

## Phase Field Summer School

**July 13-17, 2015, McGill University, Rutherford Physics Building, RM 118**

### **Lectures: Monday (July 13)**

- **8:30-9:00AM:** Breakfast
- **9:00-10:30AM:** *Quantum Density Functional Theory, Classical Density Functional Theory*
- **10:30-11:00AM:** *Break (RM 118)*
- **11:00-12:30PM:** *Phase Field Crystal (PFC) Theory*
- **12:30-1:30:** *Lunch*
- **1:30-3:00:** *Complex Amplitude Representation of PFC models*
- **3:00-3:30PM:** *Break (RM 118)*
- **3:30-5:00PM:** *Phase Field models and Sharp Interface Theories*

### **Phase Field Workshops: Tuesday-Friday (July 14-17)**

Students will join one of three working groups, each mentored by 1-2 workshop instructors. The aim of each working group is: (a) to formulate a short list of problems of relevance to PF/PFC research; (b) work on the development of numerical codes or model with which to investigate the problems posed in step (a).

Workshop topics:

- i) Complex Amplitude models
  - a. Derivation from PFC models
  - b. Amplitude code development
- ii) Adaptive mesh refinement (AMR) and phase field models:
  - a. Theory and implementation of AMR code in simple alloys
  - b. Derivation of multi-component and multi-order parameter phase field models

### **Notes:**

**1) Workshop Instructors:** Kirk Bevin (McGill), Ken Elder (Oakland), Zhi-Feng Huang (Wayne State), Nana Ofori-Opoku (NIST), Michael Greenwood (Canmet) and Nikolas Provatas (McGill).

**2) Codes and reading material are available for download at:**

<http://www.physics.mcgill.ca/~provatas/workshops/>

**3) HPC analysts** from the McGill HPC Centre will be on site to provide help with parallel programming, job submission, compiling, debugging.

**4) Summer School will be held in RMS 112 and 118 of the Rutherford Building,**

McGill University, 3630 Rue University Street, Montreal, Quebec H3A-0C6.

Registration: \$175 for students and \$225 for PhDs and Professionals. Deadline: June 15, 2015.

Download: [http://www.physics.mcgill.ca/~provatas/workshops/Registration\\_Form.pdf](http://www.physics.mcgill.ca/~provatas/workshops/Registration_Form.pdf)

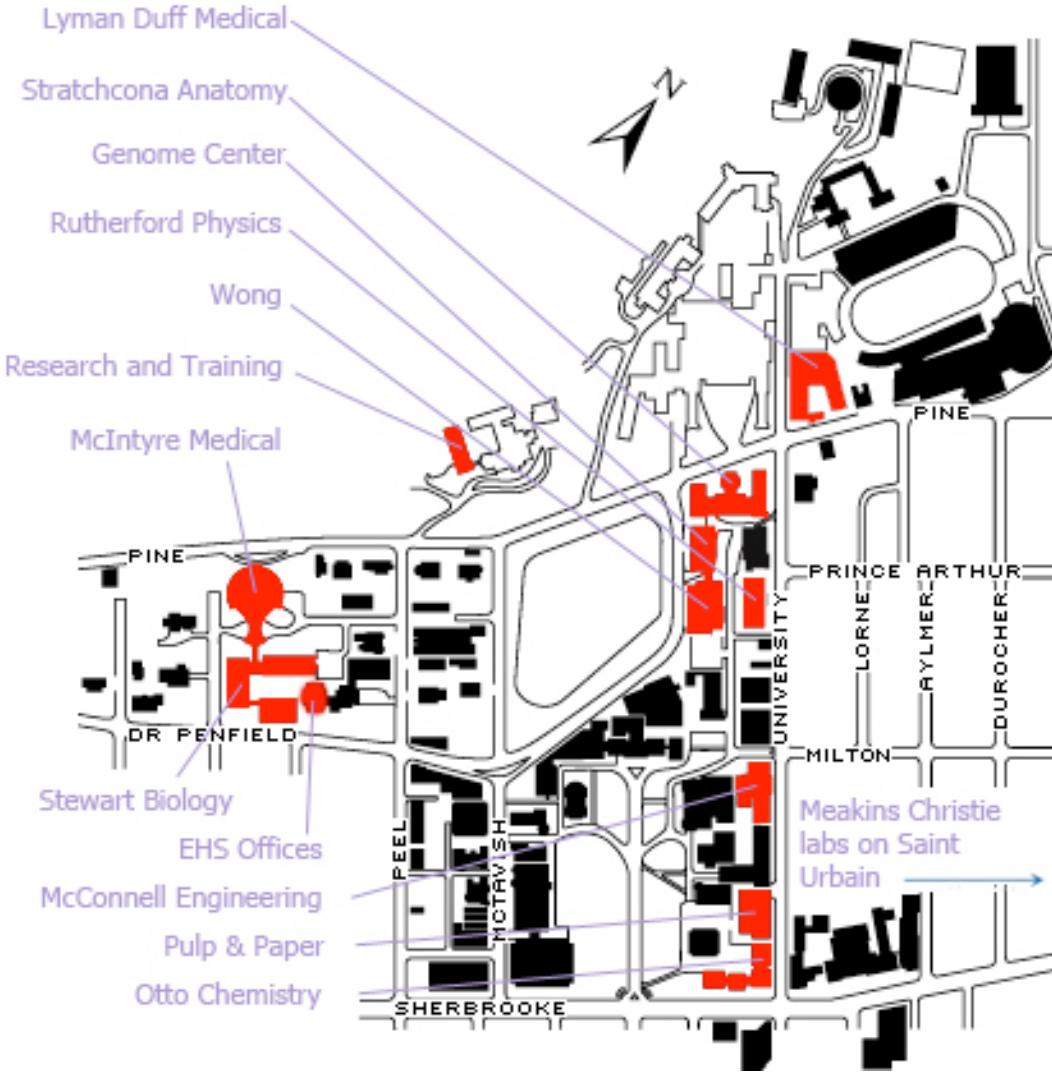
**Sleeping accommodations** at the rate of ~\$45/night have been blocked off at the Royal Victoria College, same street as Physics Building, and minutes from downtown. Rooms are wired for direct Internet, which comes at an extra cost. Direction to residences:

**Royal Victoria College**, 3425 University Street, Montreal, Quebec H3A-2A8.

Tel.: (514) 398-6378.

**For information, contact N. Provatas at 514-757-4906 or at [Provatas@physics.mcgill.ca](mailto:Provatas@physics.mcgill.ca)**

# Map of McGill



# MAPS

## City of Montréal

