

# Ontario – Québec Statistics & Control Meeting 2022

May 30-31

Université Laval, Québec  
Alexandre-Vachon Building – Room 2880

## Program

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### DAY 1 (Monday, May 30)

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- 8:00 – 8:45**    **Arrival and registration**
- 8:45 – 9:00**    **Welcome Message**
- 9:00 – 9:25    *Calibration transfer based on likelihood maximization*  
Givery Robert, Université de Sherbrooke
- 9:25 – 9:50    *Dynamic Auto-Regressive Latent Variable Methods and its Application for Industrial Processes*  
Bo Xu, University of Waterloo
- 9:50 – 10:15    *Defining Multivariate Specifications for Incoming Raw Materials: Towards Integrating Process Variable Optimization*  
Adéline Paris, Université Laval
- 10:15 – 10:45**    **Coffee Break**
- 10:45 – 11:10    *Multivariate analysis of the critical parameters influencing the production of concrete*  
Malika Perluzzi, Université de Sherbrooke
- 11:10 – 11:35    *Autoassociative neural networks for the imputation of missing data in machine learning*  
Farough Agin, University of Ottawa
- 11:35 – 12:00    *A Novel Unsupervised Approach for Batch Process Monitoring using Deep Learning*  
Mohammad Aghae Foroushani, University of Waterloo
- 12:00 – 13:30**    **Lunch (boxes available in Auditorium Lobby)**
- 13:30 – 13:55    *A stochastic optimization framework for integrated scheduling and control under demand uncertainty*  
Daniela Dering de Lima Silva, McMaster University
- 13:55 – 14:20    *A Benders Decomposition Framework for the Optimization of Superstructures with Ordered Boolean Variables*  
David Linan, University of Waterloo
- 14:20 – 14:45    *Culture media optimization for mixotrophic production of microalgae*  
Jihed Bentahar, Université du Québec à Rimouski

14:45 – 15:10 *Handling correlated data in machine learning-based model predictive control (MPC) design*  
Hesam Hassanpour, McMaster University

**15:10 – 15:40 Coffee Break**

15:40 – 16:05 *Dynamic modeling of recirculating aquaculture systems with an integrated application of nonlinear model predictive control and moving horizon estimation*  
Sara Kamali, University of Waterloo

16:05 – 16:30 *The effect of ore heterogeneity on the net value of a grinding/flotation product*  
David-Alexandre Desrosiers, Université Laval

16:30 – 16:55 *Noise Sensitivity Reduction in Low-power Multi High Gain Observers Using Low-pass Filters*  
Moein Mousavi, Queen's University

**18:30 Dinner at *Le Pub Universitaire***  
Alphonse-Desjardins Building (#36 on campus map)

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**DAY 2 (Tuesday, May 31)**

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**8:00 – 8:30 Arrival**

8:30 – 8:55 *Development and model updating methodology for hybrid models of distillation towers*  
Carlos Daniel Rodriguez Sotelo, McMaster University

8:55 – 9:20 *Parameter Estimation in Stochastic Differential Equation Models*  
Abby Liu, Queen's University

9:20 – 9:45 *Modeling and simulation of a tablet pan coating process for control system design*  
Cecilia Rodrigues, Université Laval

9:45 – 10:10 *Soft sensor design based on hybrid modeling in mineral processes*  
Ahad Mohamadi, École Polytechnique de Montréal

**10:10 – 10:40 Coffee Break**

10:40 – 11:05 *Distributed Least Squares over Directed Graphs*  
Mohammad Jahvani, Queen's University

11:05 – 11:30 *Predicting the permeability of mixed-matrix membranes using Monte Carlo simulation*  
Zheng Cao, University of Ottawa

11:30 – 11:55 *Why averages do not always work: carbon emissions from electricity*  
Nina Thais Silva Monteiro, McMaster University

**11:55 – 12:00 Farewell Message**

**12h00 Lunch (boxes available in Auditorium Lobby)**

## SPONSORS



UNIVERSITÉ  
LAVAL

Chemical Engineering, and Electrical & Computer Engineering Departments



Systems and Control Division

## STATS & CONTROL MEETING DETAILS

### Location

- Room 2880, Pavillon Alexandre-Vachon, Université Laval [see (21) on campus map].

### Registration

- Registration fees **60\$**, payable by cash or cheque to “Université Laval”.
- Registration includes lunches and coffee breaks on both days.

### Presentations

- The duration of each oral presentation shall be of 20 minutes.
- A 5-minute question and discussion period will conclude every presentation.
- A laptop (Windows) will be made available to presenters.

### Accommodation on Campus

- The residence frontdesk is located at Pavillon Alphonse-Marie-Parent [see (40) on campus map].
- Breakfast can be purchased at the cafeteria in the Charles-De Koninck Building [see (23) on campus map]

### Parking on Campus

- Should you decide to reside on campus, parking is included with the room. A parking tag, which will enable you to identify your vehicle, will be given to you upon your arrival at the residence frontdesk.
- If you reside off campus, you will need to purchase a parking permit (day pass) to park your vehicle on campus for 19\$. These permits can be purchased from ticket booths, identified by the symbols “P”, situated at various locations on campus [see campus map]. The closest ticket booth/parking from the Vachon Building is across the street of building number 22 on the campus map.

### Dinner on Monday Night (May 30<sup>th</sup>)

- Dinner is scheduled at 18:30 and takes place at *Le Pub Universitaire*, located on campus in Alphonse-Desjardins Building (#36 on campus map).
- Choice of 5-6 main courses (including vegetarian) will be offered at the cost of about 20\$ (plus taxes and gratuity) or less depending on selected meal.

**Campus Resources**

- Most campus services are offered at Pavillon Alphonse-Desjardins [see (36) on campus map]: Student café, pub, banking services, etc.

**Public Transportation to Vieux-Québec**

- Quebec City offers a public transit service. The RTC (Réseau de Transport de la Capitale) provides this service. Buses #800 and #801 will transport you directly to Vieux-Québec, from Pavillon Alphonse-Desjardins. The bus frequency is approximately 8-10 minutes. For more information, please visit [www.rtcquebec.ca](http://www.rtcquebec.ca).
- If you prefer a cab, the ride is approximately 7 km (from campus to Vieux-Québec).

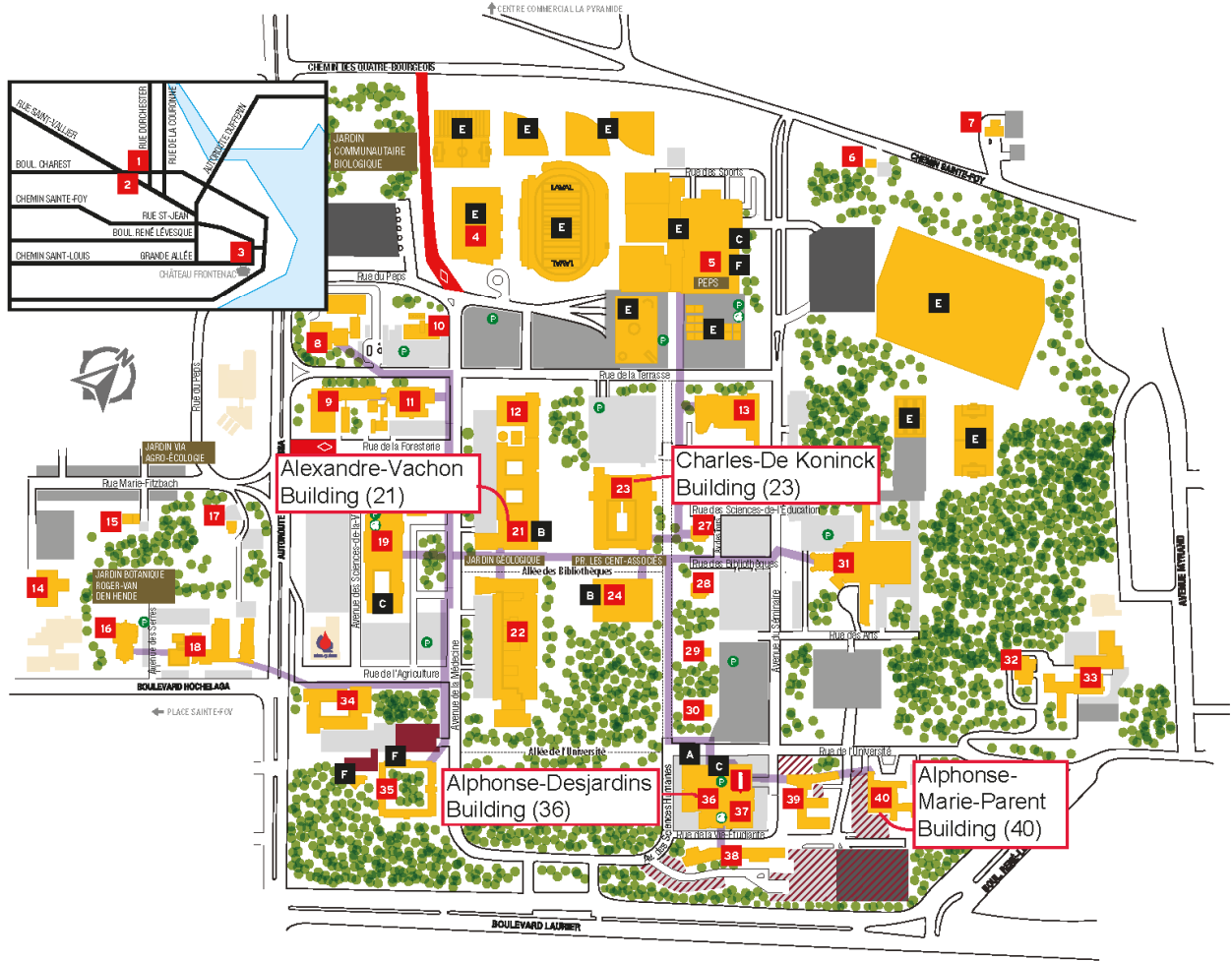
# CAMPUS MAP

Interactive map : <https://www.ulaval.ca/plan-du-campus>



# PLAN DU CAMPUS

ulaval.ca 418 656-2131



## PAVILLONS ET BÂTIMENTS

Centrale d'eau refroidie (CER) ..... 10	Maison Omer-Gingras ..... 17	Pavillon de Médecine dentaire (MDE) ..... 8	Pavillon Jean-Charles-Bonenfant (BNF) ... 24
Centre de gestion des matières dangereuses (CMD) ... 32	Pavillon Abitibi-Price (ABP) ..... 11	Pavillon des Sciences de l'éducation (TSE) ... 27	Pavillon La Laurentienne (LAU) ..... 26
Complexe des serres de haute performance ..... 14	Pavillon Adrien-Pouliot (PLT) ..... 21	Pavillon des Services (PSA) ..... 18	Pavillon Louis-Jacques-Casault (CSL) ... 31
Édifice du Boulevard ..... 1	Pavillon Alexandre-Vachon (VCH) ..... 22	Pavillon d'Optique-photonique (COP) ..... 12	Pavillon Maurice-Pollack (POL) ..... 37
Édifice du Vieux-Séminaire-de-Québec ..... 3	Pavillon Alphonse-Desjardins (ADJ) ..... 36	Pavillon Environtron (EVT) ..... 16	Pavillon Palais-Prince (PAP) ..... 13
Édifice La Fabrique ..... 2	Pavillon Charles-De Koninck (DKN) ..... 23	Pavillon Félix-Antoine-Savard (FAS) ..... 28	Pavillon Paul-Comtois (CMT) ..... 34
Maison Couillard ..... 15	Pavillon Charles-Eugène-Marchand (CHM) ... 20	Pavillon Ferdinand-Vandry (VND) ..... 19	Stade TELUS-Université Laval (SSI) ..... 4
Maison Eugène-Roberge ..... 29	Pavillon de l'Éducation physique ..... 5	Pavillon Gene-H. Kruger (GHK) ..... 9	
Maison Marie-Sirois ..... 30	Pavillon de l'Éducation physique et des sports (PEPS) (EPS) ..... 5	Pavillon Gérard-Bisailon (GBI) ..... 33	
Maison Michael-John-Brophy ..... 6	Pavillon de l'Est (PVE) ..... 7	Pavillon J.-A.-DeSève (DES) ..... 25	

## SERVICES

Arrêt Métrobus (800-801) ..... A
Bibliothèque ..... B
Guichet automatique ..... C
Bureau sécurité-stationnement ..... D
Installations sportives ..... E
Centre de la petite enfance (CPE) ... F

## RÉSIDENCES

Pavillon Agathe-Lacerte (LCT) ..... 35
Pavillon Alphonse-Marie-Parent (PRN) ... 40
Pavillon Ernest-Lemieux (LEM) ..... 38
Pavillon H.-Biermans-L.-Morand (PBM) ... 39

- Zones de stationnement - Catégorie -1 -2 -3 - Résident
- Voie d'autobus exclusive
  - Couloirs souterrains
  - Postes de péage (permis de stationnement à l'heure)
  - Borne de recharge électrique
  - Le Point - Service et information