

6th BIENNIAL CSC CONFERENCE

"Timing is Everything"

University of Guelph, Ontario, Canada June 14-15, 2023





















Wednesday June 14 - CSC

All Speakers: Please load your slides on the computers in your presentation rooms well ahead of your talk

7:30 – 5:00 PM	Registration – Rozanski (Roz)	Roz Atrium
7:30 – 8:30 AM	Continental Breakfast – Rozanski (Roz)	Roz Atrium
8:30 – 9:00	Photos, Land Acknowledgement, Opening Remarks, Introductions	Roz 103
	Symposium 1 – CSC & CCVI Session Chairs Tami Martino (University of Guelph) Philip Millar (University of Guelph) Ifene David Festus (trainee co-Chair) Speakers	Roz 103
9:00 – 9:45 AM	1) Martin Young (University of Birmingham at Alabama) Circadian considerations for Optimizing Cardiovascular Health	
9:45 – 10:05 AM	2) Frank Scheer (Harvard Medical School) Impact of the human circadian system & circadian misalignment on cardiovascular function	
10:05 – 10:25 AM	3) Robert Shave (University of British Columbia) The human cardiovascular phenotype - where have we come from, and what does this mean?	
10:25 – 10:40 AM	Coffee Break	Roz Atrium

	Symposium 2 – CSC Session Chairs Phillip Karpowicz (University of Windsor) Patricia Lakin-Thomas (York University) Konrad Schöttner (Concordia) Matthew Carlucci (University of Toronto)	Roz 102
10:40 – 11:00 AM	Speakers 1) Ruifeng (Ray) Cao (University of Minnesota) Translational control of the mammalian circadian clock and neurodevelopmental disorders	
11:00 – 11:20 AM	2) Marcus Ng (University of Manitoba) The chronobiology of epilepsy	
11:20 – 11:40 PM	3) Inna Rabinovich-Nikitin (University of Manitoba) Interplay between clock genes and autophagy pathways in the heart	

	Symposium 3 – CSC Session Chairs Ralph Mistlberger (Simon Fraser University) Tobias Eckle (University of Colorado) Sarah Ferraro (Harvard)	Roz 105
10:40 – 11:00 AM	Speakers 1) Christine Doucette (University of Manitoba) Pancreatic insulin secretion and glucose homeostasis: it's all about the timing!	
11:00 – 11:20 AM	2) Diana McMillan (University of Manitoba) The circadian dilemma: Strategies to support shift workers	
11:20 – 11:40 AM	3) Éric Paquet (Université Laval) Understanding the interaction between the circadian clock and the cell cycle	
11:40 – 12:00 PM	4) Nader Ghasemlou (Queens University) Circadian Rhythms and pain: a neuroimmune connection?	

12:00 – 1:00 PM	Lunch Break with Special Networking Session	Summerlee Science
12.00 - 1.00 PW	Meet the Professors at Lunch	Atrium

	Symposium 4 – CSC Session Chairs Sabra Margaret Abbott (Northwestern) Petros Panagaretia (University of Spaketaboyen)	Roz 102
	Petros Papagerakis (University of Saskatchewan) Joshua Krupp (University of Toronto)	
1:15 – 1:35 PM	Speakers 1) Jennifer Marie Hurley (Rensselaer Polytechnic Institute) Intrinsic disorder in the highly ordered circadian clock: a tale of two isoforms	
1:35 – 1:55 PM	2) Konrad Schöttner (Concordia University) Clock genes in the striatum have a heterogeneous and sexually dimorphic function in the regulation of behavior	
1:55 – 2:15 PM	3) Brian Altman (University of Rochester Medical Center) Blood Clock Correlation Distance (BloodCCD) reveals molecular circadian rhythm disruption in cancer survivors with insomnia	
2:15 – 2:35 PM	4) Valerie Mongrain (Université de Montréal) Clock time shapes the electrophysiological and transcriptomic responses to the alkaloid rhynchophylline	

	Symposium 5 – CSC	D 405
	Session Chairs Rae Silver (Columbia) Kai-Florian Storch (McGill) Aurelie Brecier (Queens University)	Roz 105
1:15 – 1:35 PM	Speakers 1) Phillip Karpowicz (Windsor University) Circadian rhythms in the intestine: insight from flies and mice	
1:35 – 1:55 PM	2) Giannina Descalzi (University of Guelph) Astrocyte-neuronal metabolic coupling in the development of chronic pain	
1:55 – 2:15 PM	3) Bettina Willie (McGill University) Insights into the role of circadian rhythms in bone adaptation	
2:15 – 2:35 PM	4) Petros Papagerakis (University of Saskatchewan) Understanding the circadian pathophysiology of salivary glands and novel approaches to monitor rhythms in saliva	

	Symposium 6 – CSC	Roz 103
	Session Chairs	
	Michael Antle (University of Calgary) Tami Martino (University of Guelph)	
	<u>Speakers</u>	
2:40 – 3:00 PM	1) Nicolas Cermakian (Douglas Research Centre, McGill University) Malaria and leishmaniasis around the clock	
3:00 – 3:20 PM	2) Martin Ralph (University of Toronto) On the genesis of bicircadian rhythms and the value for diagnosis and remediation of neuropsychiatric disorder	
3:20 – 3:30	Coffee Break	Roz Atrium

	Symposium 7 – Cardiovascular Session Chairs Martin Young (University of Alabama at Birmingham); Robert Shave (University of British Columbia); Frank Scheer (Harvard University)	Roz 102
3:30 – 3:50 PM	Speakers 1) Brian Delisle (University of Kentucky) Circadian regulation of cardiac electrophysiology	
3:50 – 4:10 PM	2) Lorrie Kirshenbaum (University of Manitoba) Regulation of cell death mechanisms in the heart	
4:10 – 4:30 PM	3) Mina Rasouli (University of Guelph) Shift work disrupts circadian rhythm and impairs autophagy control mechanisms in the MI heart.	
4:30 – 4:50 PM	4) Peter Backx (York University) Dissecting the role of the immune system in contributing to atrial changes induced by stretch	
4:50 – 5:10 PM	5) Steffen-Sebastian Bolz (University of Toronto) Time is a teacher – how microvascular circadian rhythms generate new insights into the molecular signalling underlying myogenic responsiveness	

	Symposium 8 – CSC – One Health Session Chairs Mary Harrington (Smith College); Martin Ralph (University of Toronto); Ana Leticia Simal Dourado (University of Guelph)	Roz 105
3:30 – 3:50 PM	Speakers 1) Deniz Top (Dalhousie University) Distinct circadian transcription programs converge to regulate behaviour	
3:50 – 4:10 PM	2) Barry Micallef A case of "jet lag" in plants: photoperiodic injury in tomato	
4:10 – 4:30 PM	3) Gregoy Bedecarrats Extra-retinal photoreception in avian species and its implications for the control of reproduction	
4:30 – 4:50 PM	4) Anna Kate Shoveller Beyond nutrition: metabolic impact of feeding management in the obligate carnivore, the domestic cat	
4:50 – 5:10 PM	5) Lee Niel Circadian disruption & companion animal health and welfare	

5:30 – 6:30 PM	Distinguished Public Lecture – CSC & CCVI Satchidananda Panda (Salk Institute) Timing of diet, sleep, and exercise to optimize heart health	War Memorial Hall
6:30 – 7:30 PM	Networking Reception / Dinner Art Gallery of Guelph CCVI Trainees - Award presentations Group Photo in front of Art Gallery (weather depending)	Walk across the street to the Art Gallery of Guelph
7:30-9:30 PM	Trainee's - Desert & Evening Event Careers Outside Academia Hailey Silver – Master's in Public Health Samantha Steinberg – Medical Affairs Rachel Manjos – Veterinary Medicine Tracey Ostermann – St Mary's General Hospital Cardiac Centre Nicole Campbell – Teaching Track in Universities Ari Mendell – Medical Writer Mina Rasouli – Biotech Industry Hisham Farag – Nursing	Massey Hall Theatre
7:30-9:30 PM	Faculty – Desert & Evening Event Dr Mark Lipton, Professor, School of English & Theatre Studies, Science Communication, Media Studies, University of Guelph Movement Workshop with Professor Mark Lipton Massey Hall, follow the grand staircase upstairs! Join Lipton's workshop at Massey Hall, where you can engage in various activities that promote your overall health and well-being. Lipton's somatic techniques (like improvisation, Alexander, Franklin, Feldenkrais, Kinesiology, Capoeira, Contact Improvisation, Body-Mind Centering, and Mindfulness) stimulate the brain's natural neuroplasticity to tackle the importance of failure, environment, and reward in motor learning. Everyone is welcome to participate, and while we encourage movement, it is not required.	Massey Hall Theatre

Thursday June 15 – CSC

All Speakers: Please load your slides on the computers in your presentation rooms well ahead of your talk

7:30 – 8:20 AM	Continental Breakfast – Rozanski (Roz) ** Students: Please load your slides on the computer in the room with the volunteer technician during breakfast time**	Roz Atrium
	Session Chairs Brian Delisle (University of Kentucky) Valérie Mongrain (Université de Montréal) Marcus Ng (University of Manitoba) Robert Lakin (York University)	Roz 103
8:20 – 8:40 AM	Speakers 1) Mary Harrington (Smith College, Editor-in-Chief Journal of Biological Rhythms) Recording of bioluminescent rhythms from peripheral clocks: system properties following SCN ablation	
8:40 – 9:00 AM	2) Michael Antle (University of Calgary) Casting a net over circadian plasticity: perineuronal nets in the SCN	
9:00 – 9:20 AM	3) Tobias Eckle (University of Colorado Anschutz Medical Campus) From bench to bedside: circadian principles applied	
9:20 – 9:40 AM	4) Satchidananda Panda (Salk Institute) Pleiotropic effects of time restricted feeding on multiple organs – from molecules to phenotypes	
9:40 – 9:55 AM	Coffee Break	Roz Atrium

	Symposium 10 STUDENT Group A Students: Please load your slides on the computer during the breakfast time	Roz 102
	Session Chairs / Judges: Inna Rabinovich-Nikitin; Deniz Top; Silvana Papagerakis; Bettina Willie; Jibran Khokhar	
10:00 – 10:10 AM	Speakers – 10-minute talks: 1) Matthew Carlucci (University of Toronto) Repeated MRI scans of the human brain: diurnal oscillations in healthy adults and bipolar disorder patients	
10:10 – 10:20 AM	2) Vania Carmona Alcocer (University of Windsor) Time-restricted feeding reduces ulcerative colitis and improves colon regeneration	
10:20 – 10:30 AM	3) Cassandra Goldfarb (Concordia) Time your dopamine? Is the Habenula the pacemaker for nigrostriatal dopaminergic oscillations?	
10:30 – 11:40 AM	4) Maria Kinasih (University of Guelph) Feeding one versus four meals daily decreases postprandial respiratory quotient and increases rate of food consumption in domestic cats over twelve weeks	
10:40 – 10:50 AM	5) Zainab Taleb (University of Windsor) The epithelial clock in colonic regeneration	
10:50 – 11:00 AM	6) Turner Silverthorne (University of Toronto) With great (statistical) power comes great responsibility: multi- objective optimization of rhythm detection studies	
11:00 – 11:10 AM	7) Darya Nematisouldaragh (University of Manitoba) Nobiletin Rescues Cardiac Myocytes Cell Death by Upregulating Autophagy during Hypoxic Stress	
11:10 – 11:20 AM	8) Katelyn Horsley (University of Calgary) Non-photic phase shifting and IGL activity in mice: Orexin fibers communicate with active NPY cells	
	<u>Speakers – 5-minute short talks:</u>	
11:20 – 11:25 AM	9) Ann Zhang (University of Toronto) Dynamics of Dopamine-D2 Self-Regulation: A Mathematical Model for Ultradian Rhythms	
11:25 – 11:30 AM	10) Ana Leticia Simal Dourado (University of Guelph) Sex-specific neuropathic pain increases in astrocyte-neuronal metabolic coupling in the mouse ACC	
11:30 – 11:35 AM	11) Jenna Gearey (University of Calgary) Investigating Cardiac Function in the BTBR Mouse	
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	Symposium 10 STUDENT Group B	D 405
	Students: Please load your slides on the computer during the breakfast time	Roz 105
	Session Chairs / Judges: Steffen-Sebastian Bolz; Nicolas	
	Cermakian; Jennifer Marie Hurley; Anna Kate Shoveller; Barry Micallef	
10:00 – 10:10 AM	<u>Speakers – 10-minute talks:</u> 1) Kathyani Parasram (University of Windsor) Birth of Rhythms in the Developing Gut	
10:10 – 10:20 AM	2) Sepehr Abdolahi (Laval University) Investigating the differential disruption of the circadian clock and the cell cycle in cancer subtypes by co-expression analysis	
10:20 – 10:30 AM	3) Molly Crandall (University of Manitoba) Clock Regulates Autophagy and Cell Survival of Cardiac Myocytes During Hypoxia Stress	
10:30 – 11:40 AM	4) Amanda Zacharias (Queens University) Analyzing transcriptomics to discover circadian pathways and networks in the central nervous system	
10:40 – 10:50 AM	5) Mahtab Moshirpour (University of Calgary) Orexinergic Activation of the Intergeniculate Leaflet in Nonphotic Entrainment	
10:50 – 11:00 AM	6) Mia Schofield (Dalhousie) Molecular clock interactions across the circadian neuronal network in Drosophila	
11:00 – 11:10 AM	7) Rafael Pérez-Medina-Carballo (McGill University) Dampened circadian variation of delta and sigma EEG power in women after menopause	
11:10 – 11:15 AM	Speakers – 5-minute short talks: 8) Aurelie Brecier (Queens University) Contribution of circadian rhythms to sensory neuron activity in vitro and ex vivo	
11:15 – 11:20 AM	9) Robert Lakin (York University) Targeting tumor necrosis factor (TNF) in atrial CARDIOMYOCYTES PREVENTS adverse atrial remodeling and valvular atrial fibrillation in a mouse model of aortic regurgitation	
11:20 – 11:25 AM	10) Maram Albakri (University of Windsor) Investigating Circadian Rhythms in Human Intestinal Organoids	
11:25 – 11:30 AM	11) Mahgol Darvish (Concordia) Accelerated re-entrainment to changes of the light-dark cycle in androgen receptor mutant mice	

	Symposium 10 STUDENT Group C Students: Please load your slides on the computer during the breakfast time	Roz 106
	<u>Session Chairs / Judges:</u> Brian Altman; Peter Backx; Petros Papagerakis; Diane Boivin; Rae Silver	
10:00 – 10:10 AM	Speakers – 10-minute talks: 1) Vina Li (Queens University) Contribution of circadian rhythms to experimental autoimmune encephalomyelitis	
10:10 – 10:20 AM	2) Romina Lopez Urbina (University of Montreal) Circadian locomotor activity and responses to light in mice lacking Neuroligin-1 or Neuroligin-2	
10:20 – 10:30 AM	3) Renée Gorman (York University) The Effects of Daily Exercise Duration on Cardiac Responses and Atrial Fibrillation	
10:30 – 11:40 AM	4) Yifan Yao (Columbia) SCN vasculature: on pathways for transportation of diffusible output signals	
10:40 – 10:50 AM	5) Philippe Boudreau (McGill University) Sex differences in alertness levels of police officers working shifts	
10:50 – 11:00 AM	6) Shahd Haddad (University of Windsor) Circadian Control of a Time-Dependent Damage Response in Drosophila Melanogaster	
11:00 – 11:10 AM	7) Eli Moser (McGill University) The Metabolic Impacts of a Simulated Night Shift Protocol	
11:10 – 11:15 AM	Speakers – 5-minute short talks: 8) Sarah Ferraro (Harvard University) Circadian Biology of EHMT1 and Sleep-associated Neurodevelopmental Collapse in Kleefstra Syndrome	
11:15 – 11:20 AM	9) Jessie MacDonald (University of Windsor) Time-restricted feeding improves daily behavioural rhythms during colitis	
11:20 – 11:25 AM	10) Hailey Gowdy (Queens University) CircaHealth: examining the circadian control of biopsychosocial factors in chronic pain	
11:25 – 11:30 AM	11) Hao Lin (University of Minnesota) Circadian activities of the mTORC1 effector S6 kinases in the mouse brain contribute to diurnal rhythms of cognition	

11:30 AM - 1:00 PM

Lunch Break with Shift Work Symposium

At Creelman Hall

Session Chairs

Tami Martino (University of Guelph); Lorrie Kirshenbaum (University of Manitoba) Philippe Boudreau (McGill University)

Scribes

Philip Millar (University of Guelph)
Inna Rabinovich-Nikitin (University of Manitoba)
Ilia Karatsoreos (University of Massachusetts Amherst)

Panelists

Diane Boivin (McGill University)
Satchidananda Panda (Salk Institute)
Frank Scheer (Harvard)
Martin Young (University of Alabama at Birmingham)
Diana McMillan (University of Manitoba)
Ralph Mistlberger (Simon Fraser University)
Mary Harrington (Smith College)

General Questions (to be addressed by panel)

- <u>In-vitro:</u> How can we use cell culture to study circadian desynchrony?
- <u>Small Animal Models: What are the most common</u> "shift work" or "jet-lag" scenarios, and what is the science behind the desynchrony they cause?
- <u>Humans: W</u>hat are the key questions we should be addressing and how?

Questions from conference attendee's

<u>Communications Biology – Launch of Circadian/Shiftwork</u> <u>Special papers</u>

	Session Chairs Ruifeng (Ray) Cao (University of Minnesota); Phillip Karpowicz (University of Windsor); Molly Crandall (University of Manitoba)	Roz 105
1:15 – 1:35 PM	Speakers 1) Silvana Papagerakis (University of Saskatchewan) Impact of circadian disruption due to lifestyle changes in rheumatoid arthritis	
1:40- 2:00 PM	2) Ilia Karatsoreos (University of Massachusetts Amherst) Biological time as a critical modulator of immune responses	
2:00 – 2:20 PM	3) Jibran Khokhar (University of Western) It's happy hour somewhere: impact of environmental and genetic circadian disruptions on alcohol drinking	
2:20 – 2:45 PM	4) Joshua Krupp (University of Toronto Mississauga) cry-dependent and -independent pathways are required for photoentrainment of a peripheral clock in D. melanogaster	

	Symposium 12 Session Chairs Éric Paquet (Université Laval); Diana McMillan (University of Manitoba); Lorrie Kirshenbaum (University of Manitoba); Vania Carmona Alcocer (University of Windsor)	Roz 102
1:15 – 1:35 PM	Speakers 1) Kai-Florian Storch (McGill University) Towards the neural substrate of infradian rhythms	
1:40- 2:00PM	2) Ralph Mistlberger (Simon Fraser University) Behavioural adaptations to daily feeding schedules	
2:00 – 2:20 PM	3) Martin Young (University of Birmingham at Alabama) The cardiomyocyte circadian clock: what does it do?	
2:25 – 2:45 PM	4) Philip Millar (University of Guelph) Morning and evening high intensity interval exercise on blood pressure in males and females	
2:45 – 2:55 PM	Coffee Break	Atrium

2:55– 3:40 PM	Session Chairs Tami Martino (University of Guelph) Deniz Top (Dalhouise) Speaker Frank Scheer – Nicholas Mrosovsky Keynote Lecture (Professor of Medicine, Harvard Medical School (HMS) Director, Medical Chronobiology Program, Brigham and Women's Hospital (BWH)) It's about time to eat your heart out! The human circadian system and meal timing impact cardiometabolic health	Roz 103
3:40 – 4:10 PM	CSC – Annual General Meeting – All attendee's invited All CSC members encouraged to attend for quorum	Roz 103
4:10 – 4:30 PM	Symposium 14 - The Final Lectures Session Chairs Nader Ghasemlou (Queens University) Ilia Karatsoreos (University of Massachusetts Amherst) Hao Lin (University of Minnesota) Speakers 1) Diane Boivin (McGill University)	Roz 103
4:30 – 4:50 PM	Sex matters in rhythms 2) Patricia Lakin-Thomas (York University) The TOR (Target of Rapamycin) pathway and circadian rhythmicity in neurospora	
4:50 – 5:10 PM	3) Rae Silver (Columbia University) Circadian rhythms in SCN outputs contribute to understanding diffusible signals in the brain	
5:10 – 5:30 PM	4) Sabra Margaret Abbott (Northwestern University, Feinberg School of Medicine) Practicing circadian medicine: from bench to bedside	

5:30 – 5:40 PM	University of Guelph Bus loop – busses waiting to take attendees to Dinner	UofG Bus Loop to Quebec/Wyndham stop
6:00 – 8:00 PM	Dinner Transportation to dinner: Busses will be waiting at the UofG Bus Loop and will drop conference attendee's off at Quebec/Wyndham streets (2-minute walk to restaurant)	Miijidaa Restaurant
8:00 PM - 12:00 AM	Networking & Social Event Walk from Miijidaa Restaurant over to the Red Brick Café (2-minute walk) Trainee Awards Presentations Artist – Schott Abott Musicians - Kent MacMillan Trio	Red Brick Cafe
9:30 PM – 12:10 AM	Transportation: Private City of Guelph busses with the sign reading "CSC Conference" will take us downtown, and will do looping returns from the original drop off spot (Quebec/Wyndham) to the University of Guelph residences and Delta Hotel between 9:30 PM and 12:10 AM. See below for bus schedule.	Quebec/Wyndham drop-off spot is the pick up spot.