GESER director: François Maltais, Faculty of Medicine

GESER’s mission is to improve the quality of care available to individuals with respiratory disease through basic and clinical research, innovation, close collaboration between researchers and clinicians, and the rapid transfer of knowledge for the benefit of patients.

The GESER program is underpinned by close collaboration between clinical and basic researchers. Peer support fosters effective collaboration and makes for a more pleasant and productive work environment.

Research professionals play a crucial partnership role in the centre’s activities. And students at GESER enjoy a stimulating educational environment and numerous opportunities to develop their future research careers.

GESER is one of Canada’s most leading-edge respiratory disease research groups. GESER brings physicians, nurses, and other health professionals together with scientists and research professionals in one unique research facility, where they can interact on a regular basis. Proximity fosters translational research and creates an exceptional learning environment. Access to a wide variety of human tissues for basic research gives GESER scientists a competitive edge.

GESER members are based at the Québec Heart and Lung Institute (IUCPQ), which also houses a cardiology research unit and a metabolism and obesity unit. This unique research centre was rated as “exceptional” by FRQS and offers numerous opportunities for collaboration between units—in both clinical and basic research. GESER was officially recognized by Université Laval in 2002–2003, which has helped the group advance basic and applied research in the following areas: respiratory sleep disorders, asthma, effects of the environment on the lungs, chronic obstructive pulmonary disease (COPD) and rehabilitation, pulmonary oncology, pulmonary vascular disease, and critical care.

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CENTRE DESCRIPTION

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<table>
<thead>
<tr>
<th>Clinical Researchers</th>
<th>Basic Researchers</th>
<th>Research Professionals</th>
<th>Students</th>
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<tbody>
<tr>
<td>10</td>
<td>12</td>
<td>62</td>
<td>46</td>
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STATISTICS AT 1 JUNE 2013
ADVANTAGES

Graduate student training is a core component of GESER researchers’ work. GESER members currently supervise 46 graduate students, who enjoy access to cutting-edge facilities, a modern animal house, and the statistical and technical services essential to graduate research.

Every year IUCPQ organizes a host of scientific activities. Physician researchers, basic researchers, and students meet to share and discuss their work once a week during the school year. A researcher or student makes a presentation to the group, followed by a Q&A period. Other meetings are held for more in-depth discussion of certain research protocols. Scientists from outside GESER are regularly invited to speak. The pulmonology research group hosts an annual day for scientists and students to discuss their projects and preliminary results. A leading guest researcher often serves as honorary chairperson at the event, which is organized and hosted by students.

The IUCPQ research centre also hosts a research day, which includes a competition for the best student oral and poster presentations. Other educational benefits include co-supervision arrangements as well as opportunities to co-sign scientific articles and attend national and international conferences.

GESER students are eligible for scholarships and grants from the IUCPQ research centre, which awarded $140,000 in student funding this year. Students can also apply for research funding under the CIHR and FRSQ respiratory research training program, which provides solid multidisciplinary training in clinical and basic pulmonology and a good grounding in the transversal skills needed for a research career.

KEY ACHIEVEMENTS

- Close to $14 million in research grants, scholarships, and contracts
- 35 master’s and Ph.D. degrees awarded over the past four years
- Three research chairs in chronic obstructive pulmonary disease (COPD), pulmonary hypertension, and knowledge transfer
- Major discoveries in the pathophysiology of arterial pulmonary hypertension
- International leadership in COPD-related muscle dysfunction and pulmonary rehabilitation
- Development of a respiratory health research and assessment program for athletes
- Implementation of a research program on severe asthma and its treatment
- Special research team studying bioaerosols and their effects on human respiratory health
- Several mentor and research excellence awards
- Contribution to a world-class biobank with a ready source of blood and lung tissue samples for research
- Extensive collaboration on multicentric projects in clinical research and genomics
- Development of a patient cohort for the study of asthma genetics