

Research Project Information Night

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Life Sciences DSC Academic Co-Chairs

2026 - 2027

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These slides will be posted
in our Linktree which can
be found in our Instagram
bio @queensulifesci !

Welcome!



We are excited to share and discuss information about what can seem like a daunting process. Don't worry! We are here to support you as best we can!



Sophie Profit

4th year
Life Sciences
SSP



Zach Bordan

4th Year
Life Sciences
Major

Email us! liscdsc.academics@asus.queensu.ca

A word from Dr. Jeanne Mulder

Life Sciences
Program Director



Types of Research Projects

598/599

- “Traditional” Research project
- Individual mentorship model

DISC 598/599

- Team-based research project
- Open to LISC, BHSc, BCHM, BIOL, CHEM

LISC 594/595

- Independent Study Project
- Life Sciences Majors



Benefits of Doing a Research Project

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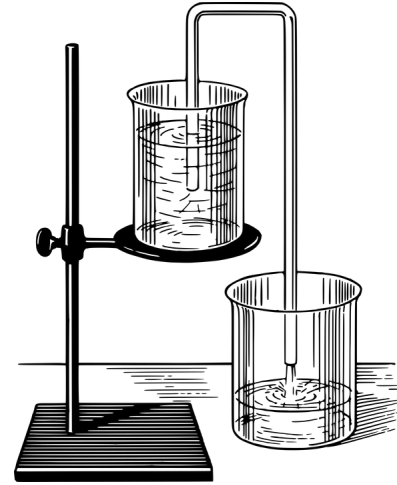
- Gain exposure and make connections in the field of research
- Gain research experience
- Research experience may be prerequisite/helpful for grad school
- Learn field-specific laboratory techniques



598/599 Research Projects

What is a 598/599 project?

- A supervised 4th year undergraduate research project
 - Worth 12.0 units (20-24 hours per week)
- Conduct your own/contribute to a research project alongside graduate students
- Can involve wet lab or statistical work



Benefits of Doing a 598/599

- Chance to study a subject of interest at greater depth
- Potential for “Accelerated” Masters Program
 - Continuation of work
- Gain soft skills



Combined BSc/MSc

- Life Sciences and Biochemistry offer a combined program
- “Accelerated” path to graduate school
- Take up to 6 units of graduate courses during 4th year
- Continue 4th year research project (only applicable to SSP)

Combined BSc/MSc (SSP-only)



- Apply between winter term of 3rd year, and December 1st of 4th year
- A- (3.7) average cGPA required in the previous 4 completed academic terms of your undergraduate program
 - Includes written application, transcript, etc.
- Collaborative process with your specific supervisor and the Graduate Assistant Wendy Cumpson (cumpsonw@queensu.ca)

Please find more details here!

<https://dbms.queensu.ca/graduate/programs/combined-bschmsc-program>



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Who is eligible for a 598/599 project?

- Both specialization students and major students
- But specialization students may have an advantage
- 598/599 project is *not* guaranteed for all LISC SSP students

598/599 Courses



- BCHM
- BMED
- CANC
- EPID
- GLPH
- IDIS
- MICR
- NSCI
- PATH
- PHAR
- PHGY
- REPD

12 Credit Units

- Intro/methods due December
- December presentation
- Final manuscript
- Poster Day
- Laboratory performance
- Expectation 20-24 hr/week in the lab/on research

STEP 1: Choose your Stream + do your Research

(Nov/Dec 2026)

Where can I find SSP sub-plan requirements?

- Arts and Science Academic Calendar under *Academic Plans, Schools, Departments - Life Sciences - Programs*

<https://www.queensu.ca/academic-calendar/arts-science/>

Note: The 3.0 Lab Credit (LIST M) is required for many sub-plans. Please always check the Academic Calendar with your year of entry to see sub-plan requirements.

SSP Sub Plans (Core Courses):

(1) Biomedical Sciences

CORE:

- **BCHM 315/316**
- OPTIONAL 598/599: BCHM, EPID, MICR, NSCI, PATH, PHGY, PHAR, REPD, CANC, DISC, BMED, IDIS, GLPH

SSP Sub Plans (Core Courses):

(2) Biomedical Discovery

CORE:

- **BCHM 315/316**
- 3.0 Laboratory credit (LIST M)
- 598/599: BCHM, BMED, EPID, GLPH, IDIS, MICR, NSCI, PATH, PHGY, PHAR, CANC, REPD, DISC

SSP Sub Plans (Core Courses):

(3) Cancer Research

CORE:

- BCHM 315/316
- 3.0 Laboratory credit (LIST M)
- PATH 310, CANC 440
- CANC 598/599

SSP Sub Plans (Core Courses):

(4) Cardiorespiratory Science

CORE:

- BCHM 315/316
- 3.0 Laboratory credit (LIST M)
- PHGY355
- 6.0 from: CRSS453, CRSS454, CRSS456
- 598/599: PATH, PHGY, or PHAR

SSP Sub Plans (Core Courses):

(5) Drug Development and Human Toxicology (DDHT):

CORE:

- BCHM 315/316
- 3.0 Laboratory credit (LIST M)
- 6.0 from: DDHT459, DDHT460, PHAR416, PHAR480
- 598/599: EPID, MICR, NSCI, PATH, PHGY, PHAR, CANC or REPD

SSP Sub Plans (Core Courses):

(6) Neuroscience:

CORE:

- BCHM 315/316
- 3.0 Laboratory credit (LIST M)
- 3.0 from: NSCI323 or NCI324
- NSCI 598/599



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Determining which 598/599 is best for you

- Do your own research prior to applying!
- Read papers published by the lab
- Reach out to current 598/599 students (such as those here today!)



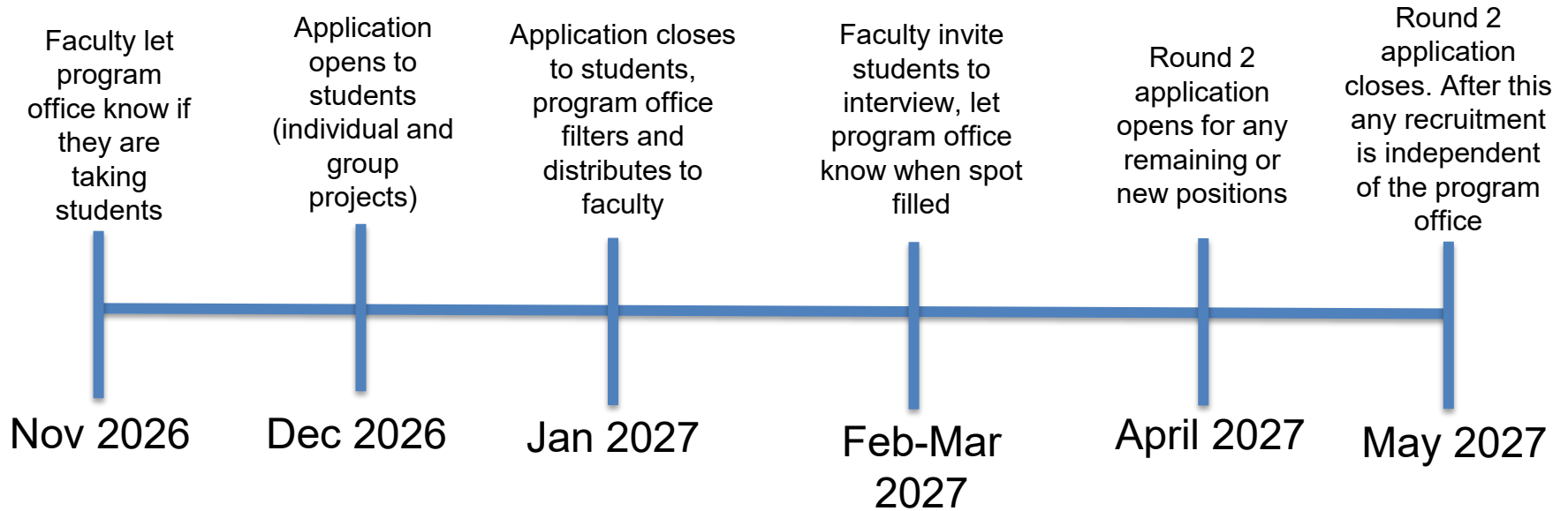
STEP 2: Applying for a Research Position

Dec 2026 – Jan 2027

Finding a Supervisor

- <https://healthsci.queensu.ca/liscbchm/life-sciences/research-projects>
- List of professors accepting students will be confirmed in November
- Keep checking the website and newsletter for information

Recruitment Process Timeline



What's on the student application?

- Program
- Year of study
- Research units (i.e. 3.0, 6.0, 12.0 units)
- Terms (i.e. fall/winter)
- Unofficial transcript and CV
- Round 1: Students rank max 7 supervisors/group research opportunities
- Statement of interest for each supervisor/additional info for each group research opportunity ranked
- Round 2: Students rank max 3 supervisors they would like to work with and provide a statement of interest for each
- Each round is for both individual and group (DISC) projects

What to include on statement of interest

Include the following:

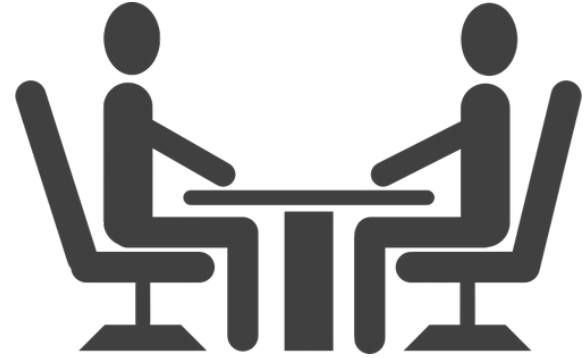
- Explain why you are interested in their research specifically
- A brief description of your prior research experience, if any (not a requirement!)
- Keep it brief

STEP 3: Interview with Supervisor

Feb-March 2027;
May-June 2027

Interviews

- Familiarize yourself with their published articles and lab research
- Prepare some questions about the lab and the potential 598/599 project
- Possible individual or group interviews



What NOT to do

- Do **NOT** send out a mass email to a list of professors
- Do **NOT** go unprepared to interview
 - Be prepared to ask and answer questions

Don't think a 598/599 is for you?

- Other ways to get research experience during your undergrad:
 - Independent research project (595/6.0 unit, or 594/3.0 unit)
 - SWEP
 - Volunteering

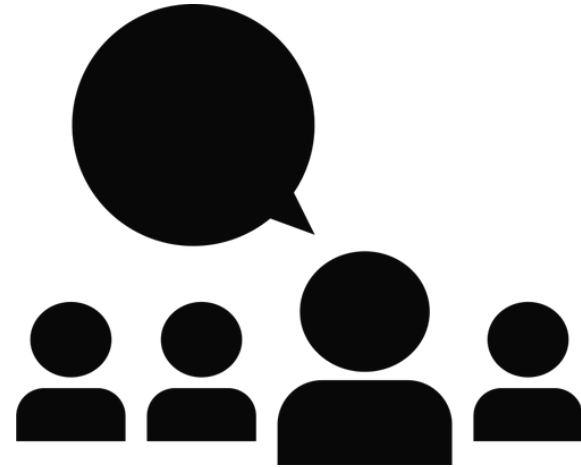


STEP 4: Stay in Contact!

Summer before 598/599 Project

After getting a project:

- Stay in contact with your supervisor over the summer
- Don't be afraid to ask questions!
- Potential for weekly/ bi-weekly meetings with some supervisors to keep in touch



Timeline Overview



DEC-JAN 2026

- Apply to projects
through the central
application process



JAN-FEB; MAY-JUNE 2027

- Interview with
supervisors
- Confirm your project



SUMMER 2027

- Stay in contact with
your supervisor

Note: some supervisors do not receive funding until the winter term, accordingly they will not be able to confirm students until then - so don't worry!

598/599 Mark Breakdown

Fall

- Literature review (40%)
- Oral presentation (30%)
- Research performance evaluation (30%)

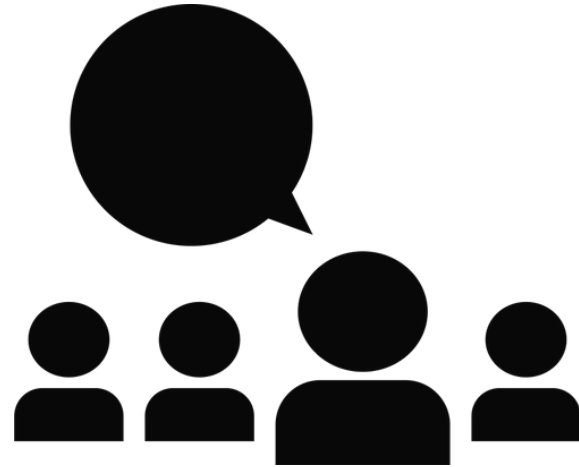
Winter

- Poster presentation (30%)
- Final written thesis (40%)
- Research performance evaluation (30%)

DISC 598/599 Projects

What is a DISC project?

- A collaborative research project
- Teams of 5 under 1 supervisor
- Projects can be ground-up, or built from your supervisor's existing work
- 12.0 units:
 - DISC 598 (6.0) in fall
 - DISC 599 (6.0) in winter



What makes a DISC project different than a 598/599?

598/599	DISC 598/599
Student experience is variable - dependent on project supervisor.	Course has more structured sessions. Group experience variable – dependent on project
Work is done alone, or in collaboration with your supervisor's lab.	Work is done in groups of 5.
Projects are carried out in supervisor's lab space.	Projects can be carried out in DISC lab spaces, though some students integrate into their supervisor's home lab.

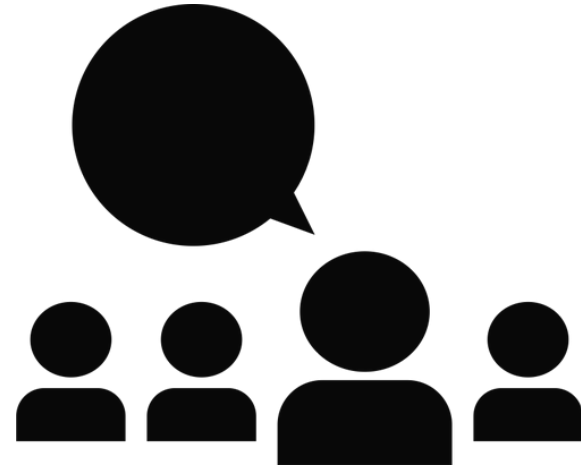
DISC Streams

- Currently, the DISC program is separated into:
 - Molecular Biology
 - Human Physiology
 - Neurotech
 - Data Science
 - Teaching and Learning
- As the program grows, streams are subject to change



DISC Prerequisites

- Enrolment in BIOL, CHEM, BCHM, BHSc, or LISC
- Minimum 3.2 GPA
- Minimum 3rd year standing
 - Priority given to 4th year applicants



How to apply for a DISC 598/599?

- Through the same central application that you will use for individual mentored projects
- Available start of December
- Rank max top 7 projects (individual and/or DISC)

Who is selected for a DISC Project?

- Priority is given to 4th year applicants
- Past the 3.2 GPA minimum, GPA is not a factor in selection
- This year, there are ~80 students enrolled; this number is subject to change



Starting your DISC Project

- Students will be placed into lab groups taking their preferred subject area into account when possible, and assigned to a supervisor
- Supervisors will reach out about required training
 - Many DISC Projects spend the first few weeks brainstorming project ideas and completing required lab trainings



Course Overview

Assessment Scheme

	CLOs	Competencies	Weight
Completion of mandatory online training	1	D/E/F	Completion*
Scoping Review			25%
Cumulative Project Plan (Oral + Written)	1/2	A/B/D/E/F/G	40%
Research Development Self-Reflections			5%
Peer Team Research Evaluation			10%
PI/Faculty Research Evaluation			20%
<i>*please note, your final grade for DISC598 will not be released until these online trainings are complete</i>			

- Emphasis is not on completing your project
- Goal of projects isn't always a paper

DISC 599	CLOs	Competencies	Weight
Poster + Poster Presentation	1/3/4	B/C/D/E/F/G	5%
Final Oral Presentation	1/3/4	B/C/D/E/F/G	10%
Group Thesis and Portfolio	1/2/3/4	A/B/D/F/G	50%
Peer Team Research Evaluation	1/3	A/E/F	10%
PI/Faculty Research Evaluation	1/3	A/E/F	20%
Research Development Self-Reflections	1/3	A/E/F	5%
<i>*please note, your final grade for DISC598 will not be released until these online trainings are complete</i>			

Independent Study Project: 594/595

LISC 594/595 is Available for 4th Year LISC Major Students

- Independent Study Courses
- May be counted towards “option” course requirements
- Apply through same central application process as 598/599 projects in December

Independent Study Structure

- Communicate with your supervisor to plan your independent study
- There will be variation between supervisors

CURRENT STUDENTS

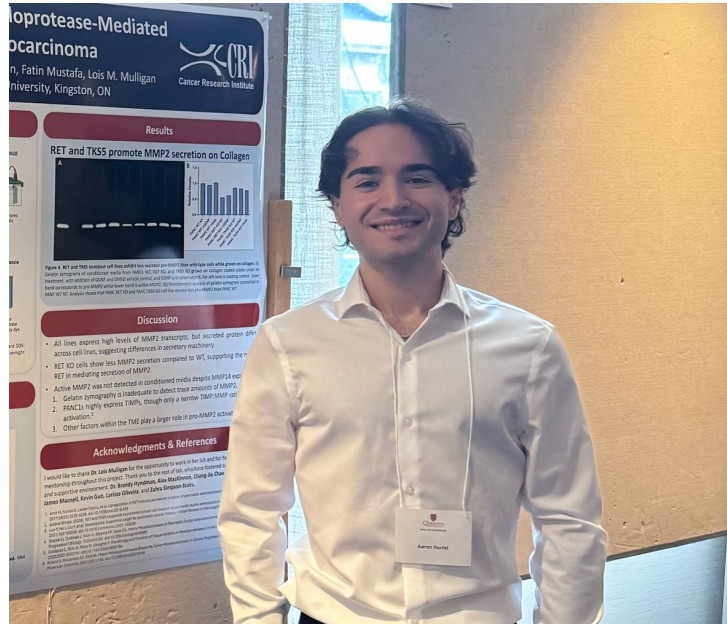
Koen Mahon – Path 598/599



Currently completing a **PATH 599** under the supervision of Dr. Kimberly Dunham-Snary, working title "*Mechanisms Driving Megakaryocyte Metabolic Remodeling in Cardiometabolic Disease*"

Email: 22kcm3@queensu.ca

Aaron Derfel – CANC 598/599 Accelerated Master's Candidate



Currently completing a **CANC 599** project under the supervision of Dr. Lois Mulligan, entitled *“Investigating the role of RET and TKS5 in Matrix Metalloprotease-Mediated Invasion in Pancreatic Ductal Adenocarcinoma.”* He is also pursuing an accelerated Master's.

Email: 22GDP2@queensu.ca

Olivia Farwell – NSCI 598/599



Completing an NSCI 598/599 under the supervision of Dr. Michael Hendry, investigating EGFR inhibition effects on sensory neuron regeneration following peripheral nerve injury. I really enjoy the variety of hands on experience in my lab.

Email: 22bgs2@queensu.ca

Emma Klimczack – PHAR 598/599



Completing a PHAR598/599, Investigating the Effects of Prenatal Valproic Acid Exposure on Placental Development and Function in Association with Fetal Neural Tube Defects.

Email: 22KXR1@queensu.ca

Sophie Profit – CANC 598/599



Currently completing a CANC 598/599 project with Dr. Edmond Chan, investigating whether BH3-dependent activation of the mitochondrial integrated stress response shapes ferroptosis sensitivity and chemoresistance in cancer cells.

Email: 22rgh2@queensu.ca

Sarah Paul – NSCI 598/599



Currently completing a **NSCI 598/599** project with Dr. Jagdeep Walia. My project involves using polymer nanoparticle-mediated base editing as a possible one-time therapeutic for classic galactosemia.

Email: 22qng@queensu.ca

Lily Grill – EPID 598/599



Currently completing an **EPID 598/599** with Dr. Boris Zevin, titled *"Impacts of Metabolic Bariatric Surgery (MBS) on Canadian Armed Forces (CAF) Military Personnel."* Her project uses a qualitative approach to explore how CAF members who have undergone MBS perceive its impact on their QOL, health, and military careers beyond traditional clinical outcomes.

Email: 22RFQ2@queensu.ca

Ryan Mickleson – PATH 598/599

Current TMED MSc Student



Completed a **PATH 598/599** under Dr. Kimberly Dunham-Snary, titled "*High-Fat Diet Alters Skeletal Muscle Gene Expression in a Mouse Model of Cardiometabolic Disease*".

Currently completing an MSc in Translational Medicine under Dr. Stephen Archer & Dr. Patricia Lima, titled "*Exploring the Link Between Inflammation and Right Ventricular Failure in Conditional Knockout Mice with Pulmonary Arterial Hypertension*".

Email: 21rm83@queensu.ca

Quentin Avery – REPD 598/599

Current Anatomical Sciences MSc Student



Completed a **REPD 598/599** project under the supervision of Dr. Chandra Tayade, entitled "*The Role of Cannabidiol in Modulating Dorsal Root Ganglion Immune Microenvironment and in Neuroinflammation in Endometriosis*"

Email: 21qsa@queensu.ca

Clea Oshinowo – MICR 598/599



Currently completing a **MICR 598/599** project with Dr. Paul Kubes, investigating the integration of macrophage receptor with collagenous structure (MARCO) in mast cell extracellular granules through the synthesis of artificial biomolecular condensates.

Email: 22LL30@queensu.ca

Prof Mentorship!

- Sessions with various professors to meet/network
- Ask questions & learn about research
- Sign up for a session next semester!
- Info will be posted on @queensulifesci
Instagram and Facebook!

Any Questions?

Feel free to email any of us or ask questions to us right after!

LISC DSC Academics	academicslsscqueensu@gmail.com
Life Sciences Office	lifesci@queensu.ca

**Thank you for your
attention!**