

Canada hopes to leverage anti-viral research expertise with new international consortium

Canada and France are moving forward to establish a large-scale International Consortium on Anti-Virals (ICAV) that could ultimately link more than 10 countries in an R&D network dedicated to developing therapeutics for a wide range of existing and emerging viral diseases. Backers of the proposal are seeking more than \$100 million over seven years, with \$56 million coming from Canadian public sources, to establish a virtual network of existing and proposed facilities involving researchers associated with the Protein Engineering Network of Centres of Excellence (PENCE), the Institut Pasteur and others.

The project was launched last June in Toronto at a Founding Symposium organized by PENCE. An international steering committee was established at a follow-up meeting in Paris in March, hosted by Institut Pasteur and the French Ministry of Health. But its origins go back to 2003, the SARS crisis and the quick response by PENCE researchers who launched several successful research projects.

“That was the inspiration,” says Dr Jeremy Carver, PENCE’s board chair and former CEO and chief scientific officer (CSO) of GlycoDesign Inc ([R\\$, April 16/03](#)). “We want to apply the same strategy to a wide range of viruses because that all use the same human enzyme. The platform strength makes this a much bigger effort and provides the potential to go international.”

PROPOSED RESEARCH AREAS
Bioinformatics, genomics & surveillance
Inhibitors of viral fusion with host membranes
Inhibitors of attachment & release of viruses
Inhibition of viral assembly
Inhibitors of viral replicases
Therapeutic monoclonal antibodies
Cell-based & animal models of viral infection
New drug target ID through proteomics

Carver and Dr Michel Chrétien, senior scientist and program director for the Diseases of Aging program at the Ottawa Health Research Institute, are the main drivers of the Canadian component of ICAV. They are currently lobbying officials from the federal and provincial governments to secure funding commitments to the program (see chart). While no deals have been finalized, the prospects are encouraging on several fronts. A major factor in ICAV’s favour is the relatively low funding requirements for a program that could have huge benefits in Canada and internationally, with considerable long-term commercial potential.

“One of the reasons why the budget for ICAV is so modest is the networking principle of the NCE program. NCE funding provides the top-up required for researchers to hire graduate students and post-docs. Our model also aims to leverage existing facilities,” says Carver. “It’s a work in progress but the principle is, if we can enhance a core facility for ICAV we will do that. It’s also a milestone-driven program with private sector involvement and it’s coordinated by a biotech management team.”

Carver says that it’s widely accepted throughout the S&T community that governments must be

involved in a bigger part of the product pipeline of an R&D program. In the wake of the dot com and high-tech meltdowns, venture capital has shied away from longer-term, high-risk investments. One way to reduce the risk of public investment is to provide a professional management structure. Carver – who spent 26 years at the Univ of Toronto as a researcher and manager before founding GlycoDesign in 1995 — is being tagged to become ICAV’s inaugural CEO and CSO.

“It would be a fulltime position although my first job would be to find a CSO,” says Carver, who is 65. “It’s a logical way to take my life experience and apply it to one last major project.”

A seemingly odd aspect of the ICAV initiative is its proposed headquarters at Trent Univ in Peterborough ON, a small city north of Toronto. Trent Univ is home to an emerging DNA Cluster project, which aspires to be a major centre for DNA profiling, automation, molecular diagnostics, geomatics and forensics. It’s also close to where Carver lives.

ICAV CANADIAN FUNDING MODEL	
(\$ millions)	
Source	Annual Funding
Federal government	5.0
Ontario	1.0
Alberta	1.0
British Columbia	1.0
Total	8.0
Over seven years	56.0

“It was a condition for whether I got involved or not,” he says. “Trent University is on the (high-speed, fibre-optic) ORION network so distance isn’t a problem.”

MEETING IN SEPTEMBER

The next meeting of ICAV is planned for Peterborough in September and Carver hopes to be able to announce at least partial Canadian and French funding and officially launch the program. He anticipates that Ontario will be among the first on board, along with some private sector funding. Federal support is somewhat harder to discern, given the political crisis that has gripped Ottawa. Carver says there’s a possibility that funding was contained in the recent Budget, but he has been unable to get a definitive answer.

“We’ve been getting resounding support from all advisors to the government. Arthur Carty (national science advisor to the prime minister) and Alan Bernstein (president of the Canadian Institutes of Health Research) both say it has to be done.”

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CANADIAN FACILITIES
Proposed Facilities
Univ of Toronto —bioreactor-based facility
Univ of Ottawa — peptide synthesis facility
Univ of British Columbia — synthetic chemistry facility
Existing Facilities
Univ of Saskatchewan — Canadian Light Source
Various Institutions * — high throughput screening facilities

Trent Univ — Geomatics, Genomics & Proteomics core facility
British Columbia Cancer Agency Genome Science Centre
British Columbia Centre for Disease Control
UBC Centre for Disease Control
Canadian Science Centre for Human & Animal Health (Winnipeg)
** Univ of British Columbia, NRC Biotechnology Research Institute, McGill Univ*
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