

Queen's School of Computing

# Graduate Student Handbook



2020-21



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## Note to the 2020-21 Incoming Class

Dear all,

As you're no doubt aware, Canada and other countries have been dealing with Covid-19 and its effects for the majority of 2020. Starting graduate studies at this time, in the midst of a global pandemic, is a unique challenge to say the least.

This handbook was written a couple of years ago in a context where students, faculty, and staff could meet face-to-face; where members of the university community could access buildings and campus resources in person; and where friends went out for food, drinks, and entertainment without needing to wear a mask or keep physically distanced from others.

While the information in this handbook still applies for the day when we can do all of these things in person once again, things will remain different and distanced for at least the first few months of the academic year. To support us as we navigate this weird time, the university and other organizations have developed a number of resources that we can access if and when we need them. Below, you'll find a list of some of these resources.

- Queen's University: <https://www.queensu.ca/covidinfo/>
- Queen's School of Computing: <https://www.cs.queensu.ca/covid19/>
- KFL&A Health Unit: <https://www.kflaph.ca/en/healthy-living/novel-coronavirus.aspx>
- Government of Ontario: <https://covid-19.ontario.ca>

You should also know a few other things. Face masks are mandatory in all public spaces, both on campus and in Kingston. Covid-19 testing is available to anyone who wishes to be tested, even if you don't have an Ontario health card. The testing site is currently located at the Leon's Centre in downtown Kingston (1 Tragically Hip Way), but the health unit is also looking into opening a testing site on Queen's campus. Finally, the Government of Canada has released a "Covid Alert" contact-tracing app for both iOS and Android, and it can be downloaded freely from your phone's App Store.

Lastly, we're all in this together. If you ever feel the need to reach out to anyone, then reach out: to fellow grad students, to the GCS executive, to your supervisor, to your course instructor, to an SGPS peer advisor, or to friends and family. You can find contact information for services such as the GCS Discord channel, the SGPS Peer Advisor Program, and Queen's Student Wellness Services in the pages of this handbook.

Best of luck as you begin your grad studies, and welcome to the Queen's School of Computing!

# Welcome

## ...to Kingston

Kingston is a city in eastern Ontario, roughly halfway between Toronto, Ontario and Montreal, Quebec. It is on the eastern edge of Lake Ontario, adjacent to both the Cataraqui River and the St. Lawrence River.

Kingston had the honour of being the first capital of the Province of Canada from 1841 to 1844, before Canada became a nation. Kingston was a military stronghold during the 19th century, and it remains a military city to this day with both current and historic military installations across the city. Due to its history and its many old stone buildings, Kingston is sometimes called the “Limestone City”.

Kingston is well-connected to the rest of the province. Highway 401, the busiest highway in North America, is located on the northern edge of Kingston. Train service is provided by Via Rail to Toronto, Ottawa, and Montreal. Air service is provided by Air Canada from Kingston’s Norman Rogers Airport to Toronto’s Pearson Airport. A ferry runs from downtown Kingston to Wolfe Island.

Kingston has two universities and one college: Queen’s University, the Royal Military College of Canada, and St. Lawrence College.







## ...to Queen's University

Queen's University, founded in 1841, is one of the oldest universities in Canada. The student population is around 26,000, of whom about 2,000 are enrolled in graduate studies. About 100 of these graduate students are registered in the School of Computing.

The main campus of the university is bordered to the south by Lake Ontario, to the east by City Park, and to the north and west by student residences and private housing. Downtown Kingston is about 10-15 minutes away from campus by foot. There is also a "west campus", located approximately 20 minutes to the west of main campus by foot, which is where the Faculty of Education and some student residences are located.

In addition to the library and archives system, Queen's University also has a number of museums. The Agnes Etherington Art Centre is located in the center of campus along University Avenue. The Miller Museum of Geology is located in Miller Hall on Union Street. The Museum of Health Care is located on the grounds of Kingston General Hospital at the south end of campus.



## ...to the School of Computing

The School of Computing is located in Goodwin Hall on the northeast edge of main campus. A "technology centre" provides an integrated set of buildings linking the School of Computing to both the Department of Electrical and Computer Engineering in Walter Light Hall and the Integrated Learning Centre in Beamish-Munro Hall. School of Computing administrative offices are located on the 5th floor of Goodwin Hall.

The School of Computing was established in 1969, and it has an academic staff with considerable teaching and research experience. In addition to its graduate programs, the School offers an honours Bachelor's degree with a concentration in computing.



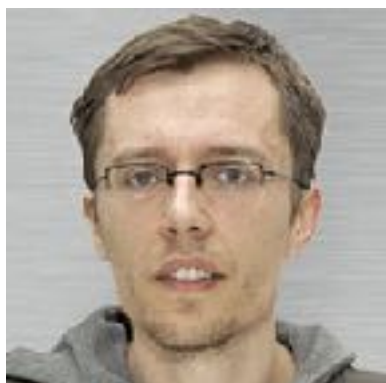
**Reading material.** This handbook is only meant to get you started with some basic information about the School of Computing and graduate life. For more information, including school policies and regulations, see the School of Computing Graduate Studies website at <http://www.cs.queensu.ca/students/graduate/>.





# Faculty and Staff

## Faculty Members



Bram Adams  
*Associate Professor*



Selim Akl  
*Professor*



Furkan Alaca  
*Assistant Professor*



Dorothea Blostein  
*Professor*



Robin Dawes  
*Associate Professor*



Steven Ding  
*Assistant Professor*



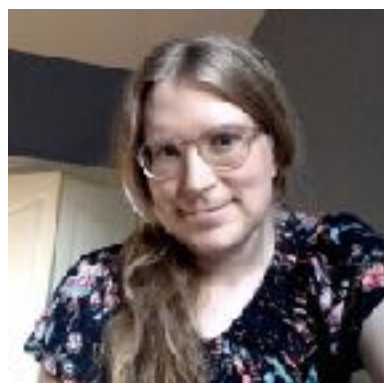
Juergen Dingel  
*Professor*



Dave Dove  
*Lecturer,  
Continuing*



Qingling Duan  
*Assistant Professor and  
Queen's National Scholar*



Jana Dunfield  
*Assistant Professor*



Randy Ellis  
*Professor and  
Queen's Research Chair*



Gabor Fichtinger  
*Professor and  
Canada Research Chair*



Sidney Givigi  
*Associate Professor*



Nick Graham  
*Professor*



Ahmed Hassan  
*Professor and  
Canada Research Chair*



Hossam Hassanein  
*Professor and  
Director*





Ting Hu  
*Assistant Professor*



David Lamb  
*Associate Professor and  
Undergraduate Chair*



Richard Linley  
*Lecturer,  
Continuing*



Burton Ma  
*Associate Professor*



Alan McLeod  
*Associate Professor,  
Continuing*



Parvin Mousavi  
*Professor*



Christian Muise  
*Assistant Professor*



Sara Nabil  
*Assistant Professor*



Wendy Powley  
*Associate Professor*



David Rappaport  
*Professor*



Kai Salomaa  
*Professor*



Amber Simpson  
*Associate Professor and  
Canada Research Chair*



David Skillicorn  
*Professor*



Sameh Sorour  
*Assistant Professor*



James Stewart  
*Professor*



Catherine Stinson  
*Assistant Professor and  
Queen's National Scholar*





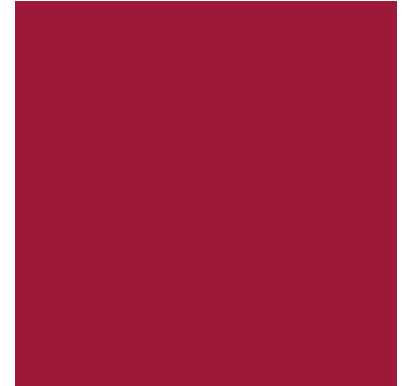
Yuan Tian  
*Assistant Professor*



Farhana Zulkernine  
*Associate Professor*



Mohammad Zulkernine  
*Professor, Graduate Chair, and  
Canada Research Chair*





## Emeriti



James Cordy  
*Professor Emeritus*



Bob Crawford  
*Professor Emeritus*



Janice Glasgow  
*Professor Emerita*



Mike Jenkins  
*Professor Emeritus*



Glenn MacEwen  
*Professor Emeritus*



Pat Martin  
*Professor Emeritus*



Bob Tennant  
*Professor Emeritus*





## Cross-Appointed Faculty Members

Gunnar Blohm	<i>Professor, Dept. of Biomedical and Molecular Sciences</i>
Thomas Dean	<i>Associate Professor, Dept. of Electrical and Computer Engineering</i>
Michael Greenspan	<i>Associate Professor, Dept. of Electrical and Computer Engineering</i>
Keyvan Hashtrudi-Zaad	<i>Professor, Dept. of Electrical and Computer Engineering</i>
Diane Kelly	<i>Professor, Royal Military College</i>
Scott Knight	<i>Associate Professor, Royal Military College</i>
David Maslove	<i>Assistant Professor, Dept. of Medicine</i>
Joshua Mozersky	<i>Associate Professor, Dept. of Philosophy</i>
Aboelmagd Noureldin	<i>Professor, Royal Military College</i>
Anna Panchenko	<i>Professor and Canada Research Chair, Dept. of Pathology and Molecular Medicine</i>
Jordan Poppenk	<i>Assistant Professor, Dept. of Psychology</i>
Damian Redfearn	<i>Professor, Dept. of Medicine</i>
Francois Rivest	<i>Associate Professor, Royal Military College</i>
John Rudan	<i>Professor and Head, Dept. of Surgery</i>
Karen Rudie	<i>Professor, Dept. of Electrical and Computer Engineering</i>
Nancy Salay	<i>Associate Professor, Dept. of Philosophy</i>
Louise Winn	<i>Professor, Dept. of Biomedical and Molecular Sciences</i>
Ying Zou	<i>Professor and Canada Research Chair, Dept. of Electrical and Computer Engineering</i>

**Talking to Faculty.** Some grad students, especially those from outside of North America, feel like professors are only around to teach you and to tell you what to do from their ivory tower. This is certainly not the case! Professors are people just like grad students. Don't feel intimidated or afraid to speak with a professor. You are their colleague.

## Technical and Administrative Staff



Ben Hall  
*Senior Business Analyst*



Richard Linley  
*System Application Specialist*



Doug Martin  
*Systems Specialist*



Sara Perosa  
*Information and Technical Analyst*



Aaron Visser  
*Systems Analyst*



Tom Bradshaw  
*School Manager,  
Administration & Technology*



Nancy Churchman  
*Research Manager*



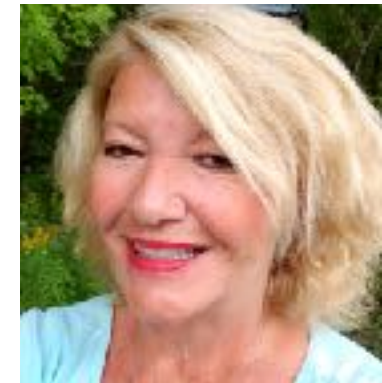
Erin Gunsinger  
*Senior Secretary*



Noreen Haun  
*Research Administrative Assistant*



Karen Knight  
*Undergraduate Program Assistant*



Deborah Lewis  
*CREATE Administrative Coordinator*



Carly Napier  
*Administrative Secretary*



Debby Robertson  
*Graduate Program Assistant*



Aysha Tayab-Rätsep  
*Marketing and Communications Coordinator*



Laurie Truman  
*Financial Assistant*



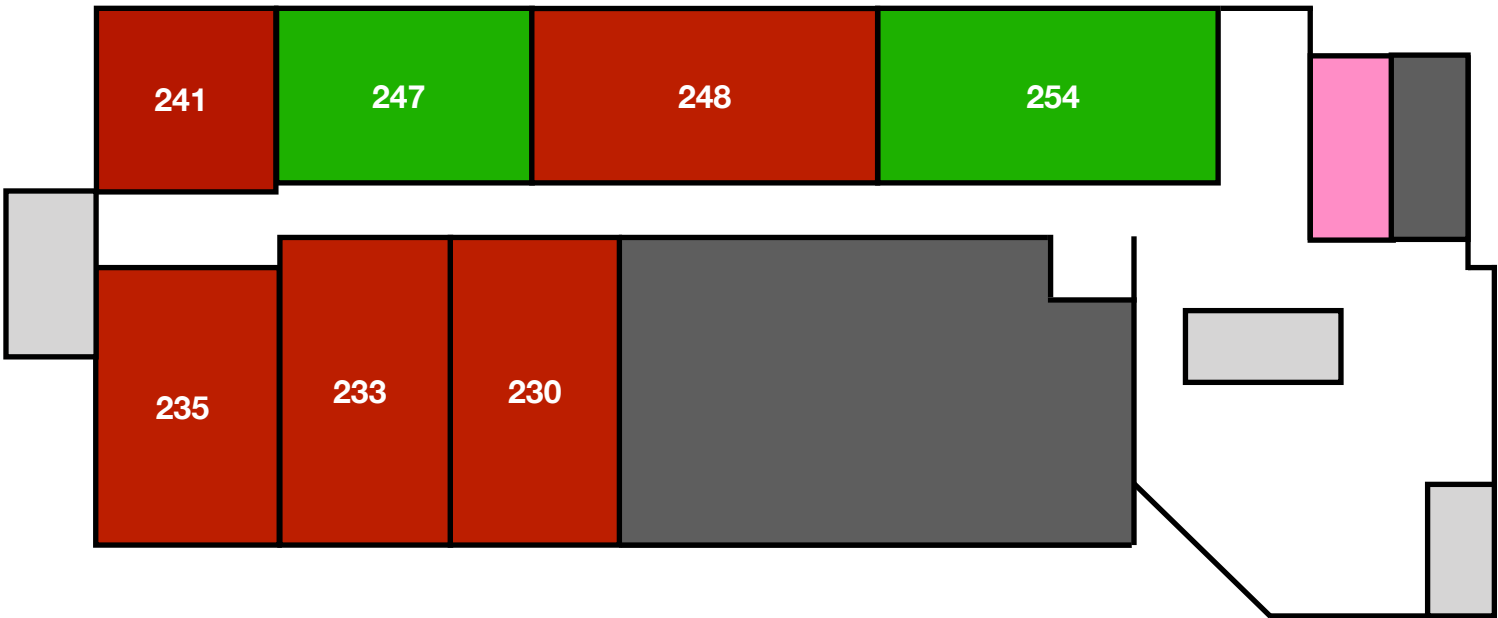


## Research Groups

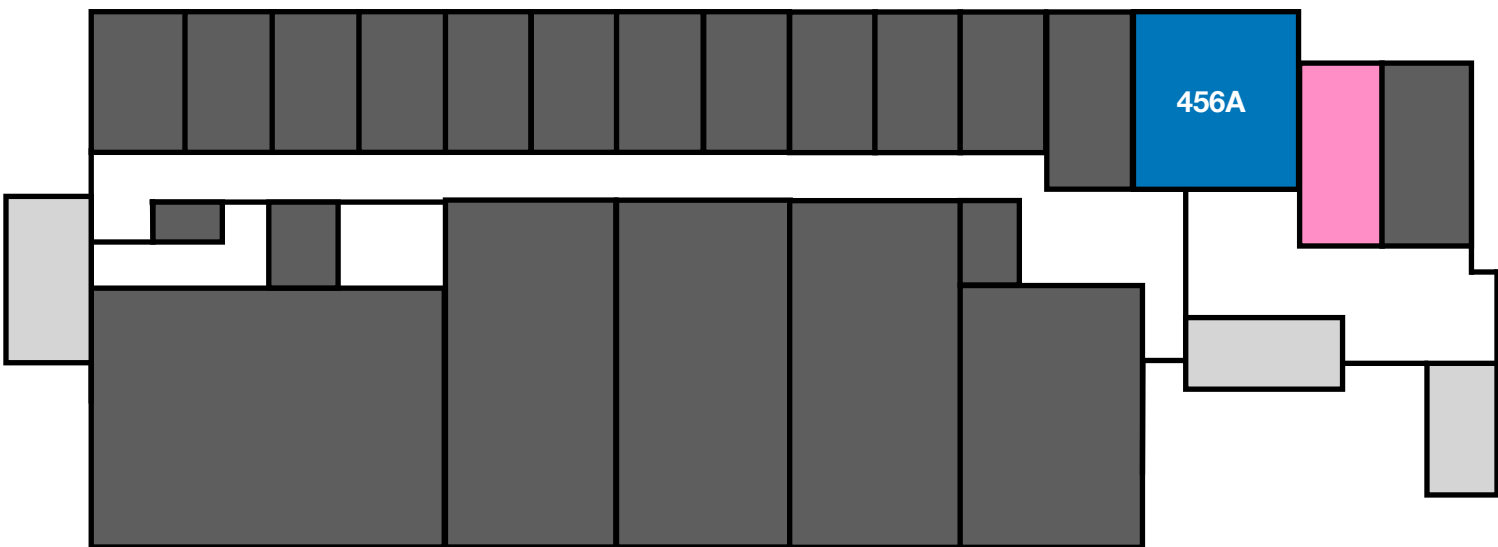
Big-Data Analytics and Management Laboratory <i>Director: Farhana Zulkernine</i>	Goodwin Hall, Room 633
Computational Geometry Laboratory <i>Director: David Rappaport</i>	Goodwin Hall, Room 532
Computational Genomics Laboratory (Duan Lab) <i>Director: Qingling Duan</i>	Botterell Hall, 5th Floor
Discrete Event Control Systems Group <i>Director: Karen Rudie</i>	Walter Light Hall, Room 414
EQUIS Collaborative Gaming Technology Laboratory <i>Director: Nick Graham</i>	Robert Sutherland Hall, Room 512
Formal Languages and Automata Theory Group <i>Director: Kai Salomaa</i>	Goodwin Hall, Room 456A
Joints and Connective Tissues Laboratory <i>Director: James Stewart</i>	Goodwin Hall, Room 732
Laboratory for Percutaneous Surgery <i>Director: Gabor Fichtinger</i>	Goodwin Hall, Room 747
Medical Informatics (Med-i) Laboratory <i>Director: Parvin Mousavi</i>	Goodwin Hall, Room 753
Modeling and Analysis in Software Engineering Group <i>Director: Juergen Dingel</i>	Goodwin Hall, Room 624
Parallel and Unconventional Computation Group <i>Director: Selim Akl</i>	Goodwin Hall, Room 456A
Queen's Reliable Software Technology Group <i>Director: Mohammad Zulkernine</i>	Goodwin Hall, Room 631
Smart Information Management Laboratory <i>Director: David Skillicorn</i>	Goodwin Hall, Room 528
Software Analysis and Intelligence Lab (SAIL) <i>Director: Ahmed Hassan</i>	133 Princess Street
Software Reengineering Research Group <i>Director: Ying Zou</i>	Goodwin Hall, Room 731
Software Technology Laboratory <i>Director: James Cordy</i>	Goodwin Hall, Room 624
Telecommunications Research Laboratory <i>Director: Hossam Hassanein</i>	Goodwin Hall, Room 627
Tensegrity Research Group <i>Director: Dorothea Blostein</i>	Goodwin Hall, Room 720

# Building Maps






Goodwin Hall, Second Floor



Goodwin Hall, Fourth Floor



## Legend

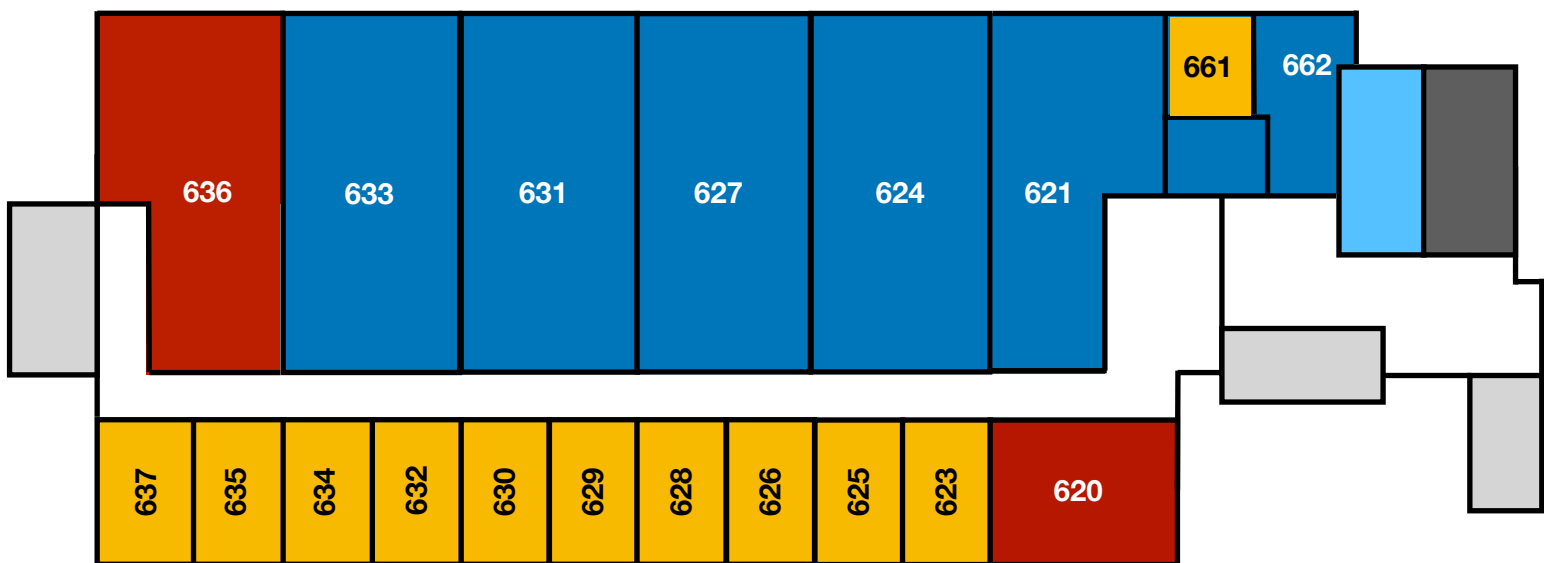
- |   |  |   |
|---|--|---|
|  School/administration |  Faculty/staff office |   |
|  Laboratory            |  Classroom            |  Washrooms |
|   |  Washrooms          |   |



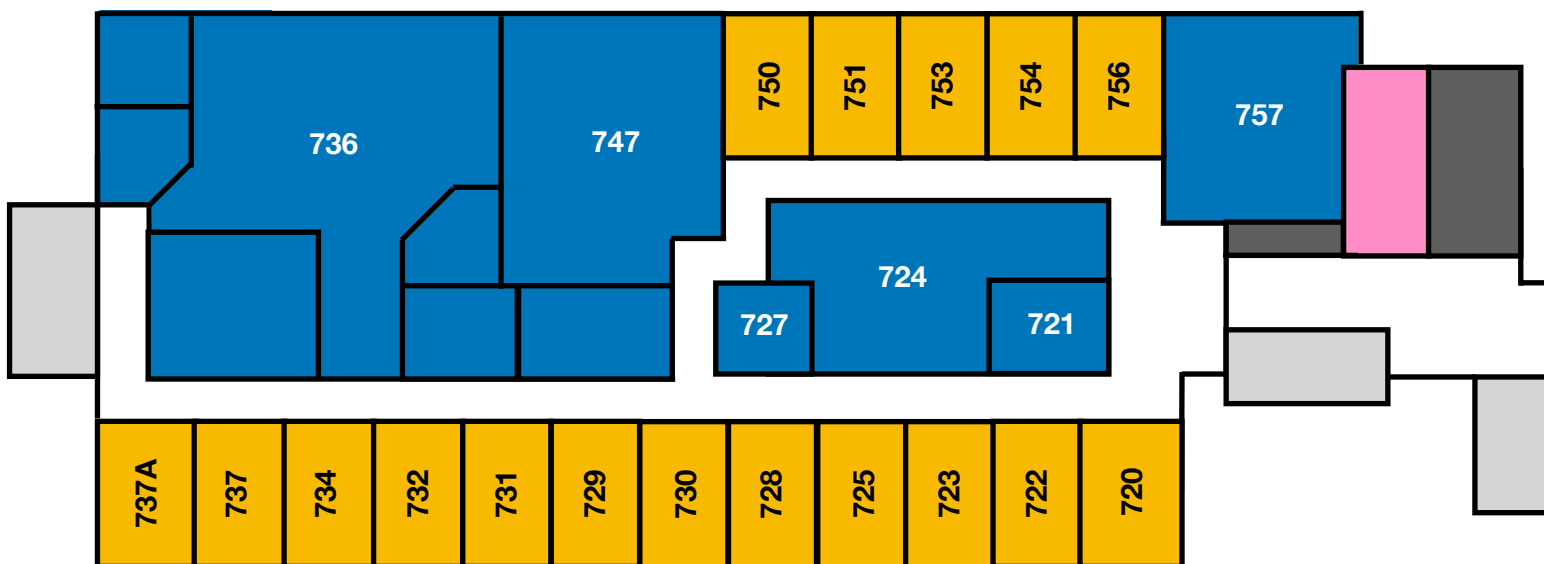
Goodwin Hall, Fifth Floor



Goodwin Hall, Sixth Floor

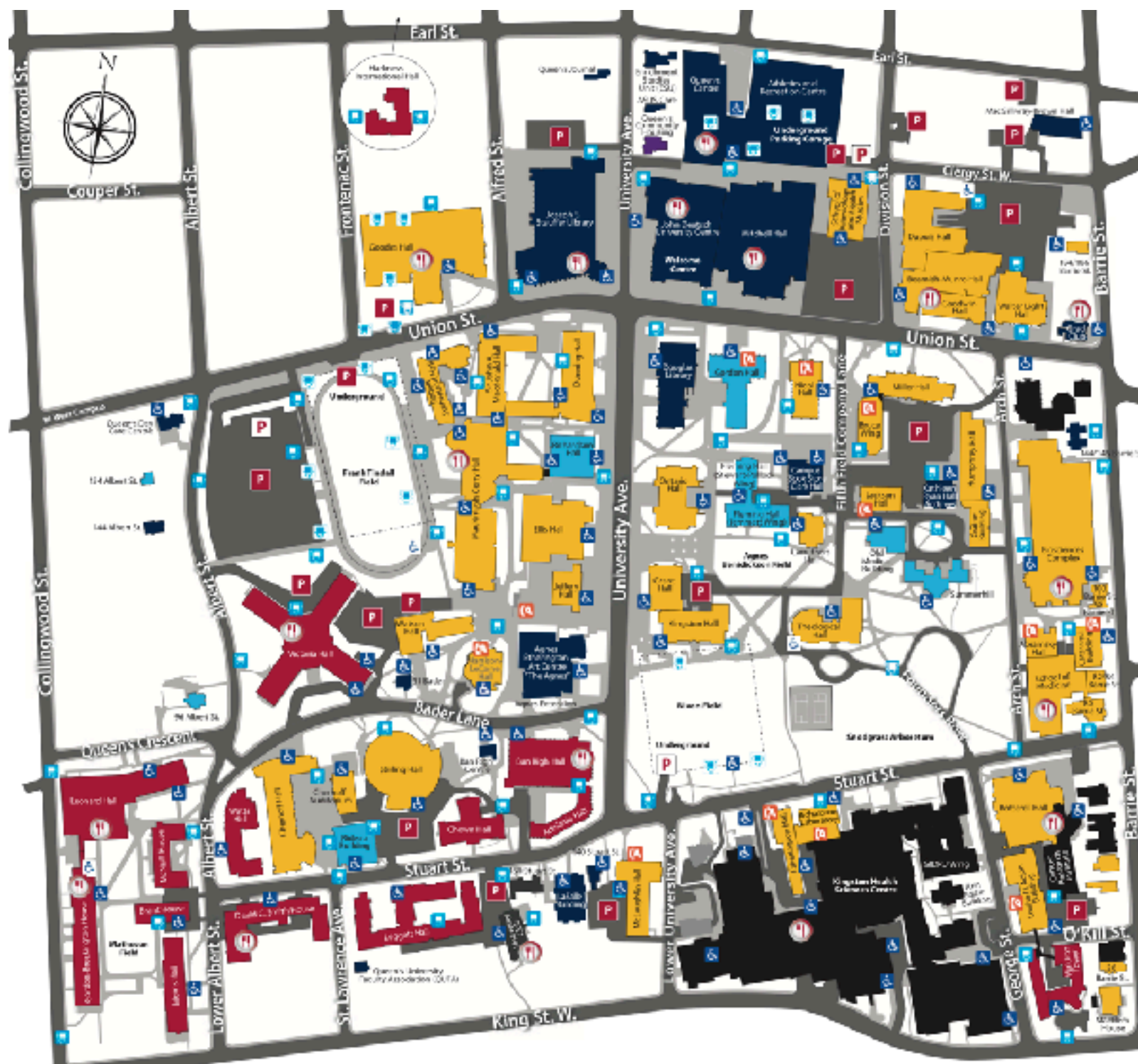


Goodwin Hall, Seventh Floor



# University and City Maps

## Queen's University (Main Campus)



### Legend



Academic/Faculty



Student Life/Student Services



Non-Queen's



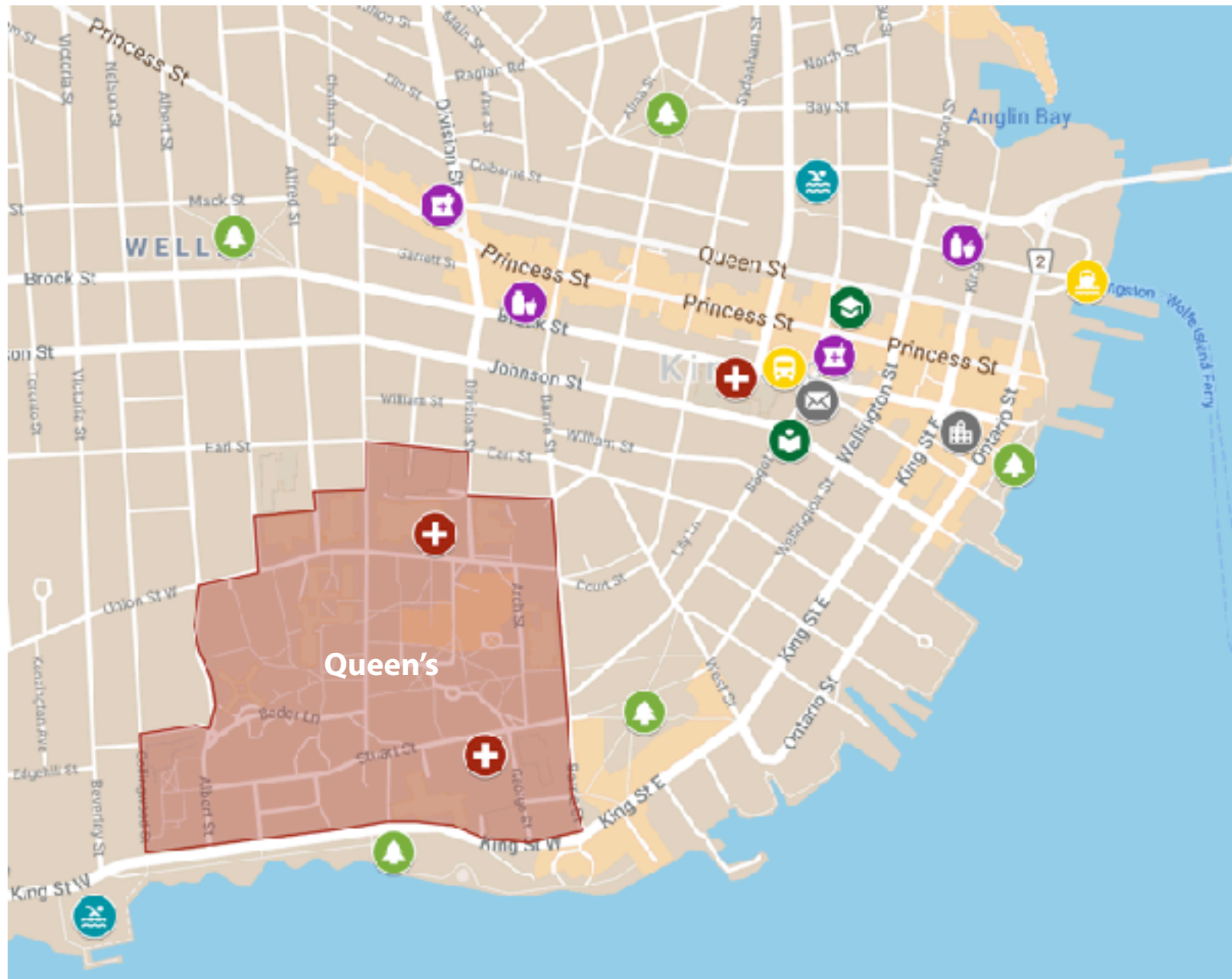
Administration














Residence



## City of Kingston (Downtown)



### Legend

	Hospital/Clinic		Ferry to Wolfe Island		Public Swim Area
	SAIL Lab (Computing)		Kingston City Hall		Grocery Store
	Public Library		Post Office		Pharmacy
	Downtown Transfer Point		Public Park		

# University Resources

## Libraries

Queen's University has two main libraries: Stauffer Library and Douglas Library. Both of these libraries are located at the intersection of University Avenue and Union Street.

Computing Science textbooks, monographs, journals and technical reports from dozens of universities and research institutes are all housed in Douglas Library.

Other books and periodicals of interest, particularly for Mathematics and Psychology, may be found in Stauffer Library or in other branch libraries around campus.

Library hours vary based on day and season. For more details, visit the library's website at <http://library.queensu.ca>.

**Library Off-Campus VPN.** You can access journal articles, conference proceedings, and some books from off-campus by logging into the Queen's Library VPN at

<https://login.proxy.queensu.ca/login>



## University Computing Facilities

Queen's Information and Technology Services (ITS) manages all technical systems outside of the School of Computing. ITS is also responsible for the NetID system, Solus, MyQueensU, and OnQ.

The IT Support Centre is located in Mackintosh-Corry Hall, room B205. The support team can also be contacted via web form: <https://www.queensu.ca/its/forms/itsc/helpform/>.

All issues relating to School of Computing equipment should be directed to the school's technical staff. If you aren't sure who to contact, the school's technical staff will be happy to help.

## News and Communications

The official university newspaper is the Queen's Gazette. It is published in print and online at <https://www.queensu.ca/gazette/>.

The Queen's Journal is the student-run campus newspaper. It is also published in print and online at <https://www.queensjournal.ca>.



## Campus Bookstore

The university campus bookstore carries course textbooks and other reading material, as well as stationery and office supplies. They also have a selection of sweaters, shirts, and other Queen's apparel for sale. The bookstore is located in Clark Hall, and is usually open M-F 9am-6pm.

## Health and Safety

The Department of Environmental Health and Safety is responsible for all aspects of maintaining a safe and healthy work environment at Queen's University. Their website can be found at <https://www.safety.queensu.ca>.



As of June 1, 2019, smoking, vaping, and any other use of tobacco or cannabis products is prohibited on all Queen's University property. For more details about Queen's smoke-free campus policy, see <https://www.queensu.ca/risk-and-safety/smoke-free-queens>.

## Health Insurance

Domestic students should be covered by either their provincial health plan or a private health plan. Domestic students who are not covered by a plan, as well as all International students who do not have a similar health plan, are required to enrol in the University Health Insurance Program (UHIP).

## Student Organizations



**Graduate Computing Society.** The Queen's Graduate Computing Society (GCS) represents the interests of graduate students in the School of Computing. The GCS distributes information, organizes regular social events, and promotes an active and engaging environment for graduate students.

Some events held by the GCS in the past include trivia nights, pub nights, potlucks, day trips, sports events, bowling, and paint nights.

Current GCS executives are listed below. Students can get involved with the GCS by running in the annual election, which is held at the beginning of September. For more information, see our website at <http://flux.cs.queensu.ca/gcs/>.

Taylor J. Smith	<i>President</i>	<a href="mailto:tsmith@cs.queensu.ca">tsmith@cs.queensu.ca</a>
Alice Santilli	<i>Vice-President (Operations)</i>	<a href="mailto:alice.santilli@queensu.ca">alice.santilli@queensu.ca</a>
Emily Kaczmarek	<i>Vice-President (University Affairs)</i>	<a href="mailto:13ek38@queensu.ca">13ek38@queensu.ca</a>



**Society of Graduate and Professional Students.** The Society of Graduate and Professional Students (SGPS) is the university-level student society for all graduate students, law students, and education students. The SGPS represents and advocates for graduate students at all levels of university administration, as well as to the municipal, provincial, and federal governments.

Contact information for the 2020-21 SGPS executives is provided below. Students can get involved with the SGPS by attending general meetings (announced once per term) or by running in the annual election, which is held in the winter term. Students can also contact the school's SGPS Liaison Officers in the GCS with any questions or concerns.

Justine Aman	<i>President</i>	<a href="mailto:president@sgps.ca"><u>president@sgps.ca</u></a>
Anthony Lomax	<i>Vice-President (Community)</i>	<a href="mailto:vp.community@sgps.ca"><u>vp.community@sgps.ca</u></a>
Tamara Mitterer	<i>Vice-President (Finance and Services)</i>	<a href="mailto:vp.finance@sgps.ca"><u>vp.finance@sgps.ca</u></a>
Courtney Bannerman	<i>Vice-President (Graduate)</i>	<a href="mailto:vp.graduate@sgps.ca"><u>vp.graduate@sgps.ca</u></a>
John Jeyaratnam	<i>Vice-President (Professional)</i>	<a href="mailto:vp.professional@sgps.ca"><u>vp.professional@sgps.ca</u></a>

**SGPS Peer Academic Advisor Program.** The Peer Academic Advisor Program is a free, confidential service that provides students with advice and support from a safe, non-judgmental fellow grad student. To get in touch, contact [advisors@sgps.ca](mailto:advisors@sgps.ca).



**PSAC Local 901.** The Public Service Alliance of Canada (PSAC) is the union representing teaching assistants, teaching fellows, research assistants, and postdoctoral fellows at Queen's University.

Our union works on behalf of students and fellows to ensure that students are safe and healthy at work, are fairly paid, and are fairly represented during labour negotiations, among other things. Union members also provide support to employees at other organizations who are going through labour disputes.

Contact information for the 2020-21 union executives is provided below. Students may also get involved with the union by joining a committee or by acting as a department steward.

Stéphanie McKnight	<i>President</i>	<a href="mailto:president@psac901.org"><u>president@psac901.org</u></a>
Doug Yearwood	<i>Vice-President (Community Relations)</i>	<a href="mailto:vpc@psac901.org"><u>vpc@psac901.org</u></a>
Ramjee Kandel	<i>Vice-President (Postdoctoral Scholars)</i>	<a href="mailto:vppd@psac901.org"><u>vppd@psac901.org</u></a>
Hannah Hunter	<i>Vice-President (Research Assistants)</i>	<a href="mailto:vp.ra.psac901@gmail.com"><u>vp.ra.psac901@gmail.com</u></a>
Morgan Oddie	<i>Co-Chief Steward</i>	<a href="mailto:chiefsteward@psac901.org"><u>chiefsteward@psac901.org</u></a>
Yam Gotame	<i>Co-Chief Steward (Grievances)</i>	<a href="mailto:chiefsteward2@psac901.org"><u>chiefsteward2@psac901.org</u></a>

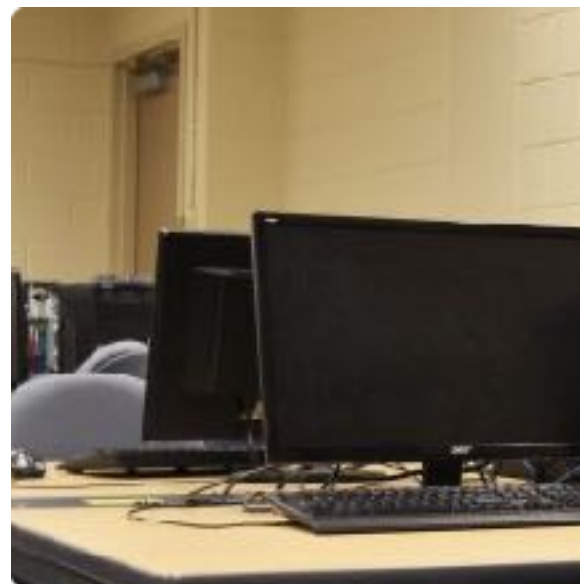


## School Resources

### Office and Lab Space

All full-time students are provided with office or lab space. Currently most offices are shared by four students, although some of the larger offices have a larger population.

Access to Goodwin Hall and to offices/labs is facilitated through the use of iButtons. iButton setup and distribution is handled by School of Computing technical staff. Student cards cannot be tapped to unlock doors.



### Lounge and Meeting Space

There is a common work and meeting space in Goodwin Hall, room 636. A number of cubicles, seats, and lockers are available for students to complete work or collaborate on projects.

A lounge and coffee room area is maintained in Goodwin Hall, room 620. This is open to all staff and graduate students in the School. A microwave, sink, and kettle is also available in this space.

**Coffee breaks.** The school holds a twice-weekly coffee break, usually on Tuesday and Thursday mornings, in the 6th floor lounge. Stop by for some coffee, tea, and hot chocolate... and occasionally a sweet treat.

### Postal Mail

All graduate students have access to mail services on campus. Incoming mail can be sent to the School of Computing, and once it is received at the main office, it will be placed in the graduate student mailbox on the 7th floor of Goodwin Hall. Large packages or bundles of mail are usually held in the main office, and students will be contacted when it arrives.

Mail is usually picked up from and delivered to Goodwin Hall in the early morning.

Incoming and outgoing mail is managed by Queen's Postal Services. More information, including rules and regulations for sending mail, can be found at their website: <http://www.queensu.ca/postalservices/>.

General postal mail (that is, not university-related) is handled by Canada Post. The main post office is located downtown at the intersection of Brock and Bagot Streets. Smaller post offices are sometimes located within pharmacies and other stores.

## School Committees

The School of Computing has a number of committees consisting of faculty, staff, and students. The most important committees to most grad students are the School Council, the Undergraduate Committee, and the Graduate Committee. Questions or concerns about the School of Computing at large can be directed to the School Council, while questions about graduate life can be directed to the Graduate Committee.

School Council <i>Chair: Hossam Hassanein</i>	Responsible for all official school policy and direction. All members of the school may attend. Meetings are usually held on the first Monday of each month at 3:30pm.
Undergraduate Committee <i>Chair: David Lamb</i>	Responsible for planning and implementing all curriculum design, evaluation and implementation for all undergraduate programs and courses of the school.
Graduate Committee <i>Chair: Mohammad Zulkernine</i>	Responsible for planning and implementing all graduate programs of the school.

## Equity, Diversity, and Inclusion (EDI)

As the School of Computing moves to remote teaching in the fall 2020 term, equity, diversity, and inclusion (EDI) become key considerations. The School of Computing has asked instructors to remain open and flexible to accommodate students during these difficult times. As a result, the School of Computing developed the following list of practices for instructors:

1. Include a statement of your commitment to EDI in your course syllabi. Discuss how you aim to create an inclusive and equal learning environment for the course and acknowledge the diversity of students. Also request that students be respectful while participating online discussions and communicating with their peers, TAs, and the instructor.
2. Embed EDI considerations in your course design. How can you help all students to succeed? Be considerate and accommodating to those who may lack adequate physical resources necessary for remote learning, who are in different time zones and who may have family responsibilities while learning from home. Record any synchronous sessions for students who are unable to attend.
3. Respect and value all students with different identities, religions and traditions.
4. With the lack of in person contact, it is even more important than ever to be mindful of your choice of words and how they are delivered so as ensure that no student or group of students feels excluded.
5. Survey students on their access to the course and reading material, and offer students alternatives if difficulties are identified. Ensure that all content is accessible by all students. Recognize that students in other countries or with low bandwidth may have trouble accessing the course materials.
6. Some students may feel isolated and alone. Think of ways to connect and motivate your students.
7. Direct students with any EDI related concerns to the Equity, Diversity and Inclusion Committee.



The EDI Committee can be contacted by email at [edi@cs.queensu.ca](mailto:edi@cs.queensu.ca). You are always welcome to reach out with questions, comments, or concerns.

The EDI Committee is comprised of the following members:


- Wendy Powley, chair
- Jana Dunfield
- Noreen Haun
- Ting Hu
- Catherine Stinson
- Renee Chen, undergraduate representative
- Chris Keeler, graduate representative

## Contacts

Each member of the school’s administrative staff specializes in a particular area. For any of the following issues, contact that person first.

Nancy Churchman	Research participant agreements, research confidentiality agreements, research consent-to-disclose agreements
Erin Gunsinger	Reception and general inquiries, photocopying and account/equipment maintenance, mail sorting, booking school laptops and data projectors
Karen Knight	Undergraduate inquiries, undergraduate admissions/pre-registration/registration, undergraduate TA contracts, undergraduate examinations and grades, crisis assistance
Carly Napier	Point of contact for the Director of the School of Computing, meeting room bookings, school seminars, scheduling, appointment coordination, access to school faculty files
Debby Robertson	Graduate inquiries, graduate admissions/pre-registration/registration, graduate RA and TA contracts, graduate grades, NSERC/OGS/other awards, crisis assistance
Laurie Truman	Access to school facilities, school operating accounts, research account administration, operating account administration

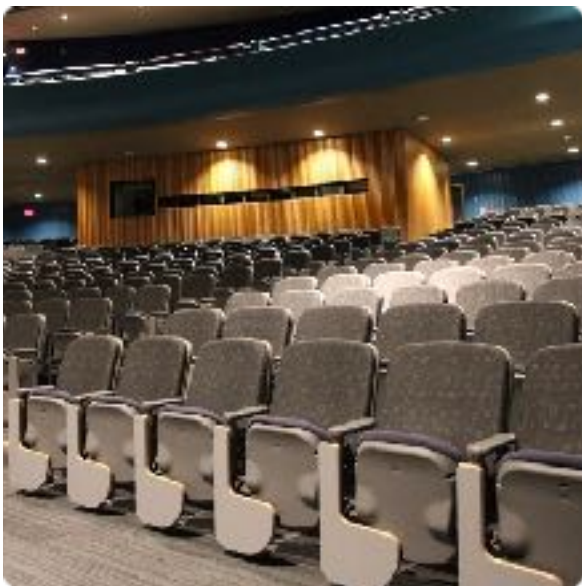
**Grad student chat.** While most of your professional communication will be sent through email, sometimes it’s nice to chat in a less formal setting. That’s why the GCS set up a Discord server just for grad students. You can access it through the following link:  
<https://discord.gg/gUVJAK5>



# Graduate Courses

Master's students following the research pattern may take any four graduate courses as long as these are approved by their supervisor and/or the Coordinator of Graduate Studies. Master's students following the project or coursework pattern degree must choose their courses according to the current distribution requirements.

PhD students must fulfill their token requirement as determined by their supervisor, their supervisory committee, and the school's PhD committee.



Graduate students taking a graduate course offered jointly with an advanced undergraduate course are expected to do the amount of work normally required to earn a credit in a graduate course. Graduate students in the School of Computing may include in their programs relevant courses from other departments such as Electrical Engineering, Psychology, Mathematics, or the School of Business.

## Course Areas

The following table shows examples of courses frequently offered by the School of Computing, ordered according to subject area. Not all courses offered by the School of Computing are listed in this table, and not all courses listed in this table may be offered at the same time.

Theory of Computation	862, 865, 868, 869, 879, 871, 872, 876, 879
Computer Systems	825, 833, 834, 835, 836, 837, 838, 841, 842, 845, 846, 847, 848, 853, 858, 860, 877, 880, 883
Applications Within Computing	832, 839, 850, 852, 854, 855, 856, 857, 859, 861, 864, 873, 874, 875, 878, 881, 882, 886, 888
Other	885, 897, 898, 899, 999



## Technical Support

Technical support in the School of Computing is provided by the technical staff on the 5th floor of Goodwin Hall.

## School Computing Facilities

Graduate students in the School of Computing tend to make more extensive use of the School's facilities rather than the University's central computing facilities. The general research facility is a network of Sun, SGI, Apple and PC workstations. The network consists of about 100 workstations supported by file servers, and it is connected to the University network, which provides access to the Internet.

## School Email

Every student in the School of Computing receives a school email address of the form username@cs.queensu.ca. This is in addition to the university email address, which is of the form username@queensu.ca. School email addresses are managed by the technical staff in the School of Computing, while university email addresses are managed by Queen's Information Technology Services. All School-related email should be directed through the cs.queensu.ca email account.



**Webmail.** School of Computing email accounts can be accessed at the following website: <https://qscwebmail.cs.queensu.ca>. The username to log in through the website does not include the “@cs.queensu.ca” portion of your email address.

**Mail Clients.** To access School of Computing email accounts through a third-party email client, use the following settings:

#### Incoming mail (IMAP)

Server: innovate.cs.queensu.ca  
Port: 993  
Username: your CS user ID (without @cs.queensu.ca)  
Connection Security: SSL  
Authentication Method: normal password

#### Outgoing mail (SMTP)

Server: hermes.cs.queensu.ca  
Port: 587  
Encryption Type: STARTTLS  
Username: your CS user ID (without @cs.queensu.ca)  
Password: your CS user ID password

**Mailing Lists.** The school has a number of mailing lists that are used to communicate information to various subsets of members. The most relevant mailing lists for graduate students are:

- [msc@cs.queensu.ca](mailto:msc@cs.queensu.ca), for current MSc students;
- [phd@cs.queensu.ca](mailto:phd@cs.queensu.ca), for current PhD students; and
- [social@cs.queensu.ca](mailto:social@cs.queensu.ca), for sharing information about social events, asking general questions, and discussing miscellaneous topics.

To receive emails sent to the social mailing list, students must request access if their email address has not already been added. Requests can be sent to Ben Hall.

## School Web Server

Students have access to the school’s web server and can upload a personal website to showcase their research and other information. Each student’s personal website is automatically linked on the school website’s “People” page at <http://www.cs.queensu.ca/people/students.php>. Student personal website URLs are of the form <http://www.cs.queensu.ca/~username/>.

Students can access their personal website directory by SSH-ing into the school’s web server using any SSH software. Once logged in, you will be at your home directory: /cis/home/username. To upload your website, navigate to the directory /cis/www/httpd/htdocs/home/username.

Server: innovate.cs.queensu.ca  
Port: 22  
Username: your CS user ID (without @cs.queensu.ca)  
Password: your CS user ID password



## Office Computers and Printing

**Office Computers.** Most graduate students who are conducting research will have a computer provided for them by the School of Computing. Funds to build and maintain these computers are provided by supervisors. Students typically have the option of using Windows or Linux.

**Printers.** The school has many printers available to faculty, staff, and students. Some computers have printers directly connected to them, while other computers are networked to a lab printer or a school printer. Most research labs have at least one printer, and office/lab computers can be configured to use that printer. If there is no printer nearby, then students can use ps1, which is a networked printer on the 7th floor of Goodwin Hall.

## Licensed Software

If you require specialized software for your research, there is a chance that you can download it for free. The university has site licenses for specialized software. The following software is available:

ArcGIS, BI Query, EndNote, Maple, MATLAB, Microsoft Office, NVivo, SAS, SPSS, Unity

To acquire a license to use this software, log in to the MyQueensU Software Centre or visit <http://www.queensu.ca/its/software/available-software>. Access to Unity is provided by the School of Computing; contact Aaron Visser for details.





## Contacts

Each member of the technical staff specializes in a particular area. For any of the following issues, contact that person first.

Ben Hall	Account creation (research systems), CISC domain problems (Windows), disk space quota (Linux), IP address assignment (research systems), laptop network access (research systems), Linux support, Mac support, Matlab support (Linux), printer support (Linux and Mac), printer toner replacement, Solaris support, website support (school, course, personal), all other issues
Richard Linley	CISC domain problems (Windows), hardware problems (PCs), iButton enrolment and door access, Matlab support (Windows), MSDN Academic Alliance software distribution, poster printing, printer support (Windows), printer toner replacement, technical reports, website support (CASLab), Windows support
Doug Martin	CASLab support, graduate student database support, printer toner replacement, website support (school, course, personal, CASLab)
Aaron Visser	Hardware problems (PCs and non-PCs), iButton hardware problems, IP address assignment (research systems), laptop network access (research systems), network problems (hardware-related), printer toner replacement, purchasing (PCs and peripherals)



## Financial Support

All thesis students (Ph.D. and research pattern M.Sc. students) accepted into the graduate program are guaranteed several sources of support from the School sufficient to cover basic fees and living expenses while enrolled at Queen's.

A range of national, provincial and Queen's scholarships are available to replace or augment basic student funding. All eligible students are encouraged to apply for both NSERC and OGS scholarships before applying to the School and during their graduate program.

International students may be offered an additional tuition bursary to help offset the higher cost of international student tuition. On occasion, the School admits self-funded international students who can demonstrate that they have external scholarships sufficient to support them independently for the length of their graduate program.

## Sources of Support

Graduate financial support comes from a combination of several different sources that may entail different expectations.

**Grants, Scholarships, Fellowships and Awards.** Grants and other awards give you money but do not require you to do any work in return (other than remain in good standing in your graduate program). These are the preferred sources of graduate funding. Students without external scholarships normally receive a Queen's Graduate Award (QGA) or other internal award as a part of their guaranteed financial support.

**Research Assistantships.** Research assistantships (RA) provide research support paid from the research funds belonging to your supervisor (or another faculty member) in support of your thesis or other work of interest to your supervisor's research program. This forms a portion of your guaranteed support and is the usual source of continuing support if you require it. Expectations vary widely by faculty member, and you should discuss with your supervisor the research expectations associated with your RA support. With approval of your supervisor, you may accept an RA from other faculty members of the School, and you may have to do so if your supervisor cannot afford to give you one.

**Teaching Assistantships.** Teaching assistantships (TA) provide payment from the School in return for your assistance in the provision of undergraduate courses, normally as a tutor, lab supervisor or marker for a course. Each TA lasts for one term, during which you are expected to spend about seven hours per week on teaching-related duties. Satisfactory performance is required. TA pay is additional to the guaranteed funding.

**Tuition bursaries.** Bursaries may be available for international students to help offset the additional cost of foreign student tuition. This support usually continues after your guaranteed funding period.

**Employment.** Other jobs, either inside or outside the university, can be used at any time to supplement your income. You can remain a full-time student as long as you are not employed more than 10 hours per week. Above this limit you must change your status to part-time. Note that residency requirements for each degree specify a minimum time that you must spend as a full-time student, and scholarships and visas may require you to remain in full-time study.

**Emergency support.** Emergency funding from the University may be available if you run out of all other options following the end of your guaranteed funding period. The University maintains a continuing bursary/loan fund for hardship situations.

## External Scholarships

Students are strongly encouraged to apply for external scholarships. The two principal sources are NSERC Scholarships, which are open to Canadians and landed immigrants, and Ontario Graduate Scholarships (OGS) which are available to all Ontario residents, including international visa students. Scholarships tenable by international students are available from a variety of sources. Ask the School of Computing or the School of Graduate Studies for more details.

## Funding Regulations

- A full-time graduate student is not permitted by the Province of Ontario to be employed for more than 10 hours per week outside of their studies.
- A graduate student being paid a Research Assistantship is considered to be doing work for pay, whatever private arrangements the grant- or contract-holder may have made with the student. It makes no difference that the student is only working on his/her research, or that the grant-holder considers this to be a stipend.
- The pay rate for Teaching Assistantships for 2018-2019 is \$41.37 per hour. The pay rate for RAs is similar. Only in very exceptional circumstances would a higher rate be justified.

## Fees and Living Expenses

**Fees and Tuition.** The School of Graduate Studies provides a summary of tuition fees and other expenses at <https://www.queensu.ca/sgs/current-students/registration-fees>.

The University awards tuition bursaries to offset the higher fees paid by international visa students. As a minimum requirement to obtain such a bursary, applicants should have at least an A average (around 80%).



**Housing.** There is a wide variety of housing available in Kingston. Costs vary greatly according to the type of accommodation and its location. A room in a "student house" close to campus usually costs around \$350/month. Bachelor apartments are approximately \$500/month, one bedroom apartments start at \$700/month and two bedrooms are around \$1000/month and up.

In recent years, apartments have become more difficult to find and students are recommended to arrange accommodation as far as possible in advance of arriving in Kingston. There is also limited accommodation available in various University Residences. For detailed housing information, prospective applicants should contact the University Housing Service directly.

**Living Expenses.** Students should expect to spend about \$10,000-\$12,000/year on living expenses in addition to tuition and other student fees. Most or all of these costs are covered by your funding, but emergency support is available if needed.

**Tax time.** In the winter term, around February/March, you'll start to hear a lot of talk about filing taxes. The deadline to file taxes in Canada is generally on the last day of April, and the most common tax forms students receive are T4s (for employment income), T4As (for scholarship/bursary income), and T2202s (for tuition payments).

The Queen's University International Centre (QUIC) has written a tax guide for students:  
<https://quic.queensu.ca/living-in-kingston/taxes/>



## Life in Kingston

**Keep these pages handy. They're full of useful information!**

**The City and Politics.** The City of Kingston has a City Council that deals with municipal matters, a Member of Provincial Parliament (MPP) who deals with provincial matters, and a Member of Parliament (MP) who deals with federal matters. The Sydenham district of Kingston also has a councillor who represents citizens and handles issues in the neighbourhoods surrounding Queen's.

Bryan Paterson	<i>Mayor of Kingston</i>	<a href="mailto:mayor@cityofkingston.ca">mayor@cityofkingston.ca</a>
Peter Stroud	<i>Sydenham District Councillor</i>	<a href="mailto:pstroud@cityofkingston.ca">pstroud@cityofkingston.ca</a>
Ian Arthur	<i>Member of Provincial Parliament (MPP)</i>	<a href="mailto:IArthur-QP@ndp.on.ca">IArthur-QP@ndp.on.ca</a>
Mark Gerretsen	<i>Member of Parliament (MP)</i>	<a href="mailto:mark.gerretsen@parl.gc.ca">mark.gerretsen@parl.gc.ca</a>

**Hospitals and Health Care.** Kingston has three hospitals. Kingston General Hospital (KGH) is closest to campus, near the shore of Lake Ontario. Hotel Dieu Hospital is located downtown, and it houses the city's urgent care centre for non-emergency injuries/illnesses. Providence Care Hospital is near St. Lawrence College, and it focuses on mental health and long-term care.

The emergency room at Kingston General Hospital is open 24 hours a day. The urgent care centre at Hotel Dieu Hospital is open from 8am to 8pm year-round.

Queen's Student Wellness Services (SWS) is a clinic located on campus near KGH. This clinic is open for walk-in appointments throughout the day, though arriving early is recommended. Students can get treated for minor illnesses, receive assessments and referrals for specialty services, have health tests performed, and receive medication and birth control. Student Wellness Services also provides mental health and psychiatric services for students.

**Call 911 in case of an emergency. Do not call a hospital to report an emergency.  
If you are distressed, call 911 or call the 24-hour Community Crisis Line at (613) 544-4229.**

Kingston General	<b>Emergency room</b> , general care, clinics	76 Stuart Street, <b>911</b> or (613) 548-3232
Hotel Dieu	<i>Urgent care (non-emergency), clinics</i>	166 Brock Street, (613) 544-3400
Providence Care	<i>Mental health and specialist care</i>	752 King Street W, (613) 544-4900
Queen's SWS	<i>Walk-in treatment, minor illness, testing</i>	146 Stuart Street, (613) 533-2506
CDK Family Medicine	<i>Walk-in treatment (non-university clinic)</i>	175 Princess Street, (613) 766-0318

**Grocery Stores and Pharmacies.** There are a number of grocery stores across Kingston, with many near campus and the downtown area. Chain stores like Metro, Food Basics, or Loblaws will have the largest selection of food available. There is a grocery store on campus (Grocery Checkout) located on the main level of the Queen's Centre. A number of specialty food stores are located downtown.

Similarly, there are many pharmacies around Kingston. The largest pharmacy chain is Shopper's Drug Mart, with two locations downtown. There is a smaller pharmacy on campus, located on the main level of the Queen's Centre. Many small pharmacies are also located throughout the city. All pharmacies should be equipped to fill any prescription, and you can get services such as flu shots from most pharmacies as well.

**Mail.** The main Canada Post office is located at the intersection of Brock and Bagot Streets. Smaller post offices are sometimes located within pharmacies and other stores.

**Physical Activity.** Grad students get free year-round access to the Athletics and Recreation Centre (ARC) on campus. The ARC contains two gyms, a cardio and strength zone, a full-size pool, and specialty rooms such as dance studios and combat rooms with padded mats. However, the ARC tends to get extremely busy during the day, especially at the start of each term.

The ARC also runs a number of fitness programs and intramural sports throughout the year. For more details, see the ARC website at <http://rec.gogaelsgo.com>.

The City of Kingston has a number of recreation facilities. The Artillery Park Aquatic Centre and the INVISTA Centre have fitness equipment and pools. The INVISTA Centre and the Memorial Centre have arenas for ice sports. During the winter months, the city builds an outdoor ice rink near City Hall for casual skating.

Queen's ARC	<i>M-Th 6am-12:30am, F 6am-10:30pm</i>	<i>284 Earl Street, (613) 533-2500</i>
Artillery Park	<i>M-F 6am-9:30pm</i>	<i>382 Bagot Street, (613) 546-4291</i>
INVISTA Centre	<i>M-Th 6am-10pm, F 6am-9pm</i>	<i>1350 Gardiners Road, (613) 544-4442</i>
Memorial Centre	<i>Open October-March. Contact for details.</i>	<i>303 York Street, (613) 546-3183</i>

**Recreation and Sport.** Kingston has two ice hockey teams: the Kingston Frontenacs in the Ontario Hockey League, and the Kingston Voyageurs in the Ontario Junior Hockey League. The Kingston Clippers are the city's League1 Ontario soccer team. Kingston is also world-famous for sailing, and the annual Canadian Olympic-Training Regatta is held at Portsmouth Olympic Harbour each summer.

The university's varsity team is the Queen's Gaels. The Gaels compete across a number of sports, including basketball, cross-country running, football, hockey, rowing, rugby, soccer, and volleyball. Students get free access to varsity games by showing their student card.



**Restaurants.** Kingston is known for having a huge variety of restaurants. Below are just a handful.

Ali Baba Kebab	<i>Middle-Eastern meals, also sells spices/teas</i>	<i>320 Princess Street</i>
Amadeus Cafe	<i>German dishes with biergarten in back</i>	<i>170 Princess Street</i>
Chez Piggy	<i>Perfect for any meal, a Kingston staple</i>	<i>68R Princess Street</i>
Harper's Burger Bar	<i>Fresh grilled burgers and great decor</i>	<i>93 Princess Street</i>
Megalos	<i>Upscale restaurant, but not too formal</i>	<i>226 Princess Street</i>
Northside Kitchen	<i>Excellent Australia-inspired breakfast/brunch</i>	<i>281 Princess Street</i>
Old Farm Fine Foods	<i>Local grocer/caterer, close to Goodwin Hall</i>	<i>204 Barrie Street</i>
Pan Chanco	<i>Wide variety of baked goods and desserts</i>	<i>44 Princess Street</i>
Peter's Place	<i>Diner-style breakfast with simple dishes</i>	<i>34 Princess Street</i>
Score Pizza	<i>Custom personal-sized pizzas with thin crust</i>	<i>91 Princess Street</i>
Sima Sushi	<i>Small sushi restaurant, great for a quick meal</i>	<i>66 Princess Street</i>
Union	<i>Bright breakfast/brunch spot</i>	<i>184 Princess Street</i>
Wok-In	<i>Takeout-only Chinese/Cambodian food</i>	<i>30 Montreal Street</i>
Wooden Heads	<i>Gourmet, wood-fired oven pizza</i>	<i>192 Ontario Street</i>

**Coffee.** In need of a morning pick-me-up? Stop by one of these cafes.

Common Ground	<i>Student-run coffee shop on campus, great bagels</i>	<i>284 Earl Street (Queen's Centre)</i>
Crave Coffee House	<i>Great study/work spot, lots of space</i>	<i>166 Princess Street</i>
The Elm Cafe	<i>Small cafe with local coffee and baked goods</i>	<i>303 Montreal Street</i>
Sipps Cafe	<i>Features a good selection of desserts</i>	<i>33 Brock Street</i>
The Tea Room	<i>Right beside Goodwin Hall, run by students</i>	<i>45 Union Street W (Beamish-Munro Hall)</i>

**Bars and Pubs.** If you're in the mood for a drink, try one of the following spots.

The Iron Duke	<i>English-style pub with great beer list and food</i>	<i>207 Wellington Street E</i>
Kingston Brewing Co.	<i>Brewpub with great local beer and barbecue</i>	<i>34 Clarence Street</i>
The Mansion	<i>Great for live music shows and sports events</i>	<i>506 Princess Street</i>
Stone City Ales	<i>Downtown brewery with bottle/gift shop</i>	<i>275 Princess Street</i>
Tir Nan Og	<i>Irish pub, popular with undergrads</i>	<i>200 Ontario Street</i>



