Schulich School of Engineering

Winter Orientation for MScs & PhDs
Department of Electrical and Software Engineering

Dr. Colin Dalton, Graduate Program Director
January 23rd 2024

Agenda

9:30 – 10.15 Welcome, Graduate Students Expectations, Important Information
ESE Graduate Program Director (GPD): Dr. Colin Dalton

10.15 – 10:30 Social Break

10:30 – 10:45 Awards and Scholarships Applications
ESE Graduate Studies Scholarship Committee Chair

10:45 – 11:00 Introduction to the Graduate Students’ Association (GSA)
GSA VP Student Life

11:00 – 11:10 ESE Graduate Students’ Association
ESEG President

11:10 – 11:20 Questions (Q&A)

About Me

Dr. Colin Dalton
- Associate Head of Graduate Studies
  - cdalton@ucalgary.ca; Office: ICT 440; Phone: (403)-210-8464

Responsibilities
- Leader, and advocate for graduate education in our dept/faculty
- Responsible for budget (internal scholarships/awards, TA funding)
- Member of FGS council (central decisions on the graduate program)
- Manage and provide advice/direction for student concerns

Research
- Brain machine interfaces, micro-nano fabrication, electrokinetic microfluidics
- Microneedles for transdermal drug delivery and biosensing
- Currently supervising/co-supervising 3 PhD students, 4 MSc, 2 Techs and 1 RA

The University of Calgary, located in the heart of Southern Alberta, both acknowledges and pays tribute to the traditional territories of the peoples of Treaty 7, which include the Blackfoot Confederacy (comprised of the Siksika, the Piikani, and the Kainai First Nations), the Tsuut’ina First Nation, and the Stoney Nakoda (including Chiniki, Bearspaw, and Goodstoney First Nations). The City of Calgary is also home to the Métis Nation of Alberta Region 3.
ESE Leadership Team

- **Department Head**
  - Dr. Andy Knight

- **Associate Head**
  - Research: Dr. Elise Fear
  - Graduate: Dr. Colin Dalton
  - Undergrad: Dr. Behrouz Far

- **MEng Software Director**
  - Dr. Yves Pauchard

- **MEng Electrical Director**
  - Dr. Yani Jazayeri

**Graduate Support**

- **Advice, program questions within ESE**
  - Please contact: ese.gradstudies@ucalgary.ca
  - Fatima Abdul-Halim: Graduate Program Advisor
  - Ella Lok: Graduate Program Advisor

- **Technical questions**
  - Dr. Colin Dalton (cdalton@ucalgary.ca), Graduate Program Director
  - Tip: good idea to copy the office eso.gradstudies@ucalgary.ca

- **Support through SSE**
  - https://schulich.ucalgary.ca/electrical-computer/programs/graduate
  - https://schulich.ucalgary.ca/current-students/graduate#field_collection_accordion-block-2

- **Support through FGS**: grad.advisor@ucalgary.ca
  - Yan Zhang, Graduate Academic and International Specialist
  - Marisa Norona, Graduate Academic and International Specialist

**Faculty of Graduate Studies**

- **Interim Dean and Vice-Provost of Graduate Studies**
  - Dr. Tara Beattie

- **Associate Deans**
  - Dr. Clifton Cunningham (Students)
  - Dr. Mary Grandham O’Brien (Policy)
  - Dr. Donna-Marie McCafferty (Scholarships)
  - Dr. Michelle Drefs (Student Life)

**FGS - Support**

If you feel you want some advice/help outside of the ESE department, please contact: grad.advisor@ucalgary.ca

- Dr. Yan Zhang or Marisa Norona
  - Graduate Academic and International Specialists

**Student Concerns:**

- Supervisor conflict, funding problems, failed candidacy/exam, intellectual property, academic misconduct, leaves of absence, extension requests, barriers to progress etc.

**Check the FGS Website:** https://grad.ucalgary.ca/
Onboarding

- Refer often to the onboarding email you received
  - Lots of valuable advice, links, deadlines etc.

  Cannot stress how important this email is!

Graduate Studies is a Full Time Activity

- You are expected to behave as a Professional Engineer
  - Be pro-active, contribute to your department, University, and society
  - Solve complex problems, and stand behind your work

- Engineers require a combination of skills
  - Theoretical work, experimental work, computational work, course work, etc.
  - Don’t forget communication and other ‘soft’ skills

- Each student is different
  - Funding, publication record, work schedule, etc.

- Challenging but rewarding
  - Strive to become excellent at public speaking, writing, overcoming your weaknesses, refining your strengths.

Expectations for ESE Students

- Behave and represent the university and the department professionally

- Full time work
  - You are expected to work ~40 hours or more per week on your research project
  - Graduate students do not get the University reading breaks/summer terms off.
  - If you need time off – please talk to your supervisor

- Present and discuss your work
  - Paper publications, presentations, your parents, your cat etc.

- Earn the support you are receiving
  - Supervisors work hard to get the grants that support your work
  - Continued financial support is dependent upon your satisfactory performance in both research and course work
  - All MSc & PhD students are expected to complete the annual progress report in May

- Be the best
  - Try and become the best in your field!
### Teaching Assistant Positions
- An important obligation (a contract with the department and the course instructor)
- Use this opportunity to improve your teaching, communication, and mentorship skills
- You must complete the teaching assistant workshop, take SSE development time
- TA positions are competitive, in addition to your minimum SSE Funding

### Scholarships
- Apply for scholarships to support your funding

### Publications
- Ask your supervisor about opportunities to publish and present your research to the international community
- Critical for scholarships
- Supporting evidence for your thesis/defense

### Absences
- Discuss with your supervisor and course instructor before going to a conference or vacation. Easier to plan in the summer semester.

### Internships
- Encouraged but optional – internship currently is NOT an MSc or PhD degree requirement

### Working on/off campus
- There are opportunities
- Obtain your Supervisor’s approval
- Check with International Student Services (ISS)

### Complete 2 online safety courses
- Occupational Health and Safety orientation
- Hazard Assessment training
- Other courses are required if you are working in a laboratory, talk to your supervisor

### To take the courses, do the following:
  - Go to [https://my.ucalgary.ca](https://my.ucalgary.ca) and sign in
  - From the top bar click My work
  - Under Direct access click PS Enterprise Learning Click My Learning
  - Find the course and click on the detail page
  - If the presentation does not start, check to see if it is being blocked by your browser as a pop-up
  - Send a copy of Completion Certificate to ese.gradstudies@ucalgary.ca

### Important Dates

<table>
<thead>
<tr>
<th>Milestone</th>
<th>Fall 2023</th>
<th>Winter 2024</th>
</tr>
</thead>
<tbody>
<tr>
<td>Last Date to drop courses without financial penalty</td>
<td>Sept 14 2023</td>
<td>Jan 18 2024</td>
</tr>
<tr>
<td>Last date to add or swap courses</td>
<td>Sept 15 2023</td>
<td>Jan 19 2024</td>
</tr>
<tr>
<td>Last date to withdraw from a course</td>
<td>Dec 6 2023</td>
<td>April 9 2024</td>
</tr>
<tr>
<td>Tuition Fee/payment deadline</td>
<td>Sept 22 2023</td>
<td>Jan 26 2024</td>
</tr>
</tbody>
</table>

**Implications of course withdrawal date:**
- Withdraw on or before Sep. 14 (Winter Jan 18)
  - No record of course on transcript and tuition is refunded
- Withdraw any time between Sep. 15 - Dec. 6 (Winter Jan 19 - Apr 9)
  - “W” is recorded on transcript and tuition forfeited

These are HARD deadlines!
[https://www.ucalgary.ca/pubs/calendar/grad/current/academic-schedule.html](https://www.ucalgary.ca/pubs/calendar/grad/current/academic-schedule.html)
MSc Requirements

- Course requirements: 12-21 units of 600-level ESE 3-unit courses
  - At least three of the courses must be in the area of specialization/research
  - At most two 500-level courses may be taken, but will not count towards MSc course requirements
  - Up to two courses may be taken outside of the Department or Faculty (requires supervisor & Department approval)
  - In addition to the above, pass ENGG 601 (Fall) and ENGG 603 (Winter)
- Be under the guidance of a supervisor
  - Discuss course selection with Supervisor
  - Successful completion of MSc thesis research
    - write and defend the MSc thesis
- Normal time to complete MSc Program: 2 years from the initial registration
  - Note: For MSc students, the maximum funding time limit is 2 years
- Maximum time limit: 4 years from the initial registration

Typical MSc Path

Year 1: Fall
ENGG 601, Courses

Year 1: Winter
ENGG 603, Courses

Year 1: Spring, Summer
Research

Year 2: Fall, Winter
Research

Year 2: Spring, Summer
Research, Thesis Defense

PhD Requirements

- Courses: Two to five 600-level Courses beyond Master’s degree
  - Six to nine 600-level courses beyond Bachelor’s degree
  - At most one 500-level course may be taken but will not count towards PhD course requirements
  - No more than one course may be taken outside of the Department or Faculty (requires supervisor & Department approval)
  - In addition to the above, pass ENGG 601 and ENGG 603
    - ENGG 601/603 waived for students who obtained their MSc from the Dept.
- Be under the guidance of a supervisor
  - Discuss course selection with supervisor
  - Successful completion of PhD Candidacy (FOS and proposal) and thesis research
    - write and defend the PhD thesis
- Must have a Supervisory Committee in place within 3 months of initial registration

PhD Requirements (Continued)

- Candidacy Requirements
  - PhD Coursework
  - Written thesis proposal
  - Combined Field of Study and thesis proposal Oral examination
    - NOTE: Please read the Candidacy policy, available online
    - Graduate Calendar sections K.1 and K.3
- Complete all Candidacy requirements within 24 months of first registration
- Successful completion of thesis research and oral thesis defense
- Normal Program Completion Time: 4 years from the initial registration
- Maximum Time Limit: 6 years from the initial registration
Typical PhD Path

Year 1: Fall
ENGG 601, Courses, Research

Year 1: Winter
ENGG 603, Courses, Research, FOS

Year 1: Spring, Summer
Research,

Year 2
Research, Combined FoS and Thesis Proposal Exam

Year 3-4:
Research, Thesis Defense

Normal time to complete PhD Program:
4 years from the initial registration

Maximum time limit:
6 years from the initial registration

Note: The path shown above is for a PhD program with MSc entry. The corresponding path with BSc entry can be longer by 2 to 3 years, depending on the student.

For PhD students, the maximum funding time limit is 4 years

Criteria to transfer from MSc to PhD online

Courses

- Courses with a C+ (or lower) grade will NOT count towards the course requirements
- MSc students receiving a C+ (or lower) grade in any course are required to withdraw (RTW) from the Graduate program, regardless of overall GPA
- For PhD students, it is a B (or lower) grade
- MSc students must maintain a GPA of at least 3.0 to remain in program
- For PhD students, it is a GPA of at least 3.3

KNOW your course deliverables and grading scheme!
Pay attention to the course outline

Academic Misconduct

- Academic misconduct is plagiarism or misrepresentation of data in:
  - Course work, Presentations, Thesis proposal, Publications, Thesis
- Academic Integrity: act ethically, honestly and with integrity
  - Submitted academic work are yours and were determined by you alone
  - Submitted academic work are in your own words, even when sharing notes with other students or using the Instructor lecture notes
  - Do NOT submit in verbatim materials pulled from the Internet!
- Consequences of Academic Misconduct
  - Failing Grade, Probation, Suspension
  - Expulsion from the Faculty
  - Expulsion from the University
- Be familiar with FGS academic misconduct regulations
  - https://grad.ucalgary.ca/current-students/thesis-based-students/thesis/academic-integrity

FGS Graduate Orientation

- Graduate Orientation (GradO) provided by FGS
  - Ask FGS if you missed it
- D2L Courses
  - Graduate Student Orientation (GradO)
  - Academic Integrity Orientation
- If you have any questions, please email GradO@ucalgary.ca
Additional Resources

- **My Grad Skills**
  - Web Address: [http://ucalgary.ca/mygradskills/workshops](http://ucalgary.ca/mygradskills/workshops)
  - Free!
  - Most are 1 hour
  - Improve your skills/help your research progress/become a better TA/find a job after your program
  - Example workshops:
    - Information Interviewing: A Strategic Tool for Job Hiring
    - Starting a business: Entrepreneurial training
    - Versatile PhD: Discover career paths outside of academia

- **Other Resources**
  - Career Services (workshops, coaching, fairs), Professional Societies (IEEE), Graduate Student Societies (SSE and ESEG), Three Minute Thesis competition...

Transformative Talent Internship

- **Eligibility**
  - At least one year into program
  - Internship duration: between 6 and 52 weeks
  - Approval by Supervisor and Department
  - International students can participate in an internship, however must adhere to the rules & regulations stipulated in their study permit

- **Funding support from FGS (scholarship)**

- For more information visit: [https://www.ucalgary.ca/mygradskills/internships](https://www.ucalgary.ca/mygradskills/internships)

- **Encouraged but optional**
  - Internship currently is NOT an MSc or PhD degree requirement

Thank you for your Attention

Questions?
Schulich School of Engineering
Awards and Scholarships Applications
Department of Electrical and Software Engineering

Dr. Colin Dalton,
Chair, ESE Graduate Studies Scholarship Committee Chair
January 23rd, 2024

Why Should I apply?

<table>
<thead>
<tr>
<th>If you work in...</th>
<th>You need to get...</th>
</tr>
</thead>
<tbody>
<tr>
<td>A university</td>
<td>Research Funding</td>
</tr>
<tr>
<td>A start-up</td>
<td>Venture Capital, Government Grants</td>
</tr>
<tr>
<td>A company</td>
<td>Approval for time and money</td>
</tr>
</tbody>
</table>

- Good for your professional development and career
- Demonstrate ability to clearly formulate and present ideas

What Should I Apply For?

- Different purposes
  - Tuition and stipend
  - Travel awards
- Several opportunities—federal, provincial, from the University and from the department
- Know your funding agencies mandates and requirements NSERC, CIHR, SSHRC, AI....
- Details and a database search located at https://grad.ucalgary.ca/awards

How Do I Write A Strong Application?

- Make sure you are eligible for the award:
  - Immigration status
  - Program of study (MSc, PhD)
  - Research area
  - Year of study
- Be aware of all the requirements
  - Formatting and page lengths
  - Documents to include
    - Recommendation letters (ask early!)
    - Research proposal
    - CV, transcripts etc.

Start Early!
How Do I Write A Strong Application?

- Structure your application
  - Title
  - Specific aims
  - Background and preliminary work
  - Impact / significance
  - Methods
  - Resources and feasibility

- Be balanced in the technical content
  - Reviewers may or may not be experts in your area

Start Early! I mean it!

How Do I Write A Strong Application?

- Read and re-read your application for languages and content
- Get feedback
  - Colleagues and supervisors
  - People not in your specific area of research
- If need be get help from a native English speaker
- Attend scholarship workshops
  [https://grad.ucalgary.ca/my-gradskills/workshops-and-resources](https://grad.ucalgary.ca/my-gradskills/workshops-and-resources)
- Keep track of updated notifications sent out by email

What Do Reviewers Look For?

- Academic performance
  - Grades, prior scholarships/awards
- Research potential
  - Prior research experience, publications
- Communication and leadership skills
- Significance & Innovation
- Feasibility
- Clarity and conciseness
- Completeness

GAC Selection Criteria and Indicators

[https://grad.ucalgary.ca/awards/award-opportunities/selection-criteria-and-indicators](https://grad.ucalgary.ca/awards/award-opportunities/selection-criteria-and-indicators)

Role of the Department

- Department is assigned quota for some awards
- Graduate Scholarship Committee does an internal review and top applications are forwarded
- Keep track of emails from Dept regarding important notifications
Thank you for your Attention
Questions?