

# Global APZEC Project



An initiative of

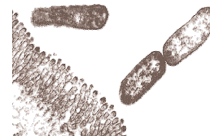
REFERENCE  
LABORATORY FOR  
*ESCHERICHIA COLI*



Université   
de Montréal

OIE Reference Laboratory  
for *Escherichia coli*  
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## The ECL, a source of initiatives

The Reference Laboratory for *Escherichia coli* (ECL) of the Faculty of Veterinary Medicine of the Université de Montréal was created in 1981 by Dr. John M. Fairbrother, professor in the Department of Microbiology and Pathology. The ECL has acquired an international reputation in the study of *E. coli* animal infections. The ECL was designated in 2006 by the World Organisation for Animal Health (OIE) as a Reference Laboratory for *Escherichia coli*, and subsequently recognized as a research unit by the university.

### Monitoring a worldwide situation

*Escherichia coli* is an important cause of a wide range of diseases in production animals and humans worldwide. In certain cases, animals are a reservoir of infection for humans, either by direct contact, contamination of the environment, or via contaminated food. We refer to the set of *E. coli* which are pathogenic in animals or causative of zoonotic diseases in humans as APZEC (Animal Pathogenic and Zoonotic *E. coli*).



Currently, it is very difficult to assess the full impact of APZEC diseases and the growing antimicrobial resistance on animal productivity and humans. The challenge of implementing suitable control programmes, both in low and middle income countries, and Canada, is not to be underestimated.



## An integrated approach

### The Global APZEC Project

Information and integrated surveillance centre for Animal Pathogenic and Zoonotic *E. coli* (APZEC)

As part of its mandate as an OIE reference laboratory, the EcL has initiated the Global APZEC Project. The mission of this project is to:

- ⊙ Become an international reference centre on *E. coli*
- ⊙ Centralize worldwide surveillance data on APZEC
- ⊙ Develop sustainable projects with low and middle income countries
- ⊙ Provide a privileged domain for access to and sharing of information on APZEC

**Advocating knowledge sharing and international solidarity.**

**Contributing to "One world, one health" by an ecosystemic/integrated approach.**

The Global APZEC Project promotes an ecosystemic approach to the study and surveillance of APZEC at the animal-human-environment interface. Integrated surveillance networks are almost non-existent at the international level, especially in low and middle income countries with which the EcL intends to focus its collaboration in the global development of the project.

The Global APZEC Project has 3 main themes: establishment of a global, integrated surveillance network for APZEC, development of applied research projects in collaboration with the international scientific community, and education on APZEC.

## Web platform\*

### Centre for dissemination and sharing

#### Surveillance

##### *E. coli* database

- ⊙ Mapping
- ⊙ Strain bank selected from *E. coli* database

#### Research projects

- ⊙ Surveillance basic tools
- ⊙ Antimicrobial resistance
- ⊙ Serovotyping
- ⊙ Epidemiology

#### Education

##### Training

- ⊙ Training at EcL Laboratory
- ⊙ Workshops
- ⊙ Conferences

##### On-line resources

- ⊙ Expertise
- ⊙ SOPs
- ⊙ News
- ⊙ Forum
- ⊙ Training modules
- ⊙ Unpublished research data

\* Project under development

## One project, one synergy

### Establishing a network of global and integrated surveillance for APZEC

Rapid and early detection of new emerging pathogens in the *E. coli* family, working towards filling the gaps of information on distribution and impact of APZEC around the world and linking with existing networks.

### Contributing to academic/university enrichment

At the heart of several initiatives concerning development of training programs in veterinary public health, and international recognition and influence of the university:

- ⊙ Internationalization of faculties
- ⊙ School of Public Health of the Université de Montréal

### Developing sustainable partnerships in public health

Strengthening of partnerships between regional, national and international institutions, from both public and private sectors, involved in veterinary public health.

### Developing research on *E. coli* at the regional, national, and international levels

New opportunities for research and improved global understanding of the impact of *E. coli* on ecosystems.

### Strengthening capacities in public health at the global level

Greater understanding of distribution, prevention, and control of pathogenic *E. coli* and its antimicrobial resistance in Canada and in other parts of the world, contributing globally to improve public and animal health and to increase animal productivity and profitability.

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