece (2019)

ISTA 20 is a unique opportunity to bring together researchers, managers and practitioners, regulators, non-governmental organizations, and policymakers to exchange ideas, identify research priorities, and determine resource needs, to support better management of ecosystem health and minimize risks to public health. Early career researchers and students are strongly encouraged to participate in ISTA 20. These meetings have been shown to provide an excellent opportunity for networking and career advancement.

Essential Information

Emergency Information: If emergency services are needed, phone 911.

ISTA 20 venue is in Marquis Hall, USask, 97 Campus Drive, Saskatoon

ISTA 20 Registration Desk: Located outside of Exeter Room, Marquis Hall

Hours for Reg. Desk:

Aug. 15 7:00 am – 4:30 pm
Aug. 16 7:30 am – 4:30 pm
Aug. 17 Wanuskewin Event
Aug. 18 7:30 am – 4:00 pm

Registration Fees: The registration fee covers the costs associated with entry to all scientific sessions, coffee breaks, lunches, wine & cheese evening, Wanuskewin event, and closing banquet.

Name Badges: Name badges must be worn during all ISTA activities.

Sponsors: All sponsors are displayed at the registration desk and inside the conference room.

Assistance: Please ask any member of the Organizing Committee (OC) – indicated in **BLUE** on name badges. An OC member will be present at the registration desk during registration hours.

Platform Presenters: PowerPoint presentations must be submitted on a USB stick to a Science Program Co-Chair on the first morning of the meeting or by email before the meeting. Please identify yourself to your Session Chair.

Poster Presenters: Each poster has a unique number in the program book that corresponds to a poster board in conference room (Exeter Room).

Complimentary Wi-Fi: UofS Secure Network Guest

Message Board: Located near the registration desk.

Student Competition: The purpose of the competition is to encourage student presentation of research in a public forum so that they may benefit from feedback on their research and enhance their communication skills. Each student will be evaluated by at least two judges recruited in advance of the ISTA. The Student Awards Ceremony will take place following lunch on Aug. 18. Student presentations are indicated with an **(S)** in the program.

Student Mentors: Student mentors are identified in **YELLOW** on their name badges. If you have trouble locating one, please see the registration desk.

Cell Phone Etiquette: Please turn off or mute your cell phones during all presentations.

Lost & Found: Please see the registration desk.

City Welcome

Often described as one of the most picturesque cities in Canada, Saskatoon straddles the banks of the South Saskatchewan River, which flows through the heart of the downtown core surrounded by miles of paved trails for walking and cycling. Saskatoon, also referred to as “Science City”, is home to the University of Saskatchewan (U of S), widely renowned for its striking collegiate gothic architecture and once chosen as one of the twenty most beautiful places in Canada by Canadian Living magazine. USask is one of the top research-intensive, medical doctoral universities in Canada, and is home to world-leading research in areas of global importance, such as water and food security and infectious diseases. Study and discovery is enhanced by our outstanding facilities, including the Canadian Light Source synchrotron, VIDO-InterVac, the Global Institute for Food Security, the Global Institute for Water Security and the Sylvia Fedoruk Canadian Centre for Nuclear Innovation. For many years, agriculture and other biosciences, and natural resources including water, have been the main foci of research.

With a population of approximately 246,000, Saskatoon is the main educational and cultural center for the province of Saskatchewan, a city that is described as friendly and both culturally alive and diverse.

There are five permanent theatre groups, several art galleries, and a symphony orchestra in the city. Opportunities for recreation abound in the city’s abundant leisure facilities, parks, golf courses, and at nearby lakes. It is only a two-hour drive north to the breathtaking wilderness and lakes of Canada’s boreal forest. As for hospitality, Saskatoon is reputed to have more restaurants per capita than any city in Canada. Diverse opportunities for dining and enjoying a beverage with friends and colleagues within easy walking distance of the venue hotel are numerous.



Map of Downtown Saskatoon



Stylish. Eclectic. Open to what's next in food, music, art and fashion. For you, downtown is more than a destination. It's who you are, where you fit and why you can't wait to come back.

BE DOWNTOWN

PLACES OF INTEREST

- 1 PotashCorp Playland at Kinsmen Park
- 2 PotashCorp Children's Discovery Museum (Opening 2019)
- 3 The Prairie Lily Riverboat
- 4 Ukrainian Museum of Canada
- 5 Public Library
- 6 River Landing Waterfront
- 7 River Landing Spray Park
- 8 Saskatoon Farmers' Market

HOTELS

- 1 Park Town Hotel
- 2 The James
- 3 Sheraton Cavalier
- 4 Delta Bessborough
- 5 Hotel Senator
- 6 Radisson Hotel
- 7 Hilton Garden Inn
- 8 Holiday Inn
- 9 Holiday Inn Express

ENTERTAINMENT

- 1 Shakespeare on the Saskatchewan (seasonal)
- 2 The Bassment
- 3 Camero Meewasin Skating Rink (seasonal)
- 4 Persephone Theatre
- 5 Remai Modern
- 6 Scotiabank Theatre & Cineplex VIP
- 7 O'Brians Event Centre
- 8 TCU Place

SHOPPING CENTRES

- 1 Midtown Plaza
- 2 Scotia Centre Mall
- 3 Drinkle Mall

LEGEND

- DTNYXE (Downtown Saskatoon BID)
- Tourism Saskatoon
- City Hall
- Transit – Bus Mall
- Police Station
- Meewasin Trail

To order maps, please contact Downtown Saskatoon at 306.665.2001 or email info@dtnyxe.ca

Local Restaurants

Ayden Kitchen & Bar – Canadian
265 3rd Avenue South
306-954-2590

Bon Temps Cafe – Cajun/Creole
223 2nd Avenue South
306-242-6617

Congress Beer House - Gastropub
215 2nd Avenue South
306-974-6717

CUT Casual Steak & Tap – Steakhouse 416 21st
Street East
306-954-4222

Filosophi
414 Cumberland Ave. North
306-956-7777

Hudsons Canadian Tap House – Sports Unit 401
21st Street East
306-974-0944

O'shea's Irish Pub - Pub
222 2nd Avenue South
306-384-7444

Otowa Japanese Restaurant – Japanese, Sushi
Bar
227 2nd Avenue South
306-651-3888

Red Pepper Restaurant – Chinese, Vietnamese
145 3rd Avenue South
306-477-1977

St. Tropez Bistro – American, International
238 2nd Avenue South
306-652-1250

Samurai Japanese Restaurant – Japanese,
Steakhouse, Sushi
601 Spadina Crescent East
306-683-6926

Saskatoon Asian Restaurant – Asian Fusion
136 2nd Avenue South
306-665-5959

Spadina Freehouse – Gastropub
608 Spadina Crescent East
306-668-1000

Taverna Italian Restaurant – Italian, Pizza,
Steakhouse
219 21st Street East 306-652-6366

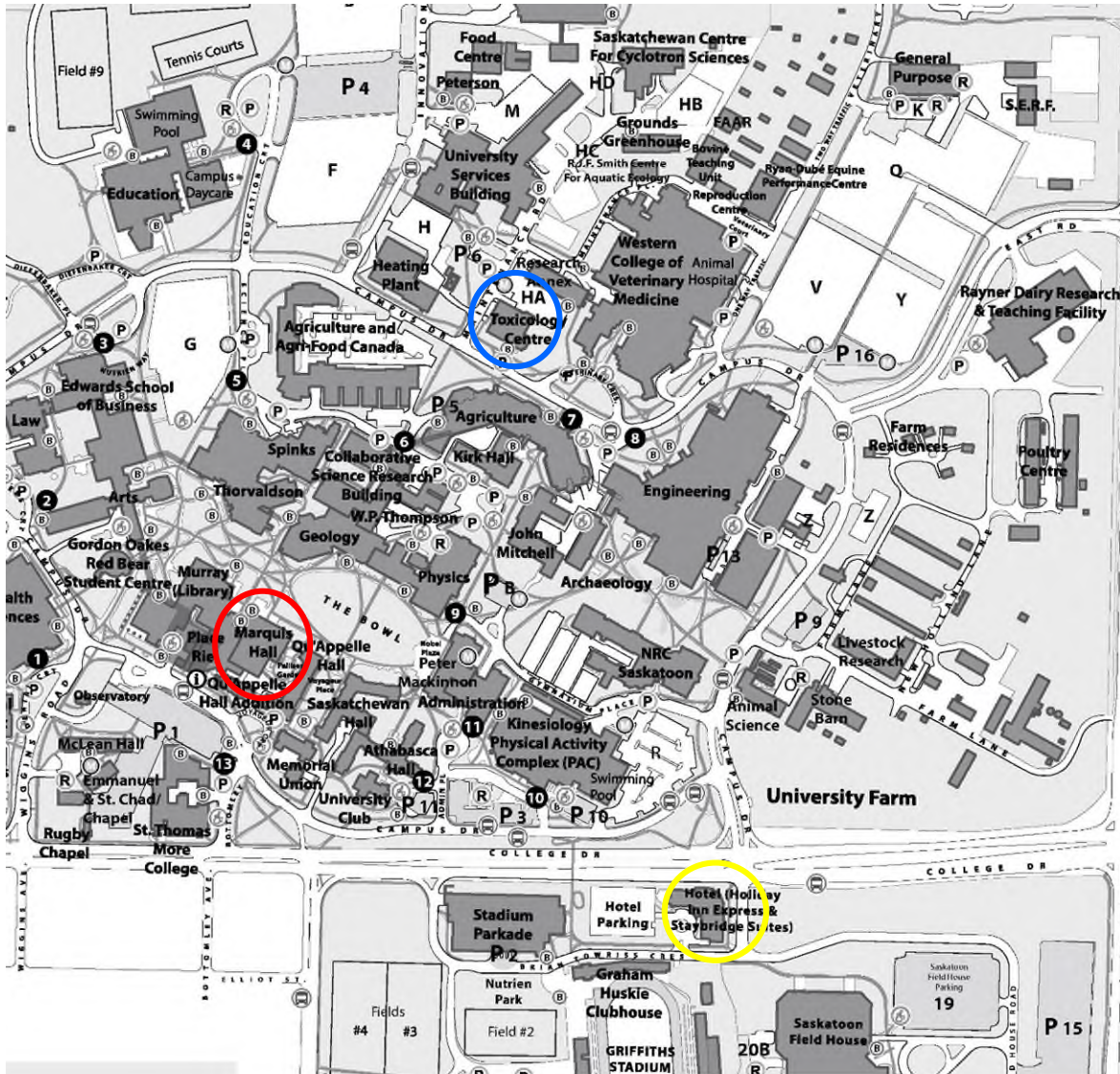
Truffles Bistro – Canadian 230 21st Street East
306-373-7779

The Woods Alehouse – Canadian, Pub, Lounge
148 2nd Avenue North
306-652-5883

2nd Avenue Grill - American
10-123 2nd Avenue South
306-244-9899

6Twelve Lounge – Tapas Bar
612 Spadina Crescent
306-652-6770

Map of University



- Marquis Hall, Exeter Room – Symposium Location
- Holiday Inn Express & Suites
- Toxicology Centre

Program at a Glance

August 14, 2022 Sunday	
19:00-21:00	Tox on Tap – Boffins, 106-111 Research Drive, Saskatoon (Doors open at 18:00) Dr. Kristin Schirmer, Swiss Federal Institute of Aquatic Science and Technology <i>*Dinner not provided but food available for purchase</i>
August 15, 2022 Monday	
08:00-09:00	Registration – Marquis Hall Events Centre, University of Saskatchewan, 97 Campus Dr, Saskatoon Poster Set-Up
09:00-09:50	Opening Remarks Presentation of the Doris Au Award
09:50-10:20	Coffee Break, Poster Viewing
10:20-11:10	Special Tribute to Dr. John Giesy
11:10-12:00	Keynote: Dr. Kristin Schirmer, Swiss Federal Institute of Aquatic Science and Technology
12:00-13:30	Lunch (<i>provided</i>), Poster Viewing
13:30-15:10	Platform Session 1: Contaminants of Emerging Concern
15:10-15:40	Coffee Break, Poster Viewing
15:40-16:40	Platform Session 2: Human and Regulatory Toxicology
19:00-23:00	Student Social - Louis's Private Function Room, Lower Level, University of Saskatchewan, 93 Campus Dr, Saskatoon <i>NOTE: This event is for students only, dinner not provided</i>
August 16, 2022 Tuesday	
08:00-8:20	Announcements
08:20-10:00	Platform Session 3: Toxicology of Tire-Wear Chemicals and Urban Run-Off
10:00-10:30	Coffee Break, Poster Viewing
10:30-11:10	Platform Session 4: Toxicology of Tire-Wear Chemicals and Urban Run-Off

Program at a Glance

11:10-12:00	Keynote: Dr. Deo Florence, Marine Science Institute, University of the Philippines
12:00-13:30	Lunch (<i>provided</i>), Poster Viewing
13:30-15:10	Platform Session 5: Toxicology in Freshwater and Marine Systems
15:10-15:40	Coffee Break, Poster Viewing
15:40-16:40	Platform Session 6: Endocrine Toxicity and Endocrine Disruption
19:00-23:00	Wine and Cheese Party - Boffins, 106-111 Research Drive, Saskatoon <i>NOTE: This event will be held outdoors, dinner not provided</i>
August 17, 2022	Wednesday
Full Day	Excursion Day – Tours of Wanuskewin Heritage Park and Lunch
August 18, 2022	Thursday
08:00-8:20	Announcements
08:20-10:00	Platform Session 7: Mechanistic Toxicology
10:00-10:30	Coffee Break, Poster Viewing
10:30-12:00	Platform Session 8: New Approach Methods in Chemical Screening and Risk Assessment
12:00-13:30	Lunch (<i>provided</i>)
13:30-15:00	Student awards, closing and announcement of ISTA 21
17:00-01:00	ISTA 20 Closing Banquet – Western Development Museum, 2610 Lorne Ave, Saskatoon 17:00-18:30 Explore the Museum 18:30-21:00 Banquet Dinner 21:00-01:00 Entertainment <i>NOTE: Transportation will be provided to the venue</i>

Important Notes about Program

- The symposium scientific program will take place at the Marquis Hall Events Centre (University of Saskatchewan, 97 Campus Dr, Saskatoon). Social events and the excursion will take place at the locations indicated on the schedule.
- Attendees presenting posters can put them up during registration period on Monday morning (Aug 15). Posters will remain up for the duration of the conference for viewing and judging (student posters only). Judging will take place during afternoon coffee breaks; please ensure you are at your poster during this time. Posters can be taken down during lunch on Thursday (August 18).
- Platform presentations are to be 15 minutes in length, followed by a 5-minute question and discussion period. PowerPoint (either .ppt or .pptx 2007) presentations on a USB stick are to be submitted to the Program Co-Chairs at the Registration Desk on the first morning of the meeting or by email prior to the meeting.

At a Glance – Monday, August 15th

Platform Presentations

MONDAY 13:30-15:10

Platform Session 1: Contaminants of Emerging Concern

13.30	Levonas	Manusadzianas	levonas.manusadzianas@gamtc.lt	Professional platform	Lanthanide and pharmaceutical single and joint toxicity effects on charophyte alga, and <i>Ceriodaphnia dubia</i> over three generations
13.50	Mirco	Bundschuh	bundschuh@uni-landau.de	Professional platform	Direct and indirect effects of antimicrobials on the physiology of detritivores
14.10	Evan	Kohlman	eak123@mail.usask.ca	Student platform	Evaluating the toxicity of legacy and emerging antimicrobial compounds to early life stages of rainbow trout (<i>Oncorhynchus mykiss</i>)
14.30	Oluwabunmi	Femi-Oloye	femi-oloye.oluwabunmi@usask.ca	Student platform	Emerging safeners induced toxicities in <i>Daphnia magna</i>
14.50	Dayanthi	Nugegoda	dayanthi.nugegoda@rmit.edu.au	Professional platform	Ingestion of plastic by Short-tailed Shearwaters has not decreased in 8 years

MONDAY 15:40-16:40

Platform Session 2: Human and Regulatory Toxicology

15.40	Steven	Siciliano	steven.siciliano@usask.ca	Professional platform	Assessing human exposure to hydrocarbon mixtures
16.00	Adrienne	Ethier	adrienne.ethier@cnsccsn.gc.ca	Professional platform	Environmental compliance for licensees with cross-jurisdictional regulatory oversight
16.20	Som	Niyogi	som.niyogi@usask	Professional platform	Evaluation of exposure to fine particulate matter and associated health risks to human populations in Eastern India

At a Glance – Tuesday, August 16th

Platform Presentations

TUESDAY 08:20-10:00

Platform Session 3: Toxicology of Tire-Wear Chemicals and Urban Run-Off (Part 1)

8.20	Julann	Spromberg	julann.spromberg@noaa.gov	Professional platform	Visualizing basin-scale urban runoff threats to Pacific salmon in the context of ongoing physical habitat restoration (fish passage barrier removal)
8.40	Steve	Wiseman	steve.wiseman@uleth.ca	Professional platform	Metabolomics provides insights into potential sublethal effects of 6PPD-quinone on the fathead minnow (<i>Pimephales promelas</i>)
9.00	Nathaniel	Scholz	Nathaniel.Scholz@noaa.gov	Professional platform	A brief history of the urban runoff mortality syndrome in Pacific salmon and steelhead
9.20	Nathaniel	Scholz	Nathaniel.Scholz@noaa.gov	Professional platform	Characterizing urban stormwater-related risks to threatened and endangered salmonids in the western United States
9.40	Markus	Brinkmann	markus.brinkmann@usask.ca	Professional platform	Environmental Levels and Acute Toxicity of the Tire Rubber-Derived Chemical 6PPD-quinone in the Canadian Context

TUESDAY 10:30-11:10

Platform Session 4: Toxicology of Tire-Wear Chemicals and Urban Run-Off (Part 2)

10.30	Markus	Schmitz	schmitz@bio.uni-frankfurt.de	Student platform	Ecotoxicological Assessment of Highway Stormwater Runoff and Particulate Matter using an Extended Fish Embryo Toxicity Assay Battery with Support of <i>in-vitro</i> and Chemical Data
10.50	Catherine	Roberts	catherine.roberts@usask.ca	Student platform	Toxicity of 6PPD-quinone to early life stage rainbow trout

At a Glance – Tuesday, August 16th

Platform Presentations

TUESDAY 13:30-15:10

Platform Session 5: **Ecotoxicology in Freshwater and Marine Systems**

13.30	Julann	Spromberg	julann.spromberg@noaa.gov	Professional platform	A flexible pick-list approach for reducing pesticide loadings in freshwater habitats
13.50	Ian	Vander Meulen	jiv470@usask.ca	Student platform	Transformation and Attenuation of Bitumen-Derived Naphthenic Acid Fraction Compounds in Athabasca Oil Sands Wetlands
14.10	Maira	Mendes	maira.mendes@usask.ca	Student platform	Estimating Selenium Body Burdens in Freshwater Fish: Do Sampling Methods and Seasons Matter?
14.30	Gisela	Umbuzeiro	giselau@unicamp.br	Professional platform	<i>Parhyale hawaiiensis</i> as a new model organism in marine ecotoxicology
14.50	Timothy	Jardine	tim.jardine@usask.ca	Professional platform	Food web structure and mercury biomagnification in floodplain lakes of the Juruá River, Amazonas, Brazil

TUESDAY 15:40-16:40

Platform Session 6: **Endocrine Toxicity and Endocrine Disruption**

15.40	Christophe	Minier	minierc@univ-lehavre.fr	Professional platform	Neuroendocrine and behavioural effects of 17 α -ethinylestradiol in developing sea bass larvae (<i>Dicentrarchus labrax</i>)
16.00	Emily	Kennedy	ekk048@usask.ca	Student platform	The use of fish scale hormone concentrations in the assessment of long-term stress and reproductive status in rainbow trout
16.20	Christophe	Minier	minierc@univ-lehavre.fr	Professional platform	Toward a better implementation of regulations on endocrine disrupting compounds: the RedPol project

At a Glance – Wednesday, August 17th

WEDNESDAY 10:30-14:00

Wanuskewin Heritage Park Excursions and Lunch

Program 1: Valley Walk (30 minutes) - A guided walk through the Opimihaw Valley with a stop at our bison pound replica, the Tipi Village, and an archeological site.

Program 2: Bison Walk (30 minutes) - A guided walk out to our Bison Viewing Platform to see our bison conservation herd that focuses on our bison project and grasslands restoration efforts.

Program 3: Exhibits Tour (30 minutes) - An overview of our permanent People of the Northern Plains exhibits including stops that focus on treaties, bison, archaeology, beadwork, and language.

Option 4: Self-guided (1 hour)



At a Glance – Thursday, August 18th

Platform Presentations

THURSDAY 08:20-10:00

Platform Session 7: **Mechanistic Toxicology**

8.20	Daylan	Pritchard	daylan.pritchard@student.ufv.ca	Student platform	Exploring the actions of reactive nitrogen compounds on rainbow trout through fish epithelial cell line models and strategic integration of open-source computational tools
8.40	Samira	Goldar	sag774@usask.ca	Student platform	The role of efflux transporters in cytotoxicity and intracellular concentration of chlorpyrifos and chlorpyrifos oxon in human cell lines
9.00	Matthew	Schultz	mgs132@usask.ca	Student platform	Validation of methods for <i>in vitro-in vivo</i> extrapolation using hepatic clearance measurements in isolated perfused fish livers
9.20	Frauke	Seemann	frauke.seemann@tamucc.edu	Professional platform	Epigenetic mechanisms underlying Benzo[a]pyrene-induced transgenerational bone toxicity in Japanese medaka (<i>Oryzias latipes</i>)
9.40	Justin	Dubiel	justin.dubiel@uleth.ca	Student platform	Novel approaches to assessing interspecies variation in sensitivity to polycyclic aromatic hydrocarbons

THURSDAY 10:30-11:50

Platform Session 8: **New Approach Methods in Chemical Screening and Risk Assessment**

10.30	Markus	Hecker	markus.hecker@usask.ca	Professional platform	Transcriptomic points-of-departure (tPODs) for chemical hazard assessment in three phylogenetically distant fishes: Case studies for 17 α -ethinylestradiol and fluoxetine
10.50	James Alper	Alcaraz	ajames.alcaraz@usask.ca	Professional platform	Estimating Transcriptomic Points-of-Departure (tPODs) in embryonic rainbow trout exposed to benzo[a]pyrene
11.10	Susari	Malala Irugal Bandaralage	shi339@mail.usask.ca	Student platform	Maternal transfer and toxicity pathways of hexabromocyclododecane (HBCD) in the fathead minnow (<i>Pimephales promelas</i>)
11.30	Dylan	Huynh	dvh029@mail.usask.ca	Student platform	Assessment of the effects of exposure to environmental chemicals on oxidative stress in <i>Caenorhabditis elegans</i>

Dr. Doris Au Student Excellence Award

We are proud to announce the Dr. Doris Au Student Excellence Award that will be given to two students for their research excellence and impact. To be considered for this award students will be required to present their thesis work at the ISTA 20 meeting in Saskatoon and will have to provide a letter of support from their supervisor(s) or other professionals in the field that highlight the relevance of their research, and how it advances the science that supports toxicity testing. Recipients of this award will have their work highlighted at all poster viewings and will present a five-minute “lightning” talk during the opening ceremony on Monday, August 15. The value of each award is \$500 Canadian.



Keynote Speakers

Monday, August 15th – 11:10 am

Toward a virtual fish for chemical screening and environmental risk assessment



Dr. Kristin Schirmer

Dr. I am a cell biologist by training, advancing cellular models to understand the impact of chemicals and other stressors on fish as important part of aquatic ecosystems. I learned the trade of fish cell culture in the laboratory of Professor Niels Bols at the University of Waterloo in Ontario, Canada, amidst an inspiring group of distinguished environmental toxicologists. Using such cells to develop experimental models and build strategies that aid in the reduction and replacement of fish in chemical screening and

environmental risk assessment has become my passion. One of the greatest successes that I have been able to accomplish with my team, after years of intensive research, are the adoption of the so-called RTgill-W1 cell line assay for acute fish toxicity prediction as **ISO standard 21115** and **OECD Test Guideline 249**, the very first such globally accepted protocols using fish cells. Moreover, our work has resulted in a Spin-off: **aQuaTox-Solutions GmbH** is the first company offering animal-free alternative testing methods for fish, focusing on fish cells and fish embryos as test models. In my presentation I will share my vision of where to take alternatives to conventional tests with fish next.

Keynote Speakers

Tuesday, August 16th – 11:10 am

From the 'epicenter': status and challenges of tackling plastics pollution in the Philippines and Southeast Asia



Dr. Deo Florence L. Onda

I am a microbial oceanographer who is trying to contribute to the understanding of how the smallest organisms contribute to the globally significant biogeochemical processes. As a tropical Pacific Islander, when I did my PhD with Dr. Connie Lovejoy, Universite Laval, Quebec, Canada, I had the privilege of understanding how climate-related changes are affecting the foundation of aquatic ecosystems in the Arctic Ocean. I then moved to Germany to work as a Postdoc at the Alfred Wegener Institute for Polar and Marine

Research to investigate species displacement happening in Fram Strait due to the 'Atlantification' of the Arctic systems. I then brought these experiences with me as I established my own research group at The Marine Science Institute in the University of the Philippines in Diliman. Being at the 'epicenter' of the global marine plastics pollution, I took the challenge of contributing to the understanding of this issue, as we are now involved in several initiatives to look at the extent of pollution in different marine environments and biota. In my presentation, I will be sharing with you the current status and challenges on tackling this problem in the 'epicenter' by providing studies and perspectives from the Philippines and the larger Southeast Asian region.

Posters

1	Toshihiro	Hirogushi	thorigu@nies.go.jp	Professional poster	Possible causal factors for declines in intertidal invertebrate populations around Fukushima Daiichi Nuclear Power Plant After the 2011 Great East Japan Earthquake, tsunami, and nuclear disaster
2	Sophia	Boyd	boyds2@wwu.edu	Student poster	Trophic transfer of metals from seaweed to shellfish in aquaculture systems
3	Edgar	Perez	nwg501@usask.ca	Student poster	The life-cycle toxicity of binary metal mixtures on <i>Daphnia magna</i>
4	Charlotte	Lacroix-Durand	vwz752@usask.ca	Student poster	Radium effects on aquatic organisms
5	Mahesh	Rachamalla	mar935@mail.usask.ca	Student poster	Intergenerational effects of dietary arsenic on the reproduction and development in zebrafish (<i>Danio rerio</i>)
6	Olena	Kuntyj	ojku0800@mylaurier.ca	Student poster	Characterization of growth and the GH-IGF1 pathway in juvenile mummichog (<i>Fundulus heteroclitus</i>) exposed to ammonium chloride
7	Banamali	Panagrahi	bap654@mail.usask.ca	Student poster	Use of autonomous sensors to monitor spatio-temporal changes in water chemistry in an Oil Sands Demonstration Pit Lake, Alberta
8	Catherine E.	Davila-Arenas	ced323@usask.ca	Student poster	Effects of water from Suncor's Demonstration Pit Lake on saline-tolerant zooplankton
9	Phillip	Ankley	p.ankley@usask.ca	Student poster	Zooplankton and associated microbiome response to simulated oil spill and remediation efforts
10	Phillip	Ankley	p.ankley@usask.ca	Student poster	Effects of erythromycin on juvenile rainbow trout microbiome and fitness
11	Carly	Colville	carly.colville@usask.ca	Professional poster	Comparison of whole transcriptomics and targeted gene expression array following short-term exposure to fluoxetine in adult fathead minnows (<i>Pimephales promelas</i>)
12	Francisco Carlos	Da Silva Junior	carlosjsilva3@gmail.com	Student poster	A look beyond the priority: A comprehensive investigation of the toxicity of retene
13	Jensen	Cherewyk	jensen.cherewyk@usask.ca	Student poster	Prolonged vascular contractile response induced by the R and S-epimers of the ergot alkaloid ergocristine, and attenuation by a non-competitive antagonist

Posters

14	Ikjoon	Kang	ij-kang@kyoso.kyushu-u.ac.jp	Professional poster	Combined effect of diazepam and polystyrene microplastics on the social behavior of medaka (<i>Oryzias latipes</i>)
15	Mario	Schirmer	mario.schirmer@eawag.ch	Professional poster	Occurrence of microplastics in Swiss ground- and surface water
16	Holly	Suther	sutherh2@wwu.edu	Student poster	Legacy and emerging contaminants in seaweeds of interest for Washington State Aquaculture Development
17	Maya	Faber	faberm@wwu.edu	Student poster	Screening and prioritization of contaminants of emerging concern in the Puget Sound
18	Julann	Spromberg	julann.spromberg@noaa.gov	Professional poster	Soil bioretention treatment of urban stormwater prevents cardiac impacts in developing Pacific herring (<i>Clupea pallasii</i>).
19	Karrin	Leazer	leazerk@wwu.edu	Student poster	Tire-wear-particle leachate toxicity to <i>Americamysis bahia</i> : analysis of sublethal and molecular effects
20	Summer	Selinger	sjs692@usask.ca	Student poster	Effects of the tire rubber antioxidant 6PPD-quinone on cardiorespiratory physiology of juvenile salmonids
21	David	Montgomery	david.montgomery@usask.ca	Student poster	Hepatic Biotransformation of 6PPD-Quinone in Rainbow Trout, an Acutely Sensitive Species.
22	Markus	Schmitz	schmitz@bio.uni-frankfurt.de	Professional poster	Robust Nature Excellence Cluster Initiative - Robustness and resilience of Nature-Society Systems in the evolving Anthropocene

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