

## Ontario's Regional Economic Development and Innovation Newsletter

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**ANNOUNCEMENTS**

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### Canada's Tech Sector Shines Out West

After sharing top position last year with British Columbia as Canada's biggest technology hubs, Ontario regains the leading position. However, Ontario is not the only province to excel in this year's ranking--Alberta, in a remarkable leap, almost doubled its presence on the Fast 50 list with 11 finalists (22 per cent) compared to only six companies from the previous year (12 per cent). This gain positions Alberta as ranking third following British Columbia which slipped to second place with 14 companies (28 per cent) from 15 (30 per cent) in 2003. The findings are drawn from the alphabetical list of the 2004 Deloitte Canadian Technology Fast 50, the annual program which recognizes Canada's fastest-growing technology companies, both public and private, from all technology sectors including software, life sciences, Internet and e-commerce, communications and networking, semiconductors and computer peripherals.

## **Agriculture and Life-Science Clusters in Canada: An Empirical and Policy Analysis**

*Peter WB Phillips, Julie Parchewski, Tara Procyshyn, Cami Ryan, Jeremy Karwandy, and Josefin Kihlberg, AAFC Study of the Saskatoon Cluster*

This project is designed to examine the microeconomic foundations of the knowledge-based cluster of agri-food research and development that has centred in and on Saskatoon. The agriculture biotechnology cluster that has developed in Saskatoon is unique in North America—it is the only identifiable industrial cluster that is almost solely agricultural-based. This report builds upon previous research on the Saskatoon cluster by undertaking a detailed survey of public and private research-intensive firms and related and supporting institutions and firms, ensuring that a cross section of start-up, small, medium and large firms are interviewed. Specifically, the research seeks to determine the potential to sustain or grow the agricultural biotechnology cluster and whether it is possible to use it to leverage more substantial private effort in agriculture or other life-science clusters.

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### **Towards a Canadian R&D Strategy for Bioproducts and Bioprocesses**

*Eric Archambault et al. Science-Metrix for NRC*

The core of the Canadian Biostrategy proposed in this report is to firmly position the country so that it becomes a key player in the biological conversion of agricultural and forest products into biochemicals, biofuels and versatile bioproducts. Currently, Canada does not have a strategy for the development of bioproducts and bioprocesses, and R&D in this field is not a priority of funding agencies and government departments. Therefore, it is not surprising to find that Canada is lagging far behind leading countries in terms of research capability. Given the strategic importance of bioproducts and bioprocesses, Science-Metrix recommends that the Canadian Government invest substantial financial resources to support bioproduct and bioprocess R&D.

## **How to Institutionalize Innovative Clusters? Comparing Explicit Top-Down and Implicit Bottom-Up Approaches**

*Martina Fromhold-Eisbeth and Gunter Eisbeth,*

Implementing and operationalizing clusters in a practical approach is a complex task which requires reflection on various issues, such as conceptual foundations, spatial scale, main objectives and institutional form of support, before respective measures are initiated. This paper focuses on the question of effective innovation-enhancing institutional forms of cluster promotion. It discusses two opposite modes of institutionalization which both relate to the creation of regional cluster-related advantages: On the one hand, explicit cluster policies that are implemented top-down by regional authorities; on the other hand, implicit initiatives that emerge bottom-up from groups of sector-related firms without a concrete political impetus. The findings support the assumption that different institutional modes of innovation-oriented cluster promotion display differing patterns and degrees of effectiveness and efficiency.

### **CLUSTERS & REGIONS**

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#### **Clusters of Opportunity, Clusters of Risk**

*Trefor Munn-Venn and Roger Voyer, Conference Board of Canada*

This report looks at the promise of clusters for Canada, whether they contribute to regional economic growth, and the role of government in facilitating the development of successful clusters. The research has found that clusters do contribute to regional economic growth depending on the stage of their life cycle, the economic cycle and the degree of maturity of the technology platform. Furthermore, not every firm in a cluster can expect to benefit. The research also found that clusters contribute to regional knowledge growth. This report describes how government should focus on contributions that support and nurture the development of clusters and should refrain from trying to build clusters from scratch. Finally, the report describes three major risks faced by clusters: failure to keep knowledge flowing, increased volatility and becoming the modern mining town.

#### **Regional or Sectoral Innovation Systems: What Really Matters?**

*Patrick Ronde and Caroline Hussler, Bureau d'Economie Theoretique at Appliquee (BETA)*

This paper aims at challenging empirically the notion of innovation system. First it tests the need for firms to develop relations with external agencies in order to increase their innovation. Second, it compares the relative importance of regional external linkages and sectoral external links on innovation, in order to identify the effective scope of the French innovation system. These tests are based on an econometric model evaluating the impact of competences (mainly relational ones) mastered by firms of a given sector in a given region, on the innovative activity of neighbouring sectors and neighbouring regions. Results argue in favour of a regional innovation system approach, but simultaneously stress that the regional

determinants of innovation strongly differs across industries.

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### **Benchmarking of Canadian Biopharmaceutical Science and Technology**

*Eric Archambault, Gregoire Cote and Frederic Bertrand, Science-Metrix for Industry Canada, Life Science Branch*

This report provides a quantitative analysis of the Canadian biopharmaceutical sector using the Medline biomedical scientific articles database and the United States Patents and Trademark Office (USPTO) database. Using time series (1990-2001), the report outlines the evolution of biopharmaceutics at the world and Canadian levels. It uses stationary distributions (1996-2001) to compare Canada to other countries as well as Canadian provinces, Census Metropolitan Areas and institutions among themselves.

### **Community Innovation: Industrial Specialization in Canadian Cities (2003)**

*Sharonne Katz and Michael Bordt, Statistics Canada*

This paper presents an index of specialization (the location quotient) for Canada's 50 largest communities. It also presents the initial analysis comparing changes in specialization in selected "high technology" industries with changes in employment in these communities. The analysis is not intended to be definitive—various issues with the time period, the data and the interpretation of the indicators are taken into account. Despite the imperfections, the indicators provide another interesting and hopefully useful insight into community innovation.

### **World Knowledge Competitiveness Index 2004**

*Robert Huggins Associates*

This index is an integrated and overall benchmark of the knowledge capacity, capability and sustainability of 125 regions across the globe, and the extent to which this knowledge is translated into economic value, and transferred into the wealth of the citizens of these regions, utilising 19 knowledge economy benchmarks, including employment levels in the knowledge economy, patent registrations, R&D investment by the private and public sector, education expenditure, information and communication technology infrastructure, and access to private equity.

## **EVENTS**

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## **Nanotech Luncheon NEW!**

### **Edmonton, 30 August, 2004**

Join international experts and Greater Edmonton business leaders over lunch to hear one of the world's foremost speakers on nanotechnology. The Edmonton Economic Development Corporation welcomes Dr. Meyya Meyyappan, Director of the NASA Ames Research Centre for Nanotechnology, as he explores the implications of smalltech for Alberta's leading sectors. This is a must-hear if you have an interest in the future of energy, electronics and computing, materials and manufacturing, health and medicine, or transportation.

## **Organizations, Innovation and Complexity: New Perspectives on the Knowledge Economy**

### **Manchester, UK, 9-10 September, 2004**

This conference explores the concept of the knowledge economy from a complexity perspective, with a particular emphasis on the emergence of innovation and the self-organization and self-transformation of economic systems. The broad themes will include conceptual thinking; modeling/simulation and empirical/case Studies. Key questions address how new ideas emerge and translate into a change of understanding, how knowledge generation processes vary within firms, how market feedback stimulates a search for new understanding and how contextual and historical factors can constrain or empower the production and use of knowledge.

## **Patent Policy: Using, Abusing and Reforming**

### **Duke University, 17-19 September, 2004**

It has long been recognized that the patent system provides a unique means for trading off ex ante innovation incentives against the ex post inefficiencies of monopoly power. The current system of patent acquisition and protection is now frequently criticized on numerous grounds, including its manipulability, its susceptibility to abuse and holdup, its regional specificity, its differential treatment of leaders and laggards, and the agency costs that are present not only among business competitors, but among the very bureaucrats and judges who administer the system itself. The conference intends to explore these ideas further, bringing together leading scholars from law schools, business schools, and economics departments. Submission deadline: May 1, 2004.

## **Continuous Innovation: Strategic Priorities for the Global Knowledge Economy**

### **Sydney, Australia, 22-25 September, 2004**

Continuous innovation is the ongoing process of initiating, developing, operating

and improving new and existing configurations of products, market approaches, processes, technologies and competencies, organization and management systems. As organizations strive to achieve a synergistic balance between short-term oriented, operationally-effective exploitation strategies and longer-term, flexibility-oriented exploration strategies, the rapid growth of the global knowledge economy has placed learning at the centre of this critical balance. The 5th International CINET 2004 conference has as its theme "Continuous Innovation: Strategic Priorities for the Global Knowledge Economy" and aims to address these key issues for organizational survival and growth.

## **Building the Future on Knowledge: Blueprints for Foresight Actions in the Regions Expert Group**

### **Brussels, Belgium, 23 September, 2004**

An expert group for foresight actions in the regions in support of the implementation of EU policy was implemented in 2003. The objective of this conference is to present the results of the expert group, as well as to inform national and regional policymakers and policy-shapers of the combined policies and instruments of the European Union supporting the development of regional knowledge based economies. High level political input by Research Commissioner Philippe Busquin, the President of the Committee of the Regions Peter Straub, Commissioner Peter Balazs, as well as MEP Alain Lipietz will be combined with the hands-on experience of the five working groups of the Blueprints expert group. [Pre-Registration.](#)

## **Hydrogen & Fuel Cells 2004 Conference and Trade Show**

### **Toronto, 25-28 September, 2004**

As society shifts towards the Greener World, it is increasingly important that the team-work necessary to achieve and meet our challenges and objectives be effectively integrated, shared and understood across disciplinary and business boundaries. In planning for the September 2004 Meeting in Toronto seven such inter-related themes have been identified: Hydrogen technology progress, fuel cells, economics & policy, renewable hydrogen, demonstrations, investment & marketing options, and climate change. We invite you to submit abstracts for oral and/or poster presentations to be presented to an international audience of hydrogen and fuel cell industry leaders. Submission deadline: March 17, 2004.

## **E-Commerce to E-Economy: Strategies for the 21st Century**

### **Ottawa, 27-28 September, 2004**

The spread of Internet-based technologies throughout society has become the dominant economic reality of the 21st century. The e-economy - the use of information and communication technologies for product and process innovation across all sectors of the economy - has emerged as the primary engine of productivity and growth for the global economy. Successful economic strategies will enhance our capacity to adopt and exploit these technologies to create competitive

advantage. The goals of this conference are to highlight the importance of the Internet and e-business to productivity, competitiveness and economic growth; assess Canada's progress as an e-economy, its future challenges and opportunities; and establish strategic priorities for government, business and academia.

## **Constructing Competitive Advantage**

**Ottawa, 28 September - 1 October, 2004**

TCI's 7th annual conference will closely examine and exchange experiences concerning how firms can be grown in a cluster, how clusters can be branded and get products to market, how clusters interact, and how an active strategy can either grow or stunt the future prospects of a cluster. The program includes an introduction workshop on cluster, cluster site visits, an academic summit and many guest speakers and mini-forums.

## **Photonics North 2004**

**Ottawa, 27-29 September, 2004**

Building on the success of OptoCanada, held in Ottawa in May 2002, the Canadian Photonics Consortium and the Ottawa Photonics Cluster are collaborating to sponsor Photonics North 2004. The Conference is chaired by the CEO of Siemens Canada, Dr. Albert Maringer, and is being managed by SPIE. Leading photonics experts from around the world will be participating. Suggested topics for papers range from Biophotonics to Telecommunications Networking. Among the special features of the Conference will be a parallel program on the first day focusing on doing business with Germany, with a variety of speakers from Germany, as well as a student program organized by Photonics Research Ontario on the second day. The deadline for submission of abstracts is March 15, 2004.

## **Emerging Technologies Conference at MIT NEW!**

**Cambridge, MA, 29-30 September, 2004**

Produced by Technology Review Magazine, the authority on emerging technology, The Emerging Technologies Conference at MIT showcases the technologies poised to make a dramatic impact on our world. It brings together world-renowned innovators and leaders in technology, business and entrepreneurial fields certain to better our lives, create opportunities and fuel economic growth.

## **Public Science in Liberal Democracy: The Challenge to Science and Democracy**

**Saskatoon, 14-16 October, 2004**

The conference will include papers presented by major international scientists from academia, business and government as well as academics from several disciplines in the humanities and social sciences. It will focus on three key questions: Can science retain independence and objectivity in the face of demands to meet commercial and public policy objectives? In what ways is scientific discourse privileged in the formation of public policy? How can scientific knowledge and methodology be made compatible with the interdisciplinary and integration required in public policy discourse and formation?

## **Commercialization: What's Working, What's Not**

### **Ottawa, 9 November, 2004**

Research Money once again shines the spotlight on the federal government's innovation agenda. Join key players from business, government and academia to examine what's working and what's not with research commercialization.

## **From Discovery to Marketplace: Fuelling the New Canadian Economy**

### **Quebec City, 10-13 November, 2004**

As Prime Minister Martin observed recently, "Ideas and discoveries will be the currency of the 21st century, and increasingly that currency must be Canadian." This conference unites Canadian members of the Association of University Technology Managers (AUTM) to accept the Prime Minister's challenge. Participants will report on the progress that has been made in constructing a commercialization infrastructure for Canada as well as the many emerging and existing opportunities for bringing academic discoveries to the marketplace.

## **InnoWest 2004**

### **Calgary, 17-18 November, 2004**

This first annual western Canadian Innovation Conference, hosted by the Centre for Innovation Studies (THECIS), will address a wide range of issues in innovation including cluster, education, public-private partnerships and financing innovation. This conference provides a forum for the innovation community in western Canada to network, review the latest developments and work to find solutions to common problems. Day 1 has eight sessions, and Day 2 has four Workshops, on BioProducts, Energy, ICT, and Manufacturing.

## **5th Triple Helix Conference - The Capitalization of Knowledge: Cognitive, Economic, Social and Cultural Aspects**

### **Turin-Milan, 18-21 May, 2005**

The 5th Triple Helix Conference will bring together researchers interested in the interaction between University, Government and Industry. The conference program will include 10 Track Sessions per day, made up of paper sessions dedicated to individual scientific contributions, workshops on selected specific themes and



panels intended for industrial experts and policy makers. The organizers invite contributions on issues related to the conference theme: economics of innovation, organizational sociology, regional policy, business & management, cognitive economics, finance, law & economics, industrial economics, scientific and technology policy, and political science.

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