



# Graduate Student Orientation

Department of Physics

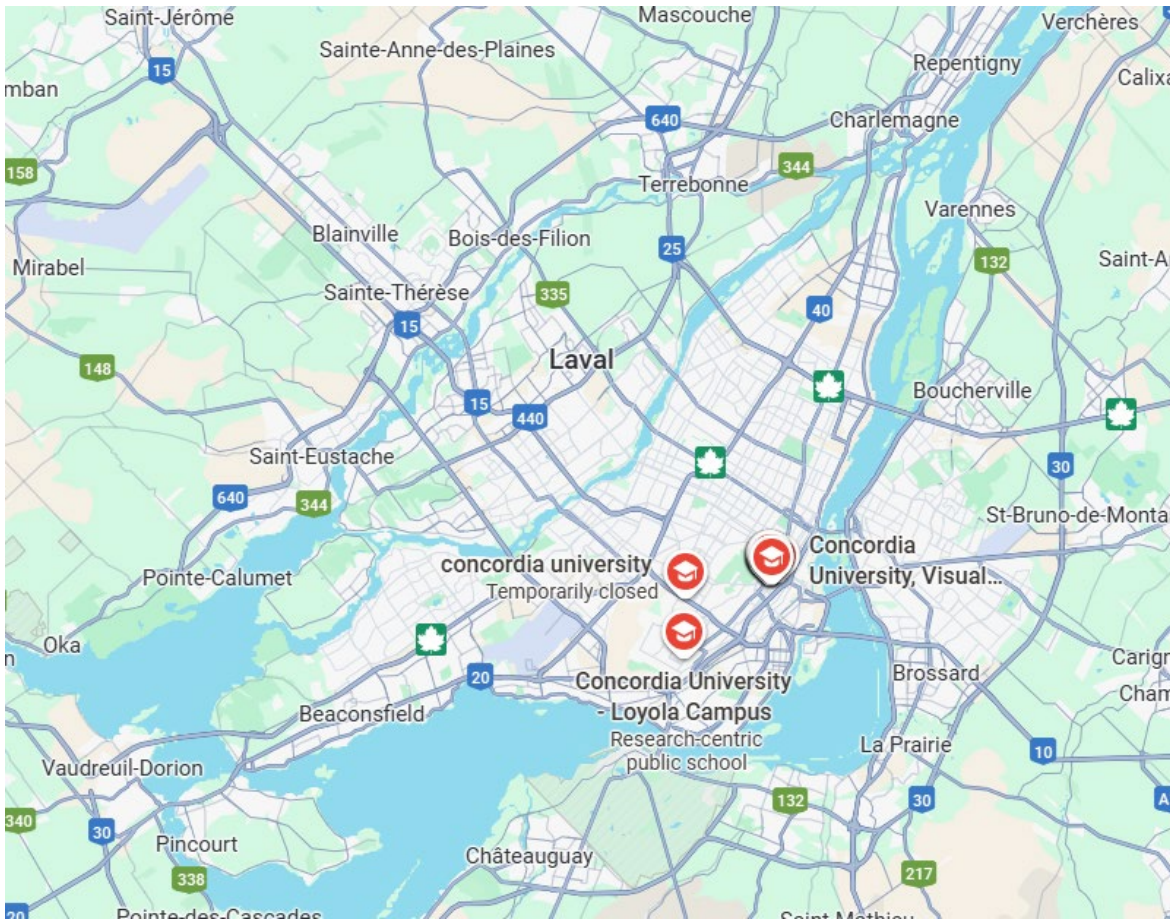
Concordia University



# Agenda

- The University and the Department
- Relevant people
- Overview of program
- Degree requirements
- Policies and procedures
- Finances and awards
- Professional development
- Good practices

# Montréal is an island, in a river!



## Territorial Acknowledgment

Concordia University is located on unceded Indigenous lands. The Kanien'kehá:ka Nation is recognized as the custodians of the lands and waters on which we gather today.

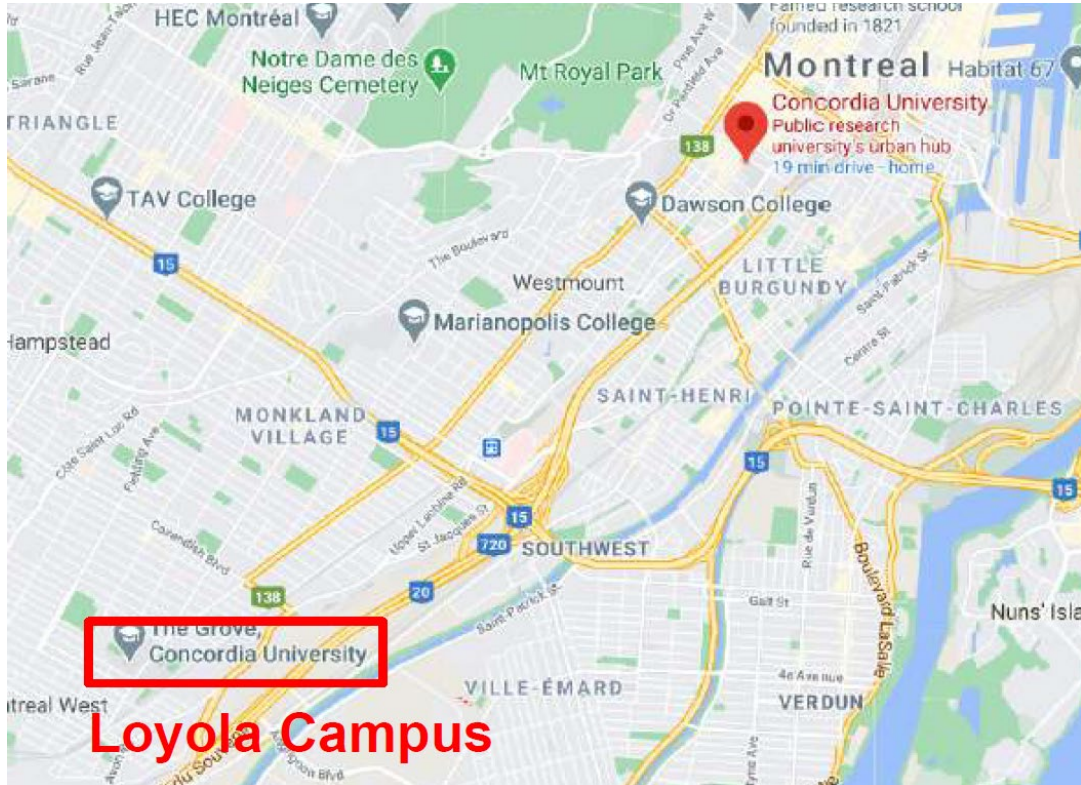
Ga-nyen-ge-ha

Tiohtià:ke/Montréal is historically known as a gathering place for many First Nations. Today, it is home to a diverse population of Indigenous and other peoples.

We respect the continued connections with the past, present and future in our ongoing relationships with Indigenous and other peoples within the Montreal community.

# Concordia University

Founded in 1974 via merger of SGW University and Loyola College



Two campuses:

Sir George William (SGW) – Downtown Montréal  
- Engineering, Fine Arts, Business

Loyola Campus  
- Arts and Sciences, School of Health

↓  
Physics Department

# Loyola Campus Map and Location of our Dept.

We are in the **Science Pavillion (SP)**

Physics Spaces



## **SP 2nd Floor (West Broadway side)**

- Physics Teaching Labs

## **SP 3rd Floor (West Broadway side)**

- [Administration] Chair, Program directors, Advisors, Program Assistants
- Physics Faculty, Student Offices
- Physics Department Kitchen
- Mailboxes, Printer

## **SP 5th Floor**

- Physics Faculty, Student Offices, Visitor offices

## **Research Labs**

Basement, 3rd & 5th floor, HU building, PERFORM center



Dr. Valter Zazubovits

**Chair, Department of Physics**

# Department of Physics

Mid-size highly collaborative department

## Students

### Undergraduate

- Physics Major
- Biophysics specialization
- Physics specialization
- Honours program
- Biophysics minor

### Graduate (Fall 2025)

- MSc in Physics (9)
- MSc in Nano Science (4)
- PhD in Physics (38)

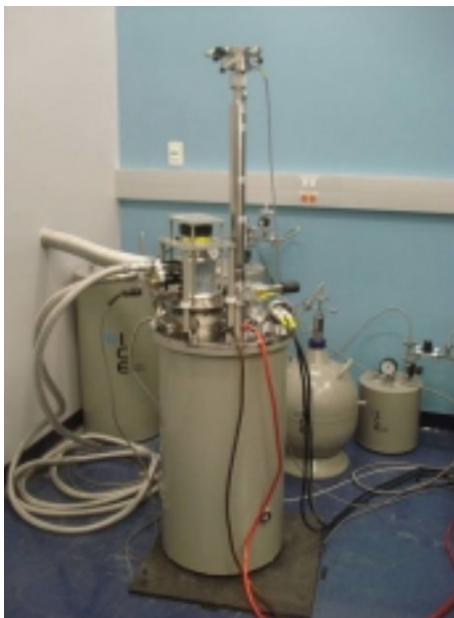
## Faculty

- 19 Research (See details [here](#))
- 5 Part-time and teaching

## Research Areas

- Condensed Matter Physics (Theory/Experiment)
- Nano Materials
- Photonics
- Quantum Computing/Algorithms
- Theoretical Particle Physics
  
- Biomedical Physics
- Molecular Biophysics
  
- Physics Education

# Equipment and facilities



Low-temperature (0.3 - 300 K) cryostat  
9T Magnet



Optical Bench with vibration damping



Various (Tunable) Lasers



Spectrophotometer (175-3300 nm)



Electron Probe station

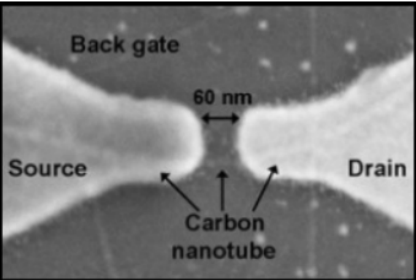
**And more...**  
3D printer  
Raman spectrometers  
Access to clean rooms  
Access to NMR spectroscopy



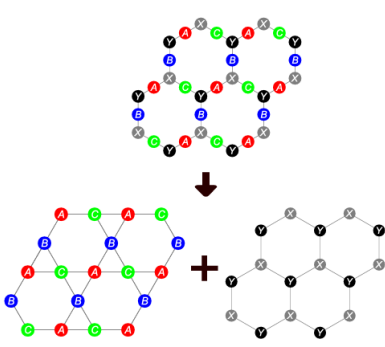
3T MRI

# Research at-a-glance

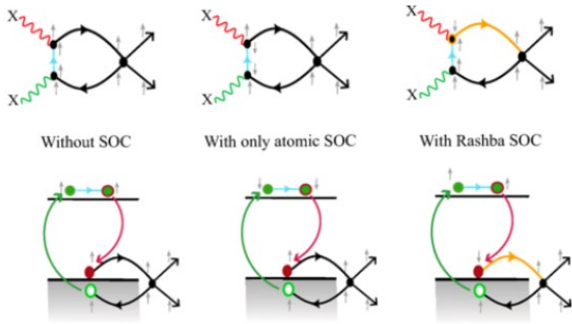
## Condensed Matter



Quantum Strain Transistors

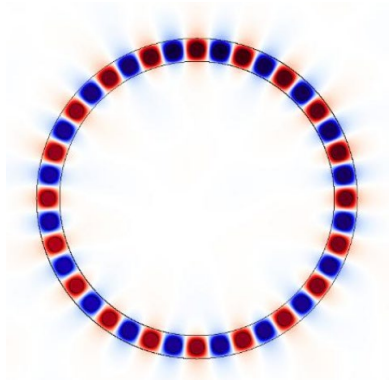


Novel 2D materials



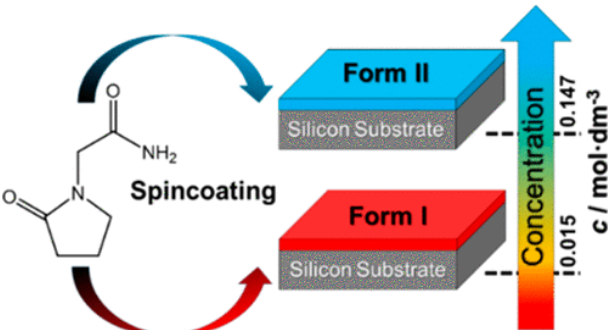
Light-Matter interaction in 2D materials

## Photonics

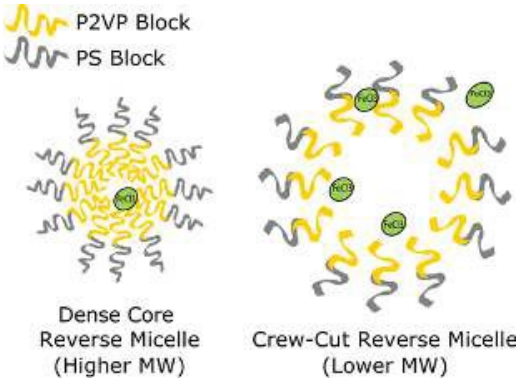


Topology in Photonic Lattices

## Nano Materials

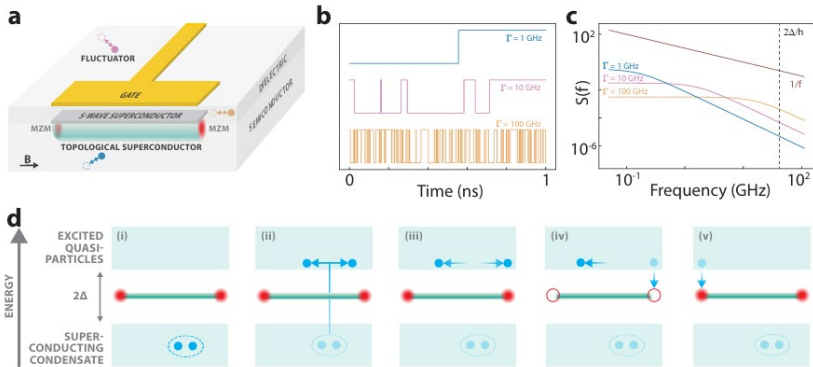


Organic Electronics



Nano Material Synthesis

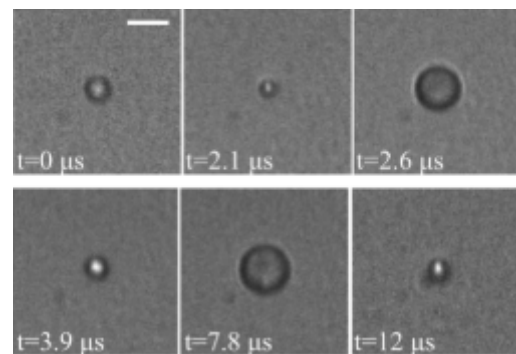
## Quantum computing and algorithms



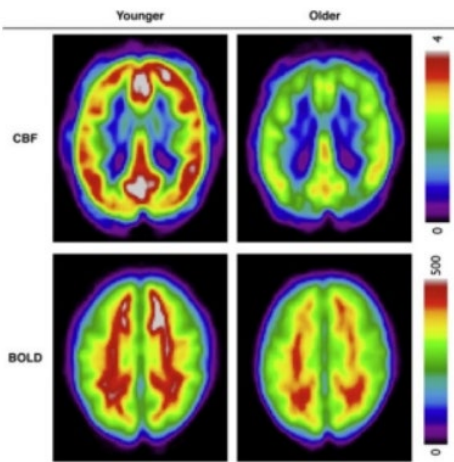
Topological Qbit design

# Research at-a-glance

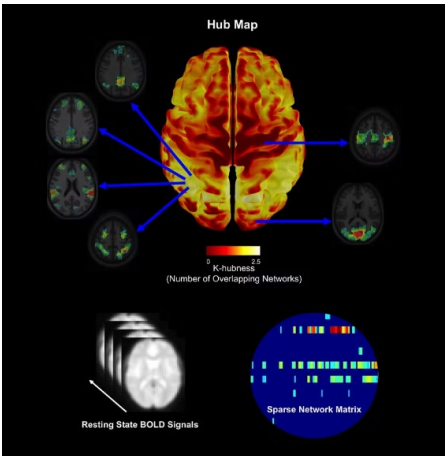
## Bio-Physics



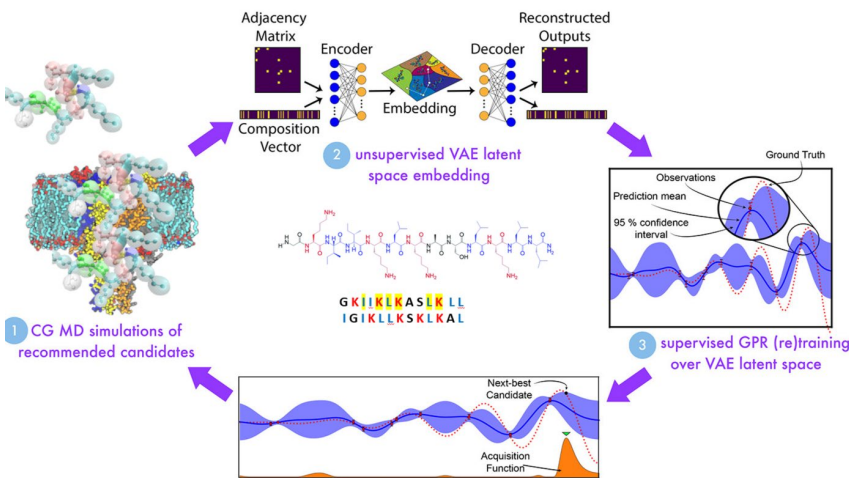
MicroBubbles in Ultrasound



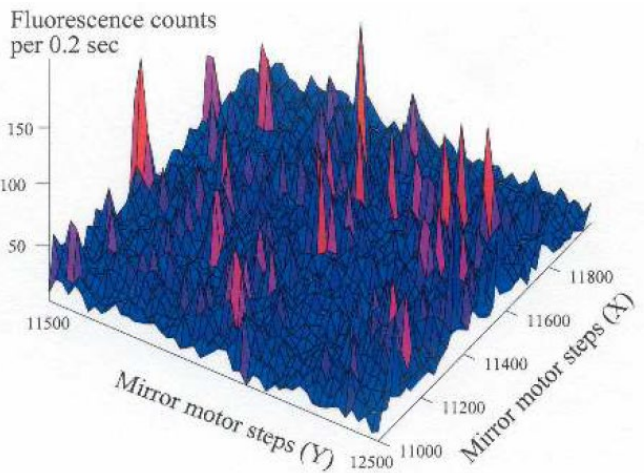
Cerebral Blood Flow



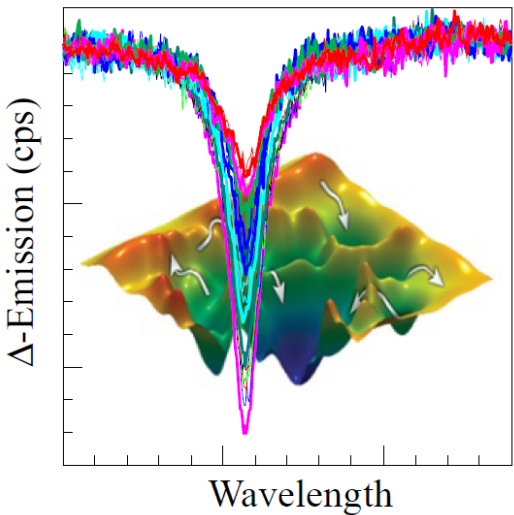
Imaging the Brain



Antimicrobial Peptide design using ML

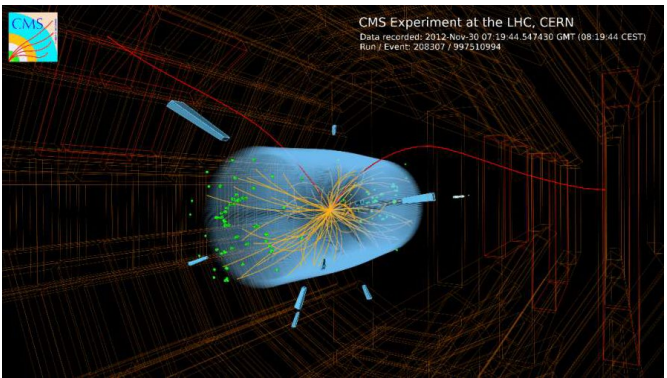


Spectroscopy of BioMolecules



Protein Energy Landscapes

## Particle Physics



Beyond Standard Model @ Collider

# A diverse and inclusive department

## Our [statement](#)

*“Our Department of Physics at Concordia University is a rapidly diversifying environment. We embrace this diversity by a firm commitment to inclusiveness. Everyone who dedicates their time and passion to physics belongs here and deserves to feel equally valued and respected no matter their gender, sexual orientation, ethnicity, religion, age, or disability”*

## Dept. statistics

| Faculty       |
|---------------|
| • 19 Research |

Today

14 Male; 4 Female, 1 Non-Binary

2019

10 Male; 2 Female, 0 Non-Binary

## Dedication to principles of Equity, Diversity, and Inclusion (EDI)

- Strong emphasis on EDI principles (funding, awards, research practices)
- EDI committee oversees issues
- **We encourage your participation** (outreach events, attendance)

**Questions?**

# Graduate Program

Tax Year (Jan, 20XX – Dec, 20XX)  
Financial Year (Jun, 20XX – May, 20XX+1)

Academic Year (May, 20XX – April, 20XX+1)

3 terms – Summer, **Fall, Winter**

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## Relevant People



Dr. Saurabh Maiti  
saurabh.maiti@concordia.ca  
up to Dec 2025

Graduate Program Director (GPD)



Dr. Pablo Bianucci  
pablo.bianucci@concordia.ca  
From Jan 2026

Michelle (Shelley) Ouellet  
gpa.physics@concordia.ca  
SP 365.02

Graduate Program Assistant (GPA)

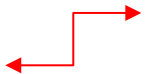
Sharlene Baksh-Subero  
physics.da@concordia.ca  
SP 275.01

Administrator for TA contracts

# Graduate Program

## MSc (6 terms)

Total credits  $\geq 45$

- Courses (9 + 3) 
- Graduate Activity PHYS 760 (3)
- Research/Thesis/Defense PHYS 790 (33)

## Expected timelines

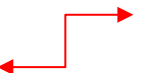
- Courses (terms 1-5)
- Graduate Activity (terms 4-5)
- Thesis/Defense (term 6)

Fasttrack 

Direct-to-PhD

## PhD (12 terms / 15 terms)

Total Credits  $\geq 90$

- Courses (9 + 3) 
- Graduate Activity PHYS 861,862 (6)
- Exams PHYS 870 (6)
- Research/Thesis/Defense PHYS 890 (69)

## Expected timelines

- Courses (terms 1-5)
- Graduate Activity (terms 4-9)
- Exams (terms 5-8)
- Thesis/Defense (term 12)

# Graduate Program

## MSc (6 terms)

Total credits  $\geq 45$

→ Free course

Nano Science (MSc)

Courses (12 + 3)

Research/Thesis/Defense PHYS 790 (33)

## Expected timelines

- Courses (terms 1-5)
- Graduate Activity (terms 4-5)
- Thesis/Defense (term 6)

Fasttrack

Direct-to-PhD

## PhD (12 terms / 15 terms)

Total Credits  $\geq 90$

→ Free course

- Courses (9 + 3) ←
- Graduate Activity PHYS 861,862 (6)
- Exams PHYS 870 (6)
- Research/Thesis/Defense PHYS 890 (69)

## Expected timelines

- Courses (terms 1-5)
- Graduate Activity (terms 4-9)
- Exams (terms 5-8)
- Thesis/Defense (term 12)

# Program Progression

## First steps

- Form the Supervisory Committee (SC)
  - Every 3 terms: Report your progress through **the SC Progress Report**
- Identify research direction and courses to take
- **Address conditions on admission letter!**

## Course Registration

- Program Courses: From student hub
- Outside Program: From student hub/Need GPD approval
- Outside University: Go to <https://www.bci-qc.ca/en/students/aehe/> and needs GPD approval
- Activity courses PHYS 760,861,862: Approach GPA
- Exams/Thesis/Defense PHYS 790,870,890: Approach GPA

≥ B-

Pass/Fail

## Finishing the program:

- Get all departmental clearances (all SC progress report forms submitted, get GPD approval)
- Apply for graduation with the University
- If PhD, follow [procedure](#) to apply for defense and deposit thesis.



## Department of Physics documents

- [Graduate Program Policy](#) (Details the policies of the Graduate Program in Physics.)
- [Physics Graduate Procedures](#)

## Forms

- [Student and Supervisor Framework](#)
- [Graduate Student Supervisory Committee](#)
- [Supervisory Committee Progress Report](#)
- [MSc Thesis Submission](#)

## Useful Information

- [Physics Graduate Student Welcome Pamphlet](#)
- [Graduate Orientation Slides](#)
- [TA Orientation Slides](#)
- [Working with Your Supervisor](#)

## Graduate advising

Graduate students that encounter issues affecting their academic or research

|       |                                       | ADVISING                              |                    |  |  |
|-------|---------------------------------------|---------------------------------------|--------------------|--|--|
| 2-3PM | ZOOM ADVISING<br>(janscode: Montreal) |                                       | IN-PERSON ADVISING |  |  |
| 3-4PM |                                       | ZOOM ADVISING<br>(janscode: Montreal) | COLLOQUIUM         |  |  |

- [BOOK a ZOOM meeting](#)
- [BOOK an IN-PERSON meeting](#)

## Contact information

### Academic Advisor and Undergraduate Program Coordinator:

**Natalja Zazubovits**

- 514-848-2424, ext. 5167
- Office: L-SP 367.01
- [physics-advising@concordia.ca](mailto:physics-advising@concordia.ca)

### Undergraduate Program Director:

**Laszlo Kalman**

- 514-848-2424, ext. 5051
- Office: L-SP 365.10
- [laszlo.kalman@concordia.ca](mailto:laszlo.kalman@concordia.ca)

### Graduate Program Director:

## Description of special courses

### PHYS 760/862 (3 cr/3 cr) – Graduate-level workshop style course

- Writing mock grants/application
- Presenting research to different audience levels
- Peer evaluation

### PHYS 861 (3 cr - PhD) – Pedagogical seminar participation (Colloquium)

- Exposure to broader exciting research
- Chance to interact with researchers

### PHYS 870 (6 cr - PhD) – Comprehensive Exam (written report and oral presentation)

- Evaluating your knowledge
- Evaluating your expertise over a topic relevant for your thesis (that has not already been covered)

### PHYS 790/890 (33 cr /69 cr) – Research/Thesis/Defense

- SC progress report is part of this
- Thesis submission
- Thesis defense (PhD only)



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(Details the policies of the Graduate Program in Physics.)

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### Graduate Program Director:

## Important dates/deadlines

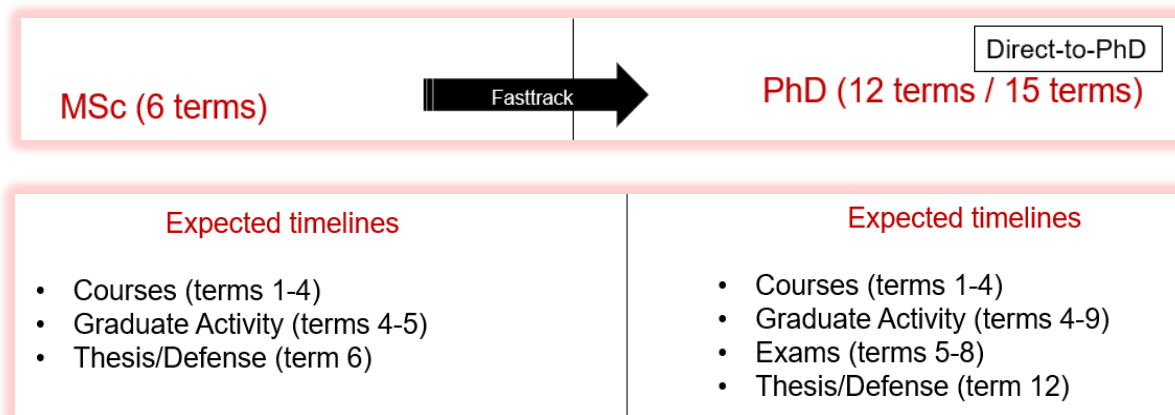
For course registration (check calendar):

- DNE (2 wks into the term) – last date to add/drop a course without consequence
- DISC (3 wks before term ends) – withdrawal without refund

For Graduation:

- Fall/Winter Completion (**April 1**)      - Apply to Graduate: **Jan 15**
- Summer Completion (**September 1**) – Apply to Graduate: **July 15**

## Avoid missing the expected timelines



Financial support is only guaranteed for these periods!

This is tracked in the SC progress report  
Delays are OK, but you will have to explain them in the report.

**Register for courses early!** (by end of summer)

Will delay graduation if course is full/cancelled

Out-of-Univ course can take 1-2 months to process!

## Fall 2025

- PHYS 679 (crosslisted with 440) – Computational Physics
- PHYS 644 (crosslisted with 345) – Advanced Classical Mechanics

## Winter 2026

- PHYS 601 (crosslisted with 478) – Advanced Quantum Mechanics
- PHYS 637 (crosslisted with 468) – Condensed Matter 2 (Many-body/Quantum Phases)

# Important aspects of your admission letter

**Name:** Anakin Skywalker

**Student ID:** E-3778Q-1

**Date of Birth:** 41 BBY

## Program Information

**Academic Program/Plan:** Doctor of Philosophy  
Physics

**Minimum Program Length:** 90 credits

**Time Limit:** January 11, 2032 Maximum time at Concordia (Can be extended with GPD approval)

**Academic Load:** Full-Time

**Session:** Winter 2026 commencing January 12, 2026 Start Term

**Expected Graduation Term:** Fall 2029 End Term for guaranteed funding, maximum study permit limit

# Important aspects of your admission letter

## Conditional Admission (act on these ASAP):

- Language Courses
- Qualifying Programs
- Submission of Documents

## Financial Assistance under “Messages”:

- Gives you a yearly breakdown of minimum financial assistance
- Figures include TA/Awards/Research Bursary(RB)

Human  
Resources

School of  
Grad Studies

Supervisor

→ Different from Research  
assistantship (RA), which  
is taxable as income

- You pay Tuition+Fees (Student Hub)
- You can replace RB with external scholarships, which is often larger. Your supervisor **may** still contribute some RB as a reward!

## Scholarships and Awards (while in Program)

- MSc, PhD scholarships by Canada, Quebec in Science and Engineering, Health sectors
  - NSERC, FRQNT, CIHR, SSHRC, FRQS
- Scholarships for international students
  - NSERC, PBEEE (Quebec)

Highly competitive across all disciplines: strong CV (publications, impact on society)

- Travel Awards (Concordia)
  - For conferences (only if you are presenting)
- Teaching Award (Physics)
- Awards after Graduation – for outstanding thesis (publications/impact/advancing Concordia's interests)
  - (Governor General Gold Medal, Valedictorian)

# Settling in and day-to-day matters

## Your Identification

- SIN (for Paychecks/Banking/Taxes)
- Student ID (Courses/Program/Services)
- Employee ID (for TA/Reimbursements)
- Netname, email

## Services

- IT Services (Print/Scan/VPN/student accounts)
- Off-hours building access
- Library (access via proxy to journals)
- Free [Concordia Shuttle](#)
- Student services
- International student services

## Your Workspace (ask GPA)

- Office/Mail room/Kitchen Keys
- Printer/Scanner codes
- Lab Access (from your supervisor)

## (Academic) Social Life

Department socials

- Wed 2:30, 3<sup>rd</sup> Floor SP Building
- Department get-togethers

Graduate Association of Students in Physics  
(GASP)

# Settling in and day-to-day matters

For access: insurance card + Concordia ID

Health Services      <https://www.concordia.ca/health/medical/clinic.html>

Mental Health      <https://www.concordia.ca/health/mental-health.html>

Physical Health      [Recreation and Athletics](#)

Quebec Students: No additional fees (RAMQ)

Out of province students: Qualify for RAMQ after 3 months

International Students: Your fees cover medical insurance

# Settling in and day-to-day matters

- **Classes**
  - Register in advance
  - Pay fees via student hub (avoid delays to avoid interest)
  - Contact the [Student Accounts Office](#) if you do not have enough funds to pay the “Tuition Fees” in a single payment. They can arrange for a payment plan as you get paid.
- **Research (administered by supervisor)**
  - Contract needs to be signed
  - Bursary amount is not income and not taxable, no additional benefits.
- **Teaching Assistantship (130 hrs/term)**
  - Contract needs to be signed (processing time: at least 2 weeks)
  - [You have to be part of a Union](#)
  - Track the time and don't over-work
  - Income is taxable, includes benefits
- **Paycheck (TA+RB+Awards)**
  - Every 10 working days (biweekly, 26 pay periods annually)

# Settling in and day-to-day matters

## Disbursements of awards

### **External awards:**

- Different awards may have different timing (monthly, bi-weekly, lump-sum, etc.)
- Sometimes paid through supervisor (will depend on the awarding entity).

### **Internal awards (Concordia):**

- Paid at the beginning of each term, *5 days after the DNE deadline*.
- If less than \$3,000 they are paid in a lump-sum the first term.
- If more than \$3,000, each term you receive 1/3 of the award.
- Paid directly to your student account

# International Students

## International Students Office (ISO)

- Get SIN!
- Submit Study Permit to Human Resources (HR)
- Keep track of your status!
  - status expired: no longer receive payments/suspended from the program
  - Extensions: Apply well in advance! Concordia has limited slots with Quebec, try not to extend unnecessarily
- Some scholarships are only for residents (always read eligibility criteria)
- Students from some nationalities may have to declare severance from their earlier institutions (supervisor will contact you)
- If you secure tuition remission (PhD only), you pay Quebec tuition rate for program credits.  
**International fees for any surplus credits!**

**Travel:** All students, new and returning, need a proof of registration, letter of introduction. Contact ISO before international travel to know the latest requirements for safe re-entry.

- Culture in Quebec may be different from your home, take some time to get accustomed to it.
- It is natural to feel lonely, home-sick, anxious

Interacting with other students, socializing and participating in group events will help with both above issues

## Professional development and career

- **Conferences** – Supervisor's Research Program (tracked in SC Progress Meetings)
- **Colloquium** (PHYS 861) – Hear about the latest research, interact with researches, learn about job opportunities and the job market
- [GradProSkills](#) – Workshops to develop or polish your professional side outside of your research environment
- Examples of success after PhD

**Dr. Joshua Island, MSc 2011**  
Associate Professor  
*University of Nevada, Las Vegas*



**Dr. Tabassom Hamidfar, PhD 2019**  
Research Associate  
*Northwestern University*

...and many more into industry

- Typical next step is post-doctoral research or industry (data science/R&D)

## Good practices

- **Communicate supervisor/committee promptly, explain delays and difficulties**
- Keep up with our physics community activities: “[Next week in Physics](#)” sent by GPA
  - Will contain info about scholarships, competitions, student success.
- Contribute to EDI and outreach activities
- Communicate your opinions about Dept policies to your student representative
- Mentor/help new graduate students adjust to grad-school
- Provide an audience for events!

# Resources

| ABOUT THE DEPARTMENT                                                                                                | PROGRAMS | RESEARCH                          | CURRENT STUDENTS | CONTACT                    | Q |
|---------------------------------------------------------------------------------------------------------------------|----------|-----------------------------------|------------------|----------------------------|---|
| Co-op program, career resources and job postings, soft skills development and local employers for Physics graduates |          | Teaching laboratories information |                  | PHYS 204/205/206 tutorials |   |

## Concordia Resources

|                              |                                      |                               |                                |
|------------------------------|--------------------------------------|-------------------------------|--------------------------------|
| Student Success Centre       | Student Academic Services (advising) | Current Students Hub          | Student Societies at Concordia |
| Birks Student Service Centre | International Students Office        | Financial Aid & Awards Office | Office of the Registrar        |

## Additional resources

[Physics Graduate Program Policies](#)

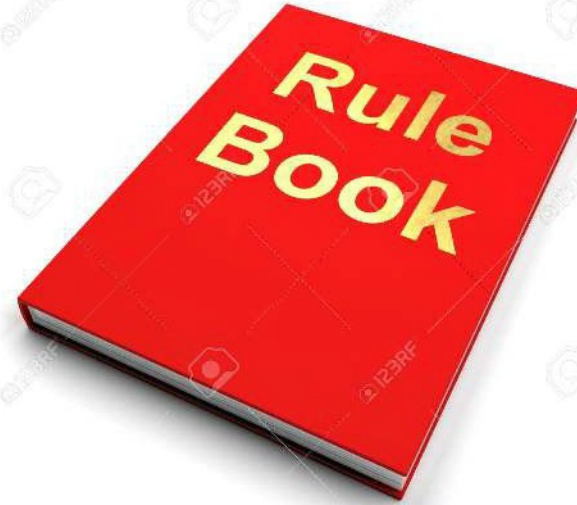
[Graduate Calendar \(general\)](#)

[Graduate Calendar \(Physics PhD\)](#)

[Graduate Calendar \(Physics MSc\)](#)

[School of Graduate Studies](#)

[New Graduate Student Resources](#)



## Library and Bookstore:

[Concordia Library](#)

[Concordia Book Stop \(Bookstore\)](#)

### ***Student association:***

- [Physics Association of Graduate Students](#)
- [Graduate Student Association](#)

# Additional resources

- [Access Centre for Students with Disabilities](#)
- [Campus Security and Emergency Services](#)
- [Career and Planning Services \(CAPS\)](#)
- [Concordia Student Union Off-Campus Housing \(data bank\)](#)
- [French courses, etc: Réussir en français \(Département d'études françaises\)](#)
- [Graduate Awards Office](#)
- [GradProSkills \(useful professional development workshops\)](#)
- [Multi-faith and Spirituality Centre](#)
- [Welcome Crew \(help for new students\)](#)
- [Ombuds Office](#)
- [Recreation and Athletics](#)
- [Services for New Students](#)
- [Sexual Assault Resource Centre](#)
- [Student Advocacy Office](#)
- [Student Learning Services](#)
- [TRAC \(TA/RA labour union, for the purposes of work conditions, salaries, etc\)](#)
- [4TH SPACE](#)

# Diversity and Inclusion

## Groups and Resources



- [International Students Office \(ISO\)](#)
- [Women in Physics Canada](#)
- [Queer Concordia](#)
- [Aboriginal Student Resource Centre](#)
- [Multi-Faith and Spirituality Centre](#)
- [Counselling & Psychological Services](#)
- [Access Centre for Students with Disabilities](#)

