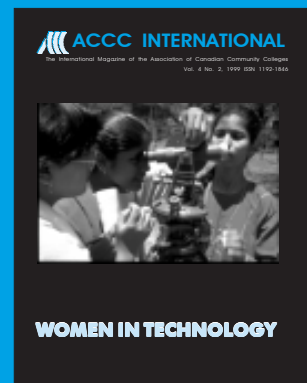


RESEARCH in Colleges and Institutes?



The Marine Institute's Flume Tank

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At the Frontier

In the early years of the college and institute movement, our institutions faced many challenges. The most significant of these was the need to create a climate of value and credibility regarding our form of post-secondary education. Until our creation, the post-secondary arena was exclusively dominated by our colleagues at the university level. Much has changed over the years and we are now seeing a growing recognition of the role of our institutions. My sense is that we are now facing the same challenges as we begin to move into another “cherished” domain of the universities: research.

Colleges and institutes are at the frontier of an uncharted territory called research and development. Some have succeeded in putting down roots in this new area and prospering while others have yet to enter. However, the well-established university research community is not about to fling open its arms and unabashedly welcome the college sector into the fold.

The world of research is large, complex, eventful and tantalizing and the rules have served it well. The federal departments and agencies that are responsible for research and innovation funding are primarily focused on the university sector. Colleges are newcomers to this world and must understand the rules first before calling for change. We must encourage collaboration with the university sector. At the same time, the role and effort of colleges in research and development must be valued and nurtured by the key players. Each time the Prime Minister promises more funding for research in a knowledge-based economy, we welcome it. However, this promise is often immediately

followed by a qualifying statement such as “research funds for universities”. Then come the editorials and page-one articles in the *Globe and Mail* on the value of research and innovation. No mention of colleges. Should we take out a one-page \$50,000 advertisement in the *Globe* and rebuff the neglectful mention of colleges and institutes? Or, should we continue to lobby, advocate and take our wins and publicize them?

The College Research Development Fund of the Canada Foundation for Innovation was a key highlight in the Association’s advocacy career. The subsequent unveiling of a second competition for this fund is also another direct win. Our 2nd Association-sponsored Research Symposium was also a win. Five years ago, no one would have thought that a conference on this topic would have attracted any participants. The Association will continue to lobby as we did during our recent presentation before the federal government’s Standing Committee on Finance. The message was clear...college and institutes of technology must be on the radar screen when it comes to research.

Our gains will continue to be forthcoming. Colleges and institutes have expertise, community, industry and business linkages and the responsiveness needed to shine in the area of research and development. The research activities and specialities of some of our member institutions have been highlighted in this issue of College Canada. We cannot do justice to all colleges and institutes involved in research due to space limitations but the articles herein give a taste of the depth and breadth of the innovation and knowledge-building capacity contained within the college system.



Gerry Brown
President, ACCC

New Secretariat Structure

On April 1, 1999, the ACCC secretariat adopted a new structure to better serve the Association's members and carry out its mandate of advocacy, forum, marketing and partnerships.

Under the previous structure, the secretariat was divided into two areas: the International Services Bureau and the National Services Bureau. The new structure is based on areas of responsibility rather than geographical location, and organizes secretariat personnel into three interactive divisions: Member Services and Public Policy; Marketing and Development; and, Partnership Programs. The Corporate Services department and the Office of the President provide financial management and direction to these divisions.

Headed by Terry-Anne Boyles, Vice-President, the Member Services and Public Policy Division has the primary responsibility for Association-wide advocacy, public policy, representation, forum and information services. The Division includes the Information Services Unit (responsible for publications, documentation centre, communications, media and public relations and the college contacts network) and the Conference Services Unit.

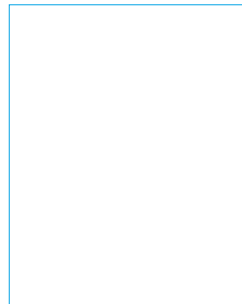
The Marketing and Development Division is headed by Nejat Gorica, Vice-President, and is responsible for marketing of college and institute capacities nationally and internationally as well as developing new partnership opportunities for the ACCC membership. Once programs and partnerships are secured, they are transferred to the Partnership Programs Division for implementation and management.

Led by Vice-President Jean-Robert Vaillancourt, the Partnership Programs Division is responsible for all international and domestic implementation of programs and contracts. The four teams within the Division ensure that effective, efficient

and collaborative relationships are maintained with member institutions, partners and funders. Programs such as the Canadian College Partnership Program (CCPP), Partnership for Tomorrow Program (PTP) and the Industry Canada Student Connection Program, along with international development programs throughout the world, are managed by the Partnership Programs Division.

Financial, administrative and human resources management for the secretariat fall under the Corporate Services Unit, led by Director Ramon Lashley. The ISO policies and procedures governing the operations of the secretariat are also monitored by the Corporate Services Unit. The Office of the President is responsible for overseeing the functioning of the secretariat and serves as the link to the Association's Board of Directors.

New Chair of the ACCC Board of Directors for 1999-2000



Jean-Denis Asselin, Director General of Cégep de Saint-Jérôme, was elected as Chair of the ACCC Board of Directors for 1999-2000. Mr. Asselin replaces Mr.

Leslie O'Reilly, Executive Director and Chief Executive Officer of the Marine Institute in Newfoundland, who served as Chair from 1997-1999.

With a Bachelor of Arts degree from the University of Montréal and a Masters in Administration from the University of Sherbrooke, Mr. Asselin began his career in education as Professor of Administrative Techniques at Cégep de Jonquière, where he paved the way for individualized learning. In 1980, he became Advisor of Adult Education and Business Services at Cégep Lionel-Groulx in Sainte-Thérèse and

was promoted to Coordinator a few years later. Mr. Asselin contributed to the launch of the Québec Institute of Computer Science, one of the first college technology transfer centres ever created.

Mr. Asselin became involved with ACCC in 1992 as Director, Member Services. During his tenure, Mr. Asselin contributed to the development of several national projects. He became Director General of Cégep de Saint-Jérôme in 1994, and has continued to participate in ACCC activities as a member of several committees. Notably, Mr. Asselin was a member of the working group which led to the creation of a fund by the Canada Foundation for Innovation aimed at colleges and technical institutes.

New Board Members

The following members of the ACCC Board of Directors were elected during the 1st World Congress of Colleges and Polytechnics: Jennifer Brause, Red Deer College; Jacques Désilets, Cégep de Sainte-Foy; Pat French, NorQuest College; Vincent Guay, Cégep François-Xavier-Garneau; Paddy Joe Hudson, New Brunswick Community College - Miramichi; Michael Kelly, Nova Scotia Community College - Marconi Campus; Lori Lalonde, University College of the Cariboo; Doug MacRae, Keyano College; and, Erika Wintersinger, St. Lawrence College - Kingston Campus.

New ACCC Members Information Hotline

On October 18, ACCC launched a new telephone hotline designed to respond to membership requests for information. Members simply call (613) 746-5656.

NELI '99

The second National Executive Leadership Institute (NELI) was held July 16-22, 1999 at the Lady Eaton Estate of Seneca College in Toronto. NELI was created in 1997 by the College Presidents' Network to respond to the ongoing need for professional development for college presidents and to encourage current administrators to consider a presidency in their future careers. This summer's Institute was a great success and learning experience for the 15 participants. The third NELI is scheduled for July, 2001.

1st World Congress

ACCC, and host colleges Cégep de Sainte-Foy, Champlain Regional College, Collège François-Xavier-Garneau and Collège de Limoilou, successfully hosted the First World Congress of Colleges and Polytechnics in Quebec City from May 30-June 2, 1999. Opened by His Royal Highness Prince El Hassan bin Talal of the Hashemite Kingdom of Jordan, the Congress included network sessions, workshops, keynote addresses and expert panels.

Over 2,000 participants from more than 70 countries came together to learn from each other and discuss relevant issues. Recommendations dealing with accessibility, finance, partnership and human resource development were drafted by the participants. The Congress also saw the establishment of an Interim Steering Committee, tasked with developing a World Council of Colleges and Polytechnics and organizing future world congresses.

The text of selected keynote speeches as well as the congress recommendations are available on the ACCC website at: worldcongress.accc.ca.

ACCC Awards Video

ACCC gratefully acknowledges the contribution of Michel Barrette,

Coordinator of the Broadcasting Television Department at Algonquin College, to the 1999 ACCC Awards Program. Mr. Barrette, assisted by student Sean Rombough, produced the video depicting the achievements of this year's awards winners. Shown at the Closing Banquet of the First World Congress of Colleges and Polytechnics, the video was very well received by those in attendance.

Pan-Canadian Protocol for the Transferability of Learning

The ACCC Transferability and Mobility Task Group was formed in June, 1997 to examine the issues surrounding the transferability of learning. In the spring of 1999, the Task Group unveiled the Pan-Canadian Protocol for the Transferability of Learning which has since been endorsed by over 50 ACCC member institutions. Signatories agree to maximize the recognition and transfer of learning acquired through formal education, workplace training and work and life experience. Greater mobility and accessibility gives students the ability to move easily from work to school and vice versa, increases college participation and creates a more active, knowledgeable and skilled work force. For more information, please contact Michèle Clarke, Manager of Human Resources and Administration at tel.: (613) 746-2222 ext. 3150, fax: (613) 746-6721 or e-mail: mclarke@accc.ca.

Public Policy Update

The Association appeared before the House of Commons Finance Committee on November 18, 1999 as part of the consultation process for the 2000 federal budget. The supporting Brief focused on the government's need to increase transfer payments in support of post-secondary education; establish a fund for applied research, product and process development in colleges; create a national educational technology professional development

program for college and institute staff; and, support the creation of an international learning strategy for Canada.

In May, 1999, ACCC appeared before the Federal Standing Committee on Finance studying the issue of productivity. The Association focused on the need for investment in life-long learning as a national project, with expanded access to learning and training. ACCC also called for the government to respond to the innovation needs of small- and medium-sized enterprises by creating a funding program to enhance the development of the applied research and product development capacity at Canada's colleges and institutes.

With post-secondary education and transfer payments on the agenda of the 40th Annual Premiers' Conference, held August 9-11, 1999, the Association sent an advance Brief to all provincial and territorial premiers and ministers of education. The Association urged that significant priority be placed on the restoration of the funds removed from the support of post-secondary education within the Canadian Health and Social Transfer payments and to work with the federal government to increase future support for post-secondary education. The Brief also outlined the preliminary findings of the student debt task group, which found that vast numbers of middle income families who are either ineligible for government loans or do not have the necessary non-encumbered collateral for bank loans, are selling or re-mortgaging homes, cashing in Registered Retirement Savings Plans or using credit cards to finance their own, or their children's education. This last point received media attention, with Gerald Brown, President of the Association, quoted in both print and radio reports.

The text of each of these Briefs can be found at www.accc.ca. For information regarding ACCC's advocacy efforts, contact Terry Anne Boyles, Vice-President, tel.: (613) 746-2222 ext. 3144, fax: (613) 746-6721 or e-mail: taboyles@accc.ca.

Research Symposium

The Second College and Institute Research Symposium was held November 30 in Ottawa, immediately prior to the Innovation Canada: Alliances for the New Millennium Conference. The Symposium was designed to: enhance the roles and competencies of ACCC member institutions in basic and applied research, product development and technology diffusion; increase access to funding sources; and, maximize college and institute participation in the Innovation Canada event. The agenda included a keynote presentation by the President and Vice-President of the Canada Foundation for Innovation research fund, presentations on why research is important to institutions and a showcase of college and institute research initiatives. For more information, contact Terry Anne Boyles, Vice-President, Member Services and Public Policy at tel.: (613) 746-2222 ext. 3144, fax: (613) 746-6721 or e-mail: taboyles@accc.ca.

VIIIth Francophonie Summit

Delegations from the 50 member countries of La Francophonie came together September 1-5, 1999 in Moncton and Dieppe, New Brunswick to exchange views on youth, the global economy and new technologies. In the final declaration of the Summit, the heads of state affirmed that, "[They] will ensure that young people have access to proper training, vocational and technical training in particular, and are able to find a job, express their creativity, live in freedom and security, and grow and develop in their own cultures, at the same time opening their minds to others." The recommendations presented are available on the web at: www.sommet99.org/english/medias.cfm.

The New Brunswick Community Colleges Network was a co-organizer of this prestigious event. The Association also participated in the summit, with booths at the Vocational and Technical Training Showcase and at the Francophonie Village. ACCC made three presentations, one during the official opening of the Showcase, one at a round table discussion concerning the youth recommendations and one at a virtual symposium organized by Collège Boréal. For more information, contact Paul Brennan, Manager, Constituency and External Relations at tel.: (613) 746-2222 ext. 3132, fax: (613) 746-6721 or e-mail: pbrennan@accc.ca.

Electronic Network Groups

As a result of recommendations from the network sessions at the First World Congress of Colleges and Polytechnics, where a number of affinity groups requested an electronic forum to support and continue their discussions, ACCC has created several electronic network groups. Those interested may subscribe at the appropriate web address.

The Senior Institutional Administrators Network Group can visit www.accc.ca/english/forum/networks/menu.asp?List=senioradmin;
Students Network Group can access www.accc.ca/english/forum/networks/menu.asp?List=learner;
Deans and Directors of Nursing and Health Services Programs may subscribe at www.accc.ca/english/forum/networks/menu.asp?List=hs-si;
and the discussion group for Deans and Directors of Student Services is located at www.accc.ca/english/forum/networks/menu.asp?List=st-services.

College Presidents' Network Update

The College Presidents' Network (CPN) Annual General Meeting was held in May, 1999 as part of the Association's annual conference, which took place in Quebec City. A new CPN Executive was established which represents the various regions of Canada and is composed of the following members:

President: Rob Turner, Olds College, Alberta
Vice-President: Tim McTiernan, Canadore College, Ontario
Secretary: Berry Calder, College of the Rockies, British Columbia
Treasurer: Jackie Thachuk, Red River College, Manitoba
Members-at-Large: Ray Ivany, Nova Scotia Community College, Nova Scotia; Claude Chénier, Heritage College, Quebec
Past President: John Cruickshank, formerly of Vancouver Community College, BC
Ex-Officio: Brian Desbiens, Sir Sandford Fleming College, Ontario, Gerry Brown, ACCC

In addition to addressing the issues facing the presidency during the first Executive meeting in October, 1999 in Toronto, the CPN began work on a number of future events such as:

- a possible winter workshop on the "Role of Presidents in Fundraising and Foundations";
- a request for candidates for the 2000 "Distinguished Service Recognition Award";
- the 2000 AGM which will be held on May 28, 2000 within the context of the ACCC annual conference in Whitehorse, Yukon; and,
- the 5th Presidents' Academy which will be held July 15-21, 2000 in Mont Tremblant, Quebec.

Two Energy Efficiency Student Competitions

The ACCC Energy Efficiency Program is pleased to announce a competition aimed at journalism, advertising and marketing students enrolled in a college or institute. To win a \$1,000 prize, the student must develop a marketing strategy for promoting energy efficiency to students, staff and faculty in Canadian colleges and institutes. The strategy should include the usual elements contained in a marketing strategy, as well as tools and messages for each of the target audiences. Specific questions to be addressed include the following: Why is energy efficiency important to colleges and institutes? What are the barriers to implementing energy efficiency in colleges and institutes? What are the means to eliminating those barriers? The strategy will become one of the tools used by ACCC in promoting the energy efficiency program in the year 2000.

An Energy Efficiency design competition is also being held and is open to arts and design students, as

well as other interested students, enrolled in a college or institute. The objective of the contest is to design an attractive sticker, with wide appeal, that promotes energy efficiency and can be used in the workplace and home, on computer equipment, faxes, printers, lights switches and home appliances etc. The sticker can be designed using recycled materials. Innovative designs other than a sticker will also be considered. Two winners will be selected for a cash prize of \$500 each. The winning designs will become key promotional materials for the program, and the artist(s) will be footnoted on all future publications.

The selection committee for each competition will comprise experts in the field of journalism as well as representatives from ACCC, Natural Resources Canada and the Energy Efficiency Steering Committee. Please forward your entry no later than January 31, 2000 to: Gail Mulhall, Senior Program Officer/Coordinator, ACCC Energy Efficiency Program, 1223 Michael Street North, Suite 200, Ottawa, Ontario K1J 7T2. Tel.: (613) 746-5916, fax: (613) 746-6174 or email: gmulhall@acc.ca



Sandrine's Gift

In May, 1999, an eleven-year old girl, Sandrine Craig, was tragically killed in a school bus accident in Eastern Ontario. Her mother and teenage brother decided to donate Sandrine's organs to six recipients. The wave of response to the accident and the death of Sandrine (over 90,000 organ donor cards were distributed in a three-week period) led to the creation of the national Sandrine's Gift of Life Organ Donation Awareness Campaign. The co-Chairs of the campaign are broadcaster Don Cherry, the Honourable Gilbert Parent, Speaker of the House of Commons and Diane Craig, Sandrine's mother.

Only 15 out of every million Canadians are organ donors, a rate which ranks in the bottom half of countries which perform organ transplants. The Executive Committee of the ACCC Board of Directors supported the involvement of the Association in the Campaign due to the community-oriented role of the colleges and the involvement of students. ACCC will soon be contacting member colleges and institutes and their Student Associations to provide information on the campaign that can be used within the institution and the community. Organ donation is a very personal decision, but one that can be made ahead to spare loved ones agonizing decisions in trying times. For more information on the Sandrine's Gift Campaign, visit www.sandrinesgift.com or contact Terry Anne Boyles, Vice-President, Member Services and Public Policy at tel.: (613) 746-2222 ext. 3144, fax: (613) 746-6721 or e-mail: taboyles@acc.ca.

Career Opportunity

The Partnership Programs Division of ACCC is seeking a Director of Operations to coordinate and manage all of its project field operations as well as ensure compliance with contract/agreement obligations. The Director will provide leadership to divisional staff responsible for the management of national and international projects and must ensure the coordination of work assigned such as the preparation of project reports, evaluations, work plans and the development of project budgets, etc.

Interested candidates should possess among other qualifications: significant experience in the college and institute network; knowledge of the capabilities and interests of Canada's colleges and institutes; familiarity with the national issues in post-secondary education, training and global competitiveness; and, extensive knowledge of technical/vocational training and educational systems and methodologies in Canada.

For more information, please contact Michèle Clarke, Manager, Human Resources and Administration at tel.: (613) 746-2222, ext. 3150.

Applied Research at Colleges and Institutes in Canada

By Dr. Norman Streat
Dean, Applied Research
Director, Technology Centre
British Columbia Institute of Technology,
Burnaby, British Columbia

Applied research is a growing trend in Canadian colleges and institutes. Since the creation of four technology transfer centres at Cégeps in Québec in the early 1980s, increasing numbers of Canadian colleges and institutes have looked beyond their traditional roles as purely teaching institutions and established applied research programs in a wide variety of disciplines. The trend became evident earlier this year when the Canada Foundation for Innovation (CFI), created by the federal government to revitalize Canada's research infrastructure, called for applications to its College Research Development Program. The CFI competition drew submissions from more than 30 colleges and institutes and resulted in the award of approximately seven million dollars to 15 institutions in six provinces.

Although Québec remains the most active region with 23 applied research centres, British Columbia, the Yukon, Newfoundland, Ontario, the Prairie provinces and the Maritimes have all established dedicated college-based research centres. The majority of centres focus on applied rather than basic or fundamental research because of the "good fit" between applied research and the traditional role of colleges in supporting local economic development. Many colleges and institutes have established advanced technology training programs to meet the needs of industry in their community. In such cases, it has been relatively easy to harness the expertise of the faculty, the technical facilities of the college and the enthusiasm and energy of the students in order to establish applied research projects in niche areas that assist local industry in developing or applying technology. This trend has advanced more rapidly in those regions where financial support has been forthcoming from provincial governments and federal agencies such as the National Research Council-Industrial Research Assistance Program.

The benefits accrued to the college from its involvement in applied research are just as important as those received by industry. Institutions that engage in applied research report that these activities keep faculty current and enhance their job experience thus enabling the college to attract and retain high-quality instructional staff that they might otherwise lose in today's competitive marketplace. Involving students in research enhances the learning process and increases the relevance of

educational programs. Successful applied research activities also develop a positive image for the institution in the community, which in turn attracts new students and increases job opportunities for graduates. Valuable partnerships developed with industry and the community lead to the increased utilization of equipment and facilities and revenue which may be leveraged by any potential government funding programs.

While all of these benefits are achievable to some extent, one should caution that it may not be possible to maximize them all at the same time. For example, focusing on maximizing revenue may not be compatible with achieving the maximum benefit for college faculty and students. As a result, institutions have developed different strategies for their applied research centres based on their own specific needs and objectives. Considerations include: whether or not the centre is structured as a private entity or is managed directly by the college administration; the extent to which full-time Research and Development staff are employed versus teaching staff who are only available part-time; the extent of student involvement; the attitude towards private sector competition; whether one targets local industries or aims for the world market; and, the importance of federal and provincial granting programs.

Even in the most fertile research environments, the challenge of involving large numbers of college faculty remains. At the conceptual level, this obstacle can be partly attributed to the colleges' traditional focus on teaching as well as to the traditional view of research as a university prerogative. Attaching the research label to colleges as well as universities will involve nothing less than a major cultural shift. At the practical level, the major inhibiting factor is a lack of time due to the high teaching loads of college and institute faculty. Facilities, equipment and funding for research also require money and staff with the time to chase industry and granting agencies for support. Those institutions that have been successful have addressed the practical issues by employing professional staff to market and administer their applied research programs.

Despite the challenges, the example set by the 15 institutions that received support from CFI's College Research Development Fund will undoubtedly spur others to follow the same path. Allies which can be enlisted include the National Research Council – Industrial Research Assistance Program which delivers technical support to Canadian industry through a network of Industrial Technology Advisors spread across the country,

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Room to Move - Humanities and Social Sciences Research

By Roger Elmes
Dean, Kwantlen University College

The topic of research by college faculty has appealed to me for at least two decades. As the director of the Association of Canadian Community Colleges (ACCC) Canadian Studies Bureau from 1979-1983, I had the opportunity to begin lobbying the Social Sciences and Humanities Research Council (SSHRC) and the Natural Sciences and Engineering Research Council (NSERC) to open their doors more fully to research grant applications from community college faculty. The outcome of those efforts took the form of a grant from SSHRC to undertake a survey of community college and institute-based research in the social sciences and humanities. It came as no surprise to us that 24 percent of respondent faculty were engaged in research and 39 percent were interested in conducting research, if sufficient funds and release time were provided. My own observations suggest that if we conducted the survey today we would get roughly the same results. About 40 percent of college faculty would still feel blocked by a lack of time and funding, while 25 percent would still be grinding away with none or little of either of these scarce resources.

The most notable changes to this resource scenario were the recent calls by the Canada Foundation for Innovation (CFI) for research infrastructure proposals from colleges and institutes. In British Columbia and other jurisdictions, provincial governments have established programs which “marry” CFI and other federal grants to provincial research support. The national profile provided by ACCC in terms of lobbying for research support for its member institutions, hosting sessions at the annual conference and maintaining a network are also welcome initiatives.

However, our total gains in social sciences and humanities

research have been, if not minimal, then at least very small. There is a tremendous but wasted capacity for research in our colleges and institutes. This applies to all departments, programs and disciplines from automotive repair to sociology. To illustrate, let’s turn to Kwantlen University College in Greater Vancouver. Created in 1983 as an offshoot of Douglas College, Kwantlen is British Columbia’s largest college and became the province’s fifth university-college in 1995. With a focus on “applied” degrees, Kwantlen is seeking to maintain its ties to the community, business and industry. Unless they can be linked directly to one of these areas, traditional degrees in arts and sciences have not been supported.

Given this background, it is interesting to note that Kwantlen, as an institution in transition, does not have a faculty workload differentiated between degree and non-degree programs as do the other four university-colleges. Thus, any release time or other support for research comes from external funding. Nonetheless, 25 percent of the faculty undertake a considerable amount of sustained research in the social sciences, business and, to a lesser extent, health sciences. The bulk of the research is usually short-term, contractual, negotiated by faculty and valued at less than \$50,000. Topics have ranged from the fisheries and forestry to land use disputes, driver attention while operating a vehicle and cross-cultural issues in Indo-Canadian women’s health in the perinatal period. Some of these projects have been conducted in conjunction with universities, others have remained college-based but all have dealt with substantive issues, typically within a sound theoretical framework.

As an institution in transition, Kwantlen is responding to the capacity of its faculty for sustained research by creating an institutional infrastructure to facilitate and support research grant applications, research contract negotiations and the administration of contracts and grants. We know, as does every college, of the tremendous needs of our local communities, businesses and industries for competent research in support of their legitimate objectives. We also know that we can do a better job of tracking calls for proposals by many federal and provincial government departments and agencies. While SSHRC, NSERC and the National Institute of Health are important, they are only one group of players. Our communities are also players. Colleges and university-colleges have the tremendous advantage of facing daily reality checks within their operating environments. Less insulated and isolated than universities from their communities, industry and business, these institutions are much better placed to respond to research needs identified, implemented and driven by these constituents. Universities are playing catch-up in terms of these liaisons while colleges are scrambling to create the infrastructure and support mechanisms necessary to facilitate research. It is difficult to ascertain whether the universities will be able to adapt before the research capacity of the colleges begins to catch up. But without one or both scenarios coming to fruition, our constituents will continue to be short-changed.

A good illustration of this process is SSHRC’s current competition for 24 Community

Cont’d on page 15

Serving Research in the Quebec Colleges

by **G rard Lombard**

Association pour la recherche au coll gial

Quebec has experienced remarkable growth in college-sector research during the past 25 years. Attributable in large part to the uniqueness of the college system, the increasing endorsements of college-based research activities is also due to the dynamism of the researchers themselves. College education in Quebec includes a component which is taught at the university level in other Canadian provinces. Consequently, the Quebec college network possesses highly qualified scientific personnel: close to 11 percent of college staff hold a doctoral degree, more than 50 percent have a master's degree and close to ten percent hold a bachelor's degree in leading-edge technology sectors.

A 1996 study conducted by the Fonds FCAR (Fund to Support Research and Researcher Training) - a public body created in 1984 to support scientific and technological development in Quebec - showed that the scientific productivity of college researchers is comparable to that of university researchers. In addition, the colleges have at their disposal first-class scientific equipment with an estimated value of one billion dollars.

The favourable conditions for pedagogical, technological or basic research in Quebec colleges were formalized in 1993, through the inclusion of research activity in the Colleges Act (Loi des coll ges). The Act stipulates that a college may contribute to the development and completion of technological innovation projects; to the establishment and distribution of new technologies; and, to development in the region through work force training activities, applied research activities and the provision of technical assistance and information to enterprise. It also states that a college may conduct studies or pedagogical research and support college personnel who participate in funded research programs. Colleges can also provide services or permit the use of facilities and equipment for scientific activities during normal operating hours, with priority given to the needs of full-time students.

The integration of a research culture within Quebec colleges has also been assisted by various funding programs. The Program to Support Research in Education and Training (Programme d'aide   la recherche sur l'enseignement et l'apprentissage) and the Program to Support Technological Research (Programme d'aide   la recherche technologique) are administered by the College Education Department of the Ministry of Education. As part of the provincial Ministry for Research, Science and Technology, the Fonds FCAR not only provides support for

basic research but also ensures that proposals solicited by the Canada Foundation for Innovation are scientifically evaluated prior to submission. Over one-third of the proposals which obtained funding in the last CFI College Research Development Fund were submitted by Quebec colleges.

Research conducted in Quebec colleges has focussed on many different disciplines and areas of expertise. However, the numerous benefits stemming from the work of researchers can be categorized in four main areas, including teaching, educational quality, the production and dissemination of scientific knowledge, as well as regional and national development. Some specific benefits have included the integration of college researchers into university research teams and research centres; the publication of numerous scientific articles in a variety of specialized journals; the creation of 23 college technology transfer centres; the development of welcoming and integration sessions for students experiencing learning difficulties; and, the establishment of learning assistance centres for French and Mathematics.

Notwithstanding the high degree of legislated support, the success of the college-based research movement in Quebec can also be related to the coordination and information sharing which exists between institutions. Established in 1988, the Association pour la recherche au coll gial (ARC)/Association for College Research is the primary forum for college researchers. The ARC is mandated to:

- promote the development of research in the college sector;
- represent its members to the public as well as the authorities linked to research in the college sector;
- promote and defend the interests of researchers working in the college sector;
- encourage and facilitate the implementation of research policy and development plans, as well as effective procedures for the administration of research in the college sector; and,
- bring together, inform and encourage individuals who are interested in the development of college research.

To achieve these goals, the ARC has developed a number of key promotional tools, including a newsletter, published four times a year, which serves as a liaison vehicle among the various players in Quebec's college research sector. In addition, various prizes are awarded by ARC to college-based researchers. The Reconnaissance (Recognition) prize highlights the contribution of an individual or group to the development of college research

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Applied Research at the Marine Institute by Dr. Peter Fisher

Since its affiliation with Memorial University of Newfoundland in 1991, the Marine Institute has maintained its unique identity as a technical institute and continues to offer a suite of education and training at the practitioner, certificate, diploma of technology, advanced diploma and degree levels. With a legislated mandate to contribute to applied research and technology transfer, the Institute undertakes activities that are industry-driven, cost-shared by industry, and wherever possible, undertaken collaboratively with industry partners. The majority of the Institute's research activities are associated with the Canadian Centre for Fisheries Innovation, the Canadian Centre for Marine Communications, the Centre for Aquaculture and Seafood Development and The Fishing Technology Unit.

The Canadian Centre for Fisheries Innovation (CCFI) combines the fisheries-related science and technology capability within the Marine Institute and Memorial University and applies it to the fishing industry. The CCFI has supported over 300 projects in the aquaculture, processing and harvesting sectors, with a total value of almost \$40 million. Over the next five years, the CCFI will conduct research into salmon and trout farming, cod growout, product diversification, waste utilization, value-added shrimp and crab processing, biotechnology, selective fishing and by-catch reduction.

The Canadian Centre for Marine Communications (CCMC) assists Canadian industry in the development of products and services using advanced marine communications, navigation and information technology. It also focuses on strategic partnerships between industry, research centres, academia and government. The Centre is currently active in the development of electronic charts, satellite hydrography and voyage data recording.

With a federally licensed processing plant that supports the investigation and development of seafood products or by-products, the Centre for Aquaculture and Seafood Development (CSAD) has supported the transition of the Atlantic Canada fishing industry through research in

aquaculture and assistance in the development of a number of products that have been successful in the national and international marketplace. The CSAD's aquaculture infrastructure also includes a freshwater laboratory dedicated to research on species showing promise for culture in Atlantic Canada, as well as salt water marine culture and fish health facilities. The Centre is now working with industry on the preparation of nutraceuticals, medicinal and pharmaceutical products from marine by-products and is examining the extraction of valuable materials from shrimp and crab shell waste and fish waste.

The Fishing Technology Unit (FTU) is committed to improving the viability of the local fish harvesting sector while focusing on the development of technology and harvesting strategies that lead to the improved sustainability of global fish resources. At the centre of FTU operations is the world's largest circulating water channel or "flume tank", equipped with a 20m long x 3m high observation window. The tank enables researchers to construct scale models of new fishing gear designs and to simulate their behaviour under controlled conditions. Underwater cameras and a data acquisition system provide information on the performance of the models. Full-size gear is tested at sea using vessels provided by industry partners.



Testing a scale model of fish harvesting gear in the Institute's Flume Tank

The FTU was successful in the recent Canada Foundation for Innovation competition and received an award from the College Research Development Fund. This infrastructure funding, together with contributions from industry partners, will enable the Unit to significantly enhance its activities both onshore and at sea. In particular, the use of underwater cameras during sea trials will provide an improved understanding of fish movement,



The Marine Institute's aquaculture research laboratory

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Applied Research in Environmentally Sustainable Agriculture

By Abimbola Abiola Ph.D., P.Ag., C.A.C. Chair, Applied Research Committee Olds College, Olds, Alberta

Although 50 percent of Canada's technical professionals with post-secondary training are graduates of college programs, their alma maters are surprisingly unknown in the realm of applied research. Yet, all colleges traditionally work with industry groups and provide training in hands-on, practical and applied research and many are now degree- and applied-degree-granting institutions. Despite the key role colleges play, government funding of applied research in colleges has been dismal – only one percent of Canada Foundation for Innovation funds was allocated to colleges. Furthermore, none of the government research agencies are dedicated solely to funding and coordinating college-level applied research. At the same time as the private sector is forging research alliances and partnerships with colleges, many provincial governments also remain unaware and fail to fully embrace the concept of applied research in the colleges within their mandate. Proponents of, and participants in, college-level research are left to shake their heads and wonder why recognition and funding are disproportionate to the breadth, depth and economic impact of the applied research emanating from the college system.

Founded as an agricultural research farm in 1911, Olds College is a significant proponent and participant in applied agricultural research activities that demonstrate benefits to the student, the taxpayers and the college; provide a solution to an industry challenge or problem; and, have the necessary infrastructure and personnel to successfully complete the project. The often private-sector sponsored research infrastructure at Olds College includes: a Composting Technology Centre; a Prairie



Horticulture production research greenhouse

Turfgrass Research Centre; the Bank of Montreal Landscape Pavilion; Research Greenhouses; a Swine Genetics Facility and Feed Mill as a joint venture with UGG (Unipork and Unifeed); a Multipurpose Livestock Pavilion for training and research in cattle and

sheep artificial insemination techniques and embryo transfer; the first North American John Deere Training Centre and labs; a Ducks Unlimited Wetland Site; a

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Mining Related Research at Cambrian College

By Ivan Filion, V.P. Academic, Cambrian College and Darryl Lake, Executive Director, NORCAT

Colleges across the country can testify to their dedication and involvement in applied research. Cambrian College in Sudbury, Ontario is no exception.

The Beginning

Cambrian has provided research assistance to the mining industry for nearly two decades. Initially, provincial labour legislation helped create the Northeastern Ontario Occupational Health and Safety Resource Centre to provide site inspection services, act as a clearinghouse for emerging safety practices in industrial settings and offer workplace training. In 1986, after a history of fatal rock burst accidents in hard rock mines in Northern Ontario, Cambrian created the Ontario Centre for Ground Control Training to assist mining companies in adopting safer ground support practices by training miners to identify unstable rock masses and install adequate structural support. Both Centres brought Cambrian closer to the training and technical needs of industry and led to the creation of The Northern Centre for Advanced Technology Inc. (NORCAT) in 1995.

The Present

A non-profit corporation, NORCAT operates from both a college-based complex and an underground facility leased from Falconbridge Limited and located in Onaping Falls. The NORCAT client base spans the breadth of Canada and 30 countries around the world. By providing equipment, facilities and expertise to companies and entrepreneurs in the mining sector, as well as other sectors of the northern economy, NORCAT is integrally involved in the development and testing of new technologies, equipment, prototypes and processes. With the capacity to develop, package and deliver any employee training program that may be required to meet government regulations or industry standards, NORCAT provides specialized training in ground control and support systems, blasting, avoidance of physical hazards and related health and safety awareness. Large mining companies such as Inco, Falconbridge, and Kidd Creek currently use NORCAT for all contractor safety orientation training.

Features of the NORCAT complex include multi-purpose laboratories with flexible bench space, high ceiling garage spaces equipped with specialized weight-bearing

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Yukon College's Northern Research Institute to Study Impact of Global Warming

The Yukon and federal governments have joined forces to come up with answers on the possible impact of global warming on the Yukon's environment and way of life. The Northern Climate Exchange Centre was recently established at Yukon College's Northern Research Institute (NRI) in Whitehorse. Designed to facilitate local involvement in gathering information and traditional knowledge about the possible changes that may be occurring as a result of global warming north of 60, the Northern Climate Exchange project will also serve as a catalyst for multidisciplinary climate change research. One of the main contributors to the project is the Climate Change Action Fund, a federal government initiative to help Canada meet the commitments it made at the International Climate Change meeting Kyoto, Japan in December 1997.

The NRI was established in 1992 as the research unit of Yukon College. It was recommended as the central agency to carry out the Northern Climate Exchange project because of its ongoing northern research initiatives such as the ten-year Biodiversity Assessment and Monitoring project which is developing a territory-wide community-based system for monitoring and assessing biodiversity. Other NRI initiatives include the Yukon Technology Innovation Centre which manages a technology innovation fund and brings together business, community, education and government interests to explore opportunities for developing new information technology applications.

The Northern Endowment Fund, established by the Yukon Territorial Government, allows the NRI to support scholarly research on northern topics in the humanities and the social, pure, and applied sciences through fellowships awarded each spring. The NRI also provides logistical support to researchers from other areas working in the Yukon, as well as to independent researchers working within the territory. In addition, the NRI provides contract research services to government and private sector interests.

Vision and Research at Sheridan College

Interactive animation is at the leading edge of computer applications today. And Sheridan College is at that edge. In 1998, Sheridan College established its first research unit, the Visualization Design Institute (VDI), through a research grant from the Ontario Research and Development Challenge Fund. The VDI provides researchers, scholars and graduate students with the environment and tools to undertake collaborative research ventures. Its educational mission is to produce "imagineers" of the 21st century, knowledge workers who possess a set of interdisciplinary skills in both technology and design.

A multi-disciplinary establishment, the VDI encourages collaborative partnerships in the areas of scientific, medical, engineering, architectural, economic, entertainment and environmental research. The participation of Silicon Graphics Canada in the VDI will provide leading edge, powerful-graphics super computers, which deliver advanced computing and 3D visualization capabilities. The Institute consists of: the Data Visualization Library, the Northern Digital Motion Tracking Lab, and the Interactive Virtual Environment Lab. The Interactive Virtual Environment Lab has recently been awarded funding from the Canada Foundation for Innovation and the Ontario Innovation Trust.

The VDI will be undertaking collaborative projects in a wide range of research areas and with many partners including Immersion Studios, the Hospital for Sick Children, McMaster University, Ryerson Polytechnic University, the Design Exchange, Inago and the Greater Toronto Airport Authority.

The establishment of the VDI will create in Canada a unique global nucleus for applied research, education and technology transfer in the emerging field of visualization design. As more and more people are able to access and use computer animation technology, they develop more and more uses for the technology itself. With the expertise and vision to be a leading centre of research excellence, Sheridan will, for the first time, be able to make available to the broader research community, the wealth of experience and expertise it has gained through the development of its renowned animation, design and new media programs.

Mining Related Research at Cambrian College - cont'd from page 12

structures, rooms equipped with computer-aided design work stations, shops with finely calibrated precision equipment for performing a variety of tasks and office clusters for resident innovators. The residency offices and some of the lab and shop space is leased to companies

and individuals on a short-term basis for the development of new technologies and products.

The underground centre at Onaping is an adit mine cut into the base of a hillside, with a ground-level entrance

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Michener Institute for Applied Health Sciences

The Michener Institute for Applied Health Sciences, located in Toronto, conducts approximately 20 - 30 research projects each year in the areas of institutional research, studies on the use of technology in health care, contract research with outside companies and quality assurance program research.

Projects in progress or recently completed by the Institute include:

- studying the use of magnetic resonance imaging (MRI) and the personnel required for training;
- studying the status of current and new technology in molecular genetics in order to incorporate new technology into training programs;

- studying the role and educational preparation of paramedics in the health care field for the Ontario Ministry of Health;
- studying the number of personnel required as radiation therapists and physicists in radiation oncology for Cancer Care of Ontario;
- researching background on a quality assurance program developed by the Ontario College of Medical Laboratory Technologists; and
- conducting various pharmaceutical research projects with private sector firms.

For further information, contact Dr. Colin Stone, Director of Institutional Research, Michener Institute for Applied Health Sciences at tel.: 416-596-3101, ext. 3109 or fax: 416-596-3192.

On the Web: A Sample of Websites for College Researchers

Association for Canadian Medical Colleges www.acmc.ca

Association for Canadian Studies www.er.uqam.ca/nobel/c1015

Canada Foundation for Innovation (CFI) www.innovation.ca

Canada's Research-Based Pharmaceutical Companies www.canadapharma.org

Canadian Advanced Technology Association www.cata.ca

Canadian Agri-food Research Council (CARC) www.carc-crac.ca

Canadian Health Services Research Foundation (CHSRF) www.chsrf.ca

Canadian Institutes of Health Research (CIHR) www.cihr.org

Canadian Medical Association www.cma.ca

Canadian Network for the Advancement of Research, Industry and Education (CANARIE) www.canarie.ca

Canadian Nurses Association www.cna-nurses.ca

Canadian Window on Academic Technology Transfer strategis.ic.gc.ca/SSG/tf00156e.html

Coalition for Biomedical and Health Research www.cbhr.ca

Health Canada www.hc-sc.gc.ca

Humanities Research Council of Canada (SSHRC) www.sshrc.ca

International Development Research Centre (IDRC) www.idrc.ca

Medical Research Council of Canada (MRC) www.mrc.gc.ca

National Institutes of Health (NIH) www.nih.gov

National Literacy Secretariat www.nald.ca/nls.htm

National Research Council of Canada (NRC) www.nrc.ca

Natural Sciences and Engineering Research Council of Canada (NSERC) www.nserc.ca

Networks of Centres of Excellence (NCE) nce.nserc.ca

Social Sciences and Humanities Research Council of Canada (SSHRC) www.sshrc.ca

The Royal College of Physicians and Surgeons of Canada (RCPSC) www.rcpsc.medical.org

Trans-Forum (A Technology Transfer Tool For Canadian Universities and Colleges) strategis.ic.gc.ca/trans-forum

University and College Research Centres strategis.ic.gc.ca/sc_innov/tech/engdoc/7a.html

University and College-related Research Parks strategis.ic.gc.ca/SSG/tf00132e.html

University Medical Discoveries Inc. www.umdi.net

Applied Research at Colleges and Institutes in Canada - cont'd from page 8

many of whom are located at colleges. But, the most valuable allies are the companies that hire college graduates. Small-, medium- and large-sized enterprises will provide the research and development problems that need to be solved and instill the discipline to do so. Therefore, achieving stable long-term partnerships with industry is the major goal of most college-based applied research centres. These partnerships will constitute the major strength that will set college-level applied research initiatives apart and demonstrate their current and future value to the educational sector and to the economy.

Dr. Norman Streat is Dean, Applied Research and Director of the Technology Centre at the B.C. Institute of Technology in Burnaby, British Columbia. An engineer by training, Dr. Streat has headed BCIT's Technology Centre since the Institute was formally mandated to engage in applied research ten years ago. BCIT has developed three major R&D niche areas: information technology, health care and mechanical/electronics applications. The Institute's goal is to achieve an optimum balance of faculty and student involvement with a high level of industry support.

Room to Move - Humanities and Social Sciences Research - cont'd from page 9

University Research Alliances; each valued at \$200,000 per year and running for three years. As a finalist in the competition, Kwantlen is stressing its strong, long-term links to community organizations and the proven track record of its faculty for sustained community-based and community-driven research. We view the grant not as a sum to be spent solely on research, but as a sum to be levered towards creating substantially more research funding, in partnership with our communities, by drawing on the funding sources of those government departments and agencies that regularly contract for research.

What other options do we have? Are provincial governments likely to alter our funding formulae to support research by our faculty? Perhaps they will in 20 years when we have used our existing capacity to establish our reputation. What do we do in the meantime? We could complain. We could conduct more studies. Or we could just do it.

Kwantlen's objective is to establish a self-funding research arm and we are well on our way to achieving that objective. Some colleges are even further along the road. The key is simply to start. Start by making research a part of your college or institute's mandate.

Serving Research in the Quebec Colleges - Cont'd from page 10

while the *Contribution à la recherche technologique* (Contribution to Technology Research) prize focuses on a specific technology research activity which has distinguished itself by its quality. Finally, the *Étudiants* (Student) prize is designed to recognize and reinforce the involvement of students in research activities.

ARC also organizes an annual symposium that provides an opportunity for participants to review the work of college-based researchers. Approximately 50 scientific papers are presented and the symposium proceedings are published. The Association offers an annual program of information-sharing and research training seminars and workshops which promote awareness of research issues within the college community and develop and upgrade research skills. Over the years, the seminars have led to the publication of methodology and theory guidebooks on a variety of topics linked to educational research. Finally, the Association plays an advocacy role, dealing with representatives of funding bodies, government departments and organizations, as well as various associations involved in college research.

Quebec's coordinated approach to college research has proven to be a successful tactic in terms of the advancement of college-based research and development. With knowledge and innovation seen as the key determinants of our society's development, ARC and Quebec colleges must ensure that the research potential of the college system is recognized by and integrated with the broader research community.

1. Association pour la recherche au collégial. *La recherche au collégial: Un potentiel considérable, une contribution significative. (Research in the college sector: a significant potential, an important contribution)* 1997.
2. Mireille Brochu. *Analyse de la productivité scientifique des chercheurs de collège (An analysis of the scientific productivity of college researchers)*, Fonds FCAR and Quebec Ministry of Education.

Editor's Note: Visit the ARC web site at www.microtec.net/~arc/ to obtain a range of information on the Association's activities.

Applied Research in Environmentally Sustainable Agriculture - cont'd from page 12

Research and Demonstration Farm; and, a Tissue Culture Research and Production Laboratory.



Sampling feedlots for aeromicrobiological quality

Over the past 88 years, Olds College has contributed significantly to the field of environmental waste management and composting; land information systems; farm machinery, equipment technologies and applications; horticulture production; livestock production; precision farming and management modelling; and, agri-business management and technology applications.

Many research projects have addressed lingering problems in various industries. For example, Cargill Foods, Lakeside Farm Industries and XL Foods asked Olds College to study



Research projects in the lab

the management of waste in agri-food industries. The College also worked with several feedlots in Alberta to research and develop environmentally-sustainable manure management options. In conjunction with forestry partners, such as Alberta Newsprint Company,

Crestbrook Forest Industries, Spray Lakes Sawmills and Sunpine Forest Products, college researchers developed commercial forest and pulp and paper residue management technologies. Scientists at Olds College are currently working with Chevron, PanCanadian Oil, Norcen Energy, Imperial Oil, HAZCO and Mancroft Resources/EBA to solve environmental pollution problems in the oil and gas industry by developing bioremediation and land reclamation technologies. This approach restores contaminated agricultural land to active production through an environmentally-sustainable and economically-feasible process.

The downsizing of federal agricultural research centres across Canada has left a vacuum in terms of functional and theoretical agricultural research. It has also led to increased interest in industry-sponsored applied research, a phenomenon which is creating more competition and opportunities for institutions like Olds College.

Although colleges are responsive by nature and are hiring more staff with research capabilities and experience, the lack of government support means that certain staffing and infrastructure challenges must be faced alone. For example, of the 70 faculty at Olds College, approximately 44 have

graduate training with research experience at either the doctoral or masters level and many have the industry experience and connections required for applied research. However, teaching workloads in many colleges hinder the involvement of faculty and staff in research as it must often be conducted in addition to their regular work and many collective agreements do not recognize research as part of staff responsibilities.



Composting of municipal and agricultural waste

Numerous colleges also undercharge for their research services which results in a lack of project funds to finance faculty replacements or to develop the requisite research infrastructure.

Canada has a reputation as a world leader in the area of applied agricultural research and Canadian colleges are key contributors to this reputation. To elevate national awareness and attract future research support and funding to colleges, a national body with representatives from colleges, industry, community and the public sector must be established. By promoting and coordinating sectoral research in Canadian colleges, identifying funding sources, encouraging inter-collegiate research projects, providing a national database and forum for college researchers, and advocating to governments and agencies on matters relating to applied research, this body will help to unveil an otherwise hidden and underutilized Canadian research capacity.

Sample of Current Research Activity at Olds College

- **Development of equine embryo transfer technology.**
- **Compaction studies with machinery manufacturers to develop better equipment that will reduce impact on agricultural soils.**
- **Manure management research for more effective handling of cattle and hog manure.**
- **Bioremediation of acidic and hydrocarbon contaminated soils by the process of composting.**
- **Development of a composting process for the safe handling of sheep manure and mortalities.**
- **Screening of evaluation of modified plant species for disease resistance and productivity.**
- **Aero-microbiological studies of feedlots and areas of impact.**
- **Use of compost for disease suppression in turfgrass species.**
- **Development of biological control agents for the diseases of field crops and turfgrass.**
- **Tissue culturing of vegetables, shrubs and trees for commercial applications.**
- **Production of organic fertilizers from hog manure.**
- **Application of precision farming machinery development and agricultural production.**
- **Microbiology of pulp sludge composting.**

their reaction to fishing gear and the survivability of juvenile fish or unwanted species after encountering or passing through fishing gear. The Institute's industry partners are anxious to adopt the new highly selective and environmentally friendly gear designs that will catch only fish of a specified species and maturity while leaving the ocean floor undamaged.

In developing its applied research activities, the Marine Institute has maintained its primary commitment to the quality of its education and training programs. The existence of the research units, and the involvement of industry, faculty and staff in research activities, has contributed significantly to the quality of programming. For example, the aquaculture facility infrastructure has enabled the development of advanced diploma and masters level programs that include first-hand, industry-relevant experience for the students. The Institute is now expanding its applied research activities into areas where the infrastructure has been used predominantly for training. For example, the new Office of Applied Research in Marine Operations will focus on the potential applications of the Institute's marine simulation facilities including ship engineering and full motion bridge simulators.

The development and expansion of applied research at the Marine Institute, and at other colleges and institutes, is often directly relevant to industry. Operational funding is usually derived from industry partners or industry response training or service activities. Although college- or institute-based research is not of lesser value than university-based research, support is not available through the Federal funding agencies that support university research efforts. However, the recent allocation of funds in support of college applied research infrastructure through the Canada Foundation for Innovation, and the announcement of a second competition, represent a growing recognition of the economic value and the potential for growth in applied research and technology transfer activities in the college/institute sector.

Dr. Fisher is the Director of the Division of Instructional Development and Student Services at the Marine Institute in St. John's, Newfoundland. He has overall responsibility for Institute registration, library, guidance and placement services, as well as for computer services, curriculum development and the design and development of learning materials and courses for alternative delivery. Dr. Fisher also manages the Institute's degree programs and coordinates the preparation of funding proposals in support of the Institute's applied research activities.

and horizontal configuration which provides easy access to clients for training, product development and testing. It is also an ideal setting to promote and showcase new machinery and heavy equipment.

The Successes

NORCAT has assisted clients with the development of 41 prototypes in a number of areas including electric motor technology, radio remote drive packages for underground equipment, portable boring tools, underground communications and underwater search and retrieval. Twenty-nine prototypes have been commercialized or deployed in some fashion, while two are undergoing pre-commercial testing.

Applied research projects underway at Onaping include testing the feasibility of producing microbial cultures to improve plant hardiness in an underground setting, controlled foam injection as a tunneling technique and development of electric drill technology for hard rock mining. Other longer-term projects may involve the development of modular bio-filtration units for air purification and applications of magnetic levitation and propulsion in underground mining.

Future Challenges

With the support of its private sector partners, Cambrian plans to establish another research unit – the Electronics Systems for Extreme Environments Center (ESEE) – which will focus on hardening electronic devices for mining automation. The ESEE will assist primary industries and other relevant companies with the implementation and application of delicate electronics systems in harsher conditions by: 1) measuring and publishing scientific articles on specific environmental conditions logged over time where electronic circuitry may be intended; 2) diagnosing failed circuitry and suggesting corrective procedures; 3) performing reliability tests of commercial equipment not yet proven in harsh environments; and, 4) evaluating containment systems specifically designed to protect against harsh environments.

The new Centre and NORCAT are, and will be, key examples of what Canadian colleges and institutes can do and achieve in the area of applied research. Encouraged by the growing recognition of the value of college system in this regard, Cambrian College hopes that governments and private sector groups will continue to help develop the full potential of the colleges' collective research capacity and assist NORCAT in its objective to become a world-class centre for technology development in northern construction and mining technology.

International Computer Driving License Comes to Canada



Perhaps you know something about computers, but find it hard to define what level you are at. What is “basic competence” - a term often cited by employers - in terms of computer usage? The International Computer Driving License (ICDL) establishes a standard definition of practical competence in Information Technology according to an international industry standard. The license matches the needs of both staff and employers in its clear definition of essential computer skills and establishes standards for everyone who uses a computer in either a professional or personal capacity. The license verifies users’ competence, certifies their computer skills and makes them readily mobile within Canadian business and across the rest of the world.

Initially developed in Europe in the late 1980s as a training initiative, the ICDL became a standard-level test for licensing in 1995. It is now used in 25 countries around the world. According to ICDL Canada president and CEO Bryn Jones, “ICDL is the only defined standard for basic computer literacy in the world.”

The licensing process employs a special user-friendly skills card. This card records the skills demonstrated in each of seven computer-related modules: basic concepts, using the computer and managing files, word processing, spreadsheets, database, presentation, information and communication. Once the card-holder successfully completes testing in all seven modules, a license is awarded.

Test centres will be established across Canada in schools, universities, colleges and technical institutes, as well as private and government-run training centres. Discussions are already underway with many colleges and institutes to establish accredited test centres. For more information, visit www.ICDLCanada.com or contact ICDL Canada Limited, 2800 Skylark Avenue, Suite 402, Mississauga, Ontario L4W 5A6, tel.: (905) 602-8094, fax: (416) 352-5660 or e-mail info@ICDLCanada.com.

Mount Royal Named #1 Athletic College in Canada

The consistent championship-winning style of the Mount Royal College Cougars has earned them the 25th Anniversary Overall Supremacy Champion award from the Canadian Colleges Athletic Association (CCAA) which is the national governing body for men’s and women’s college sport in Canada.

Awards... Et Cetera

Internet Student Newspaper Wins Award

The Journalism Program, School of Media Studies, Humber College recently won a prestigious international award. Humber Et Cetera Online, the internet version of the student newspaper, received an Award of Excellence from the College Press Network in their Best of College Press category. The award was presented in Kansas City at the National College Media Convention.

Centennial Wins North American Award

Centennial College was one of seven colleges and universities from across North America honoured with a Retention Excellence Award from Noel-Levitz, a consulting firm specializing in higher education enrollment management. The award recognizes innovative programs and services that promote student success and help to keep students in college.

Private Sector Partnership Award

The Marine Institute and Silverthaw Visual Arts won an award from the Canadian Council for the Advancement of Education for best private sector partnership. A digital video and film production facility, Silverthaw Visual Arts partnered with the Marine Institute to develop Transport Canada-certified training courses for distance delivery target at senior deck and engineering officers.

Bacchus Campus of the Year Award

The Grant MacEwan Community College Students’ Association and its Steer Clear Committee received the Campus of the Year Award from Bacchus Canada. The Association received the award for coordinating the best alcohol awareness and activity programming out of all post-secondary institutions in Canada for 1998-1999. Bacchus Canada is a national network with over 130 members. It functions as a national clearinghouse on alcohol information, coordinates such events as National Collegiate Alcohol Awareness Week and Safe Break Week, and is involved in running poster and advertising campaigns that advocate the responsible use of alcohol.

Assiniboine receives national recognition

Assiniboine Community College was honored this year with two national awards from the Canadian Council for the Advancement of Education (CCAEE). The council represents communications, student recruitment, alumni and fundraising professionals at colleges and universities across Canada. One award was for Best Brochure, College Stream and the other for Best Program, Small Shop, (four or fewer employees) which was related to The Right Choice Scholarship and Bursary Fundraising Campaign.

Dawson College Completes Study on Technologies for Disabled Students

Dawson College recently completed the Adaptech Project which examined the use of computer, information and adaptive technologies by college and university students with disabilities. This nation-wide, federally- and provincially-funded research project was the largest empirically-based study of its kind ever conducted in Canada.

The goal of the project was to gather information which could assist in decision making and ensure that new policies, software and hardware reflect the needs and concerns of a variety of individuals: college and university students with disabilities, the professors who teach them and service providers who make technological, adaptive and other supports available to the higher education community.

The research was divided into three phases. Phase One consulted focus groups of students with disabilities, disability service providers, professors, and other concerned individuals, with the goal of obtaining a sense of the broad issues regarding computer technologies and postsecondary students with disabilities. In Phase Two, structured telephone interviews were conducted across Canada to gather data on: training; advantages and disadvantages of computer use; information on adaptive technologies from the student and disability service provider perspectives; data on what students use and want in terms of technology; the types of technology available for students with disabilities; and, funding. Phase Three involved the distribution of questionnaires to college and university students with disabilities to address the issues of: the type of computer and adaptive technologies students use or wish they were using; the purpose for which students use computers and the Internet; how they purchased their computer and adaptive technologies; why they might not have a computer or adaptive technologies; what kind of computer access is available to them at school; and, what are their views of current government programs and manufacturers who provide equipment.

Funding for the Adaptech Project was provided by the Network for the Evaluation of Education and Training Technologies, the Industry Canada Office of Learning Technologies, Programme d'aide à la recherche sur l'enseignement et l'apprentissage and the Social Sciences and Humanities Research Council of Canada.

The final project report, *Learning Technologies: Students with Disabilities in Postsecondary Education*, is now available on the web at <http://olt-bta.hrdc-drhc.gc.ca/publicat/Dawson79160exe.html>. For further information on the Adaptech Project, as well as the chance to join an e-mail discussion forum, visit www.omega.dawsoncollege.qc.ca/adaptech.

CANARIE Inc. Announces Learning Program

CANARIE Inc. recently announced a new cost-sharing fund that will enhance innovation in Canada's education and training sector. CANARIE is Canada's Advanced Internet Development Organization and works in collaboration with industry, governments and research and education communities to leverage the enabling capacity of the Internet to deliver the benefits of the information age to Canadians.

The CANARIE Learning Program is a \$25 million, four-year program to support development of broadband applications that promote learning at all levels. This program has been established with funding from Industry Canada. The objectives of the CANARIE Learning Program are to enable innovative projects to be undertaken by consortia of institutions and companies and to reduce structural impediments to effective use of advanced networks for education and training. Projects might include large-scale demonstrations, research test-beds, repositories for learning objects or other innovations designed to have a broad-based impact on the education and training sector.

For more information, visit www.canarie.ca or contact Jamie Rossiter, Director, Learning Program, CANARIE Inc. at tel.: (416) 979-2930 ext. 21 or email: Jamie.Rossiter@canarie.ca

Cégep de Rivière-du-Loup Recognizes Students' Personal Commitments

Cégep de Rivière-du-Loup is now offering the Montaigne Profile program which recognizes the personal and social development of students. The Profile is named for XVIth century French writer and philosopher Michel Eyquem de Montaigne, who believed that education was not only found in books, but in all learning opportunities for personal enrichment. Created by Cégep de Limoilou, this new certification is designed to value a student's investment in their personal development through participation in sporting activities, extracurricular activities, cultural projects, travel for study and volunteer work.

Students register for the program when they enter the Cégep. They receive a progress card and forms on which to record their achievements. Points are awarded in six categories of achievement: commitment to study; a professional portfolio; extracurricular activities; community activities; communication and languages; and, national and international awareness.

Students who meet the Profile criteria are awarded a certificate when they receive their college diploma. The program benefits the Cégep by enabling it to offer a value-added college diploma and a stimulating learning environment.

Name Changes

On April 9, 1999, South Winnipeg Technical Centre officially changed its name to Winnipeg Technical College. The new name was designed to clearly communicate the focus on technical education programs and the value of hands-on technical education. The word "Centre" was changed to "College" in order to indicate that the institution is in the business of education and to emphasize the value of technical skills in a competitive job market. The word "South" was eliminated since the college serves students from across the city, province and across Canada.

Alberta Vocational College - Edmonton is now known as NorQuest College. The change of name is the last phase in the transition from a government-administered institution to a board-governed public college. "Nor" stands for the gateway to the north, while Quest expresses the process of seeking and attaining goals through education and training. As a public college, NorQuest will also have more autonomy and flexibility to meet the education and training needs of students and potential employers.

Strategic Training and Results Project Shines

Responding to a need for effective, meaningful and innovative support for individuals making a transition back into the workforce, Nova Scotia Community College (NSCC) launched, in August 1999, the Strategic Training and Results (STAR) project. The STAR program is available to all Human Resources Development Canada Skills Development clients enrolled at the college.

The project is comprised of: career counselling, PLAR and portfolio development, College 101, ongoing support, job readiness development, and employment placement services. College 101 includes ongoing workshops in study skills, time management, information literacy,

test taking strategies, budgeting, networking, goal setting and objectives. Resume writing, interview skills, entrepreneurship skills and other career planning skills are incorporated into the job readiness development component.

Prior to attending the college, each client completes a return to work action plan. While at NSCC, the project offers additional assistance to ensure the student is successful in following this chosen career path. Graduate job opportunities are posted to a website available to all college students. The effectiveness of client retention strategies, interventions and graduate placements will provide the college with an opportunity to evaluate retention and graduate placement initiatives and the role they play in the college.

To date, the response to the STAR project has been overwhelming, with a client participation of approximately 950 students, far surpassing the initial projection of 650. For information, contact Kelly McKnight, Nova Scotia Community College at tel.: (902) 491-6773 or e-mail: mcknigka@nsc.ca.

Laugh a Minute in New Humber Program

Humber College has established a new two-year Comedy Writing and Performance Program. Classes, taught by faculty made up of active members of the comedy industry, begin in September 2000 and include stand-up comedy, improv and sketch comedy, voice, acting techniques, scene study, on-camera acting, physical comedy as well as the business and history of comedy. In addition, an industry presentation for producers, directors, scouts and agents will be arranged for all enrolled students. All applicants must participate in an audition/interview as part of the selection process and it goes without saying that applicants must have a "sense of humour." The program is being guided by an advisory committee which includes

such well-known names as Rick Moranis, Joe Flaherty, Eugene Levy, Dave Thomas, Bruce Jay Friedman and Steve Allen.

News from CADE



The Canadian Association for Distance Education (CADE) has completed a constitutional renewal process to create new board representatives from five sectors within the Canadian mosaic. Bill Fricker, Technology Integration and Innovations Marketing Consultant, Northern Alberta Institute of Technology, is the college sector representative. CADE serves as a forum for distance educators and publishes a quarterly magazine, *Communique, The Distance Education Practitioners' Magazine*, as well as the biannual *Journal of Distance Education*. For more information on CADE, visit www.cade-aced.ca. Non-members can browse while members have access to an online membership directory, board minutes and members' news.

If you are interested in membership in CADE or would like to share information on distance education at your institution, contact Bill Fricker at billf@nait.ab.ca or tel.: (780) 471-7862.

Grant MacEwan Premieres First Canadian Applied Degree in Supply Chain Management

Grant MacEwan Community College is set to offer Canada's first four-year applied degree in International Business and Supply Chain Management. Beginning in January, 2000, the new degree will address a worldwide shortage of supply chain professionals. Supply chain management means integrating - through technology - the information and organizational systems relating to purchasing, production, inventory management, transportation, customer relations and global logistics. Students will participate in two, six-month placements in years three and four.

NAIT-SAIT Audiovisual Link

A high-speed videoconference link between the Northern Alberta Institute of Technology (NAIT) and the Southern Alberta Institute of Technology (SAIT) will be used to deliver interactive distance learning, beginning with the joint NAIT/SAIT Bachelor of Applied Information Systems Technology degree in January, 2000. It will allow NAIT and SAIT to share computer applications and curriculum with each other, and other institutions, while participating in an ever-growing network of learning partnerships.

The NAIT/SAIT AV Link takes the institutes to the next level of interactive distance learning. For example, SAIT's end of the link will be a highly sophisticated classroom featuring MPEG@-based video (the same kind used for DVD movies) and a real-time data link utilizing Internet II technology. Robotic cameras in the room will follow instructors as they move around using infrared targets and instructors will be able to put any student, at either end of the link, onto an eight by six foot screen television for "face to face" interaction with instructors and fellow learners.

SAIT and Canadian Pacific Railway On Track Together

Three customized railway training programs are being offered at the Southern Alberta Institute of Technology (SAIT) for railway companies across the country - perhaps, even around the world. SAIT signed a five-year, \$5 million agreement with Canadian Pacific Railway (CPR) to offer training to its 14,000 employees nationwide. As part of the partnership, CPR will be providing nearly \$1.8 million in equipment for SAIT's new railway training facility - which projects a real-life railroad - and working with SAIT to develop curriculum for the locomotive engineer, conductor and rail traffic controller programs. It is a very dynamic partnership, with SAIT predicting that the railway training facility will be increasingly in demand as large numbers of Canadian railway workers retire, and technological changes in the rail industry mandate the need for highly-trained technical workers. As such, SAIT is working with CPR, the Railway Association of Canada and the Northern Alberta Institute of Technology to establish an Institute of Railway Technologies.

Mobile Learning Centre

Northern Lights College and Scotiabank have partnered to launch a mobile learning centre which offers expanded training opportunities to remote communities and industry throughout the College region. The Centre is in direct response to the challenges employers face in trying to find non-traditional training opportunities for workers.



Mobile Learning Centre with full extension of classroom

The Centre was custom-designed and built by members of the College's Carpentry and Welding programs. It is transported using existing trucking equipment and trained personnel from the College's Professional Drive Education Department. Potential courses made available through the Centre include: airbrakes, first aid, computer training, oil and gas speciality training, workplace hazards information systems and other business and industry-related programs.

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Four Colleges Partner in Petroleum Training

The Canadian Petroleum Training Partnership is a new cooperative venture between the College of the North Atlantic, Lambton College, the Northern Alberta Institute of Technology and the Southern Alberta Institute of Technology, four colleges that specialize in education and training for the petroleum industry. The members of this partnership are committed to providing world-class, industry-certified education and training both in Canada and around the world, with a "one-window" approach or all petroleum and energy industry training requirements.

Formerly competitors for training contracts, these four institutions can now share efforts to promote and market Canada's strong capability in the petroleum sector. The partnership will also provide increased capability to the four members to pursue larger clients and opportunities, and provide a wider range of specialized training programs.

Cambrian Journalism and Public Relations Graduates to Study at Mount Royal College

Cambrian College in Sudbury, Ontario and Mount Royal College in Calgary, Alberta have signed articulation agreements that will enable Cambrian College Journalism and Public Relations graduates to complete Mount Royal's Bachelor of Applied Communications degree in two years, and one year respectively. Mount Royal's Applied Communications degree program offers options in Journalism and Public Relations. Under the terms of these

two-year agreements, Cambrian graduates will follow individualized programs of study at Mount Royal. Both institutions have further agreed to consider cooperation in the exploration and encouragement of opportunities to reach articulations in other disciplines; in the sharing of curricula and curriculum development; and in the exploration of opportunities to collaborate in staff development.

Dr. Mark Lee is the new President of Lakeland College for a three-year term, replacing Steve Pawlak, who retired after four years as President. Dr. Lee comes to Lakeland College from the Briercrest Family of Schools in Caronport, Saskatchewan where he held a number of positions including Professor of Leadership and Management Programs and Vice-President of Finance and Human Resources. Dr. Lee holds a Doctorate in Human Resource Management, a Master of Business Administration in Finance and Management and a Bachelor of Science in Psychology.

Leslie (Skip) Triplett was named President of Kwantlen University College, replacing Gerry Kilcup. Mr. Triplett has served at Kwantlen for 16 years in various faculty and administrative appointments. He possesses a broad business background, having held positions with Stelco, Xerox and BC-Tel. Mr. Triplett holds a Masters of Business Administration and a Bachelor of Arts in Behavioural Science.



Following the departure of Andrew Bear Robe, Dick Bate has been named part-time Interim President and Academic Dean of the Nicola Valley Institute of Technology. Mr. Bate will also continue to work on a part-time basis in his position as a Vice-President with the University-College of the Fraser Valley. He has been working in the college system for 25 years.

Okanagan University College has selected Lynda Wilson as Principal of its Salmon Arm Campus, replacing Clyde Tucker who is retiring after 30 years at the college. Ms. Wilson held the position of Dean of the Williams Lake campus of the University

College of the Cariboo. She begins her new post in mid-January, 2000.



Dr. Anthony Bos is the new President of Keewatin Community College, replacing Richard Hinton.

Dr. Bos has over 20 years of leadership and management experience in the community college sector and was Vice-President Academic and Chief Operating Officer of Keewatin. He has a Ph.D. in Languages and Literature.

Pamela Walsh was appointed President of the College of the North Atlantic for a five-year term. She succeeds Dr. Ron Sparkes, who served for three years and oversaw the transition from five regional colleges to one provincial institution.



Ms. Walsh was previously Director of Programs for the college.

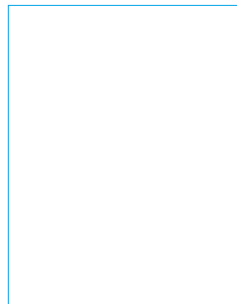
Johnny Pujjuut Takaugaq Kusugak was named President of Nunavut Arctic College. He succeeded Greg Welch who held the position since 1995. Mr. Kusugak is a graduate of the Nunavut Teacher Education and Sivuliuqtit Senior Management Training Programs and has been working with the College's Board and senior management group since January 1998.

Michel Brisson is the new Director General of Collège Édouard-Montpetit, replacing Claude Ostiguy.



Following an intensive selection process, Brian Tambllyn was selected as the fourth President of Georgian College. He replaces

Bruce Hill who held the post for seven years. Formerly Vice-President of Community and Business Development at Georgian College, Mr. Tambllyn has 20 years of senior management experience in the field of education.



Michael Hill has been appointed the sixth President of Northern College, replacing retiring President Noëlla McNair. Mr. Hill was President of Northwest

Community College and has worked in various capacities in the British Columbia community college system for the past 17 years. He is currently working on a doctoral degree in philosophy and investigating educational program access in peripheral regions.



Maurice Carrier was named Director General of Collège de Limoilou, replacing Yvon Beaulieu. Formerly the Director General, Cégep de Rimouski, Mr. Carrier was

also the Director General of Collège Mérici for almost ten years. He holds a Ph.D. in Educational Administration.

Normand Dubé, former Director General of Cégep de l'Abitibi-Témiscamingue, was nominated Director General of Cégep André-Laurendeau for a four-year term commencing August 1999. He replaced Denis Sirois.



The Board of Directors of Cégep Saint-Jean-sur-Richelieu announced the nomination of Serge Brasset as Director General, replacing Gilles Perreault. Mr. Brasset left the position of Director General of Development Funds at Collège Édouard-Montpetit to begin his new post in September, 1999. Mr. Brasset also serves as President of the Canadian Council for the Advancement of Education.



Denise Rowland, 1999 Graduate from the Northern Alberta Institute of Technology Graphic Communications program won "Winning Concept 99" - a national contest to design instant lottery tickets. Rowland's "at the movies" ticket, shaped like a box of popcorn, took first place in the die-cut design category.

Journal of College Research

In the United Kingdom, further education refers to education and training above the age of 16 - but not university education. There is a growing interest in research to investigate pedagogy, organization and the economic and social impact of community college education.

The U.K. Further Education Development Agency (FEDA) publishes a journal *College Research*, to which teachers, managers and researchers from Canadian colleges and institutes are invited to contribute. For more information, please contact Dr. Andrew Morris, Research Manager at FEDA, Citadel Place, Tinworth Street, London, UK SE11 5RH. Tel.: 0207 840 5400, fax: 0207 840 5401 or e-mail: amorrise@fedac.ac.uk.

The Technological Revolution for Educational Purposes: A Stimulating Challenge for Educators and Directors of Educational Institutions

Written by Bernard Lachance, Director General, Collège de Bois-de-Boulogne, *The Technological Revolution for Educational Purposes: a Stimulating Challenge for Educators and Directors of Educational Institutions* [La révolution technologique à des fins éducatives : défis stimulant pour les éducateurs et les dirigeants des établissements d'enseignement] reflects on the educational applications of information technology as well the role of directors of educational institutions, various applications of the internet and intranet, and the modifications which must be made to the organizational culture and management of institutions.

Available only in French and priced at \$25.00 per copy. To order, contact Vitrine APO, Collège de Bois-de-Boulogne, 10555, avenue de Bois-de-Boulogne, Montréal, Québec H4N 1L4, tel.: (514) 332-3000, ext. 191, fax: (514) 332-0083 or e-mail: dianeb@collegebdeb.qc.ca.

The Development of Virtual Education: A Global Perspective

The term "virtual education" is heard with increasing frequency as the use of information and communications technologies becomes prevalent in the delivery of open and distance education. The Commonwealth of Learning (COL) commissioned an international group of experts to study the phenomenon and provide a snapshot report. The study is available online from COL at www.col.org/virtualed/.

www.node.on.ca/lreport

The Node Learning Technologies Network is a not-for-profit organization which promotes effective uses of technologies in education and training. The Learning Technologies Report is an analytical, on-line quarterly dealing with organizational decision-making. Each issue covers one topic of current and critical interest.

Online Student Infocentre

Launched on September 1, 1999, www.campusaccess.com is a national Canadian website geared towards students in post-secondary institutions. Designed by and for students as an information and resource centre, campusaccess.com is a free online service, created to provide post-secondary students with a one-stop comprehensive resource, catering to their educational, professional and social needs.

Doing Research / Reading Research

Written by Andrew Brown and Paul Dowling, this book promises to help people new to research to organize and evaluate the research they read, and to plan and implement small-scale research projects. Visit www.routledge.com, fax: +44(0) 1264 343005 or e-mail: orders@routledge.co.uk.

A Slice of the Iceberg Cross-Canada Study of Prior Learning Assessment and Recognition

The Cross-Canada Study on PLAR - a partnership consisting of College Ahuntsic, College of the North Atlantic, Conestoga College, Douglas College, Fanshawe College, Mohawk College and Red River College - has released a report which investigates PLAR activities at seven institutions across Canada from 1993/94 to 1997/98. Through a combination of statistical data collection, analysis and focus groups, the Study provides extensive information on: characteristics of PLAR learners; PLAR activities; the impact of the PLAR experience from the learners' and institutions' perspectives; and the costs of PLAR. The study also provides recommendations for institutions, public policy-makers, adult learners and workplaces. Copies are available for \$20 each. For more information, contact Lynn Wilson at the Canadian Association for Prior Learning Assessment, P.O. Box 20135, Belleville, Ontario K8N 5V1. Tel.: (613) 396-2122, fax: (613) 396-2761 or e-mail: lynnw@fnti.tynedinaga.net.

1999 Routledge Studies in Distance Education

A series of up-to-date volumes detailing research and practice in the fast-expanding area of distance education. *The Convergence of Distance and Conventional Education*, *Staff Development in Open and Flexible Education*, *Globalising Education: Trends and Applications* and *In Search of the Virtual Class* are just some of the titles available. For more information, visit www.routledge.com, fax: +44(0) 1264 343005 or e-mail: orders@routledge.co.uk.

Online Educational Resources www.ctt.bc.ca/edtech/oer/

Everyone knows that innumerable resources for teaching can be accessed via the web. Okanagan University College and Capilano College, in partnership with ACCC, the Centre for Curriculum, Transfer and Technology and the Office of Learning Technologies have made the job easier. They have developed a searchable database on the web that compiles, annotates and evaluates: annotated links to online resources in culinary arts, geography, business and English as a Second Language; descriptions of exemplary practices using learning technologies; and, annotated links to meta sites that include online teaching resources. The prototype website also provides information on how to build a collection of web-based resources. Once strategies for validation, breadth and sustainability have been identified, the database may be expanded into other discipline areas. If you are interested in sharing discipline-specific teaching resources or require more information, contact Amanda Harby, Center for Curriculum, Transfer and Technology at harby@ctt.bc.ca or call: (250) 413-4471, fax: (250) 413-4403.

Enrollment Simulation and Planning

Enrollment Simulation and Planning by Chuck McIntyre offers a detailed explanation of the "ESP" model for enrollment planning. ESP helps colleges plan strategically and make sound decisions about curriculum, services, budget, staffing and facilities. Published by the American Association of Community Colleges, Community College Press, the book includes charts and examples based on actual college studies. To order call (800) 250-6557 or e-mail: aaccpub@pmds.com.

Educational Resource for Science

Academic Preparation for Science (APS) was developed in partnership by six educational institutions in Saskatchewan, Canada. APS is a multimedia package intended for adult learners functioning at a grade seven to 11 level. APS provides a stimulating and motivational learning environment for adult students who may not have been successful with traditional methods of learning science. The materials are Canadian-based and have an Aboriginal focus. APS is meant to bridge the gap between the students' past academic experience in science and prepare them for high school science or further academic science training. As a bridge, APS provides content, appreciation of science, motivation to succeed in further study, and improved critical thinking skills. The products developed include a CDROM with supporting instructor manuals, student manuals and a website. For an overview of the content of each module on the CDROM visit the website at <http://www.siastr.sk.ca/~science>. To obtain information or to purchase the products contact: SIAST Woodland Campus Bookstore, 1100-15 Street East, Prince Albert, Saskatchewan S6V 6G1, tel.: (306) 953-7056, fax: (306) 953-7099.

MAKING SENSE OUT OF PROGRAM DEVELOPMENT - ACCC NATIONAL FORUM MARCH 9-11, 2000, DELTA HOTEL, OTTAWA

Understanding the new careers for the new economy can be difficult. The Making Sense of Program Development national forum has been designed by the ACCC Careers Task Group to ease this task for post-secondary program planners. The forum will take place March 9-11, 2000 at the Delta Hotel in Ottawa. Sessions will focus on the most up-to-date market information and mechanisms needed by post-secondary education program planners to develop, renew, adjust, reduce and cancel programs. With keynote speaker Colin Campbell, author of *Where the Jobs Are: Career Survival for Canadians in the New Global Economy*, participants will address issues of program renewal, cancellation, planning and development as well as market trends, critical skills, performance indicators and labour, community and government perspectives. For more information, please contact Gail Mulhall, Senior Program Officer/Coordinator, Conferences and Awards Unit, at tel.: (613) 746-5916 ext 3115, fax: (613) 746-6174, e-mail: gmulhall@accc.ca.

INTERFACE 2000 JUNE 7-9, 2000 GRANT MACEWAN COMMUNITY COLLEGE EDMONTON, ALBERTA

Sponsored by the Alberta Distance Education and Training Association, CML Provincial Users Group, Grant MacEwan Community College and NorQuest College, Interface 2000 will focus on the design, development, and delivery of courses in the information age, whether these courses are offered in a classroom or at a distance. The conference will be of interest to educators and support staff in high schools, colleges, technical institutes, and universities who want to learn how best to use technology to meet the needs of their students. Concurrent session proposals should be submitted as e-mail attachments to Judith Johnson at johnsonj@admin.gmcc.ab.ca by Monday, February 7, 2000. Individuals will be notified by February 29 whether their proposal has been selected to be included in the conference proceedings. To obtain additional information about Interface 2000, please contact Clayton R. Wright at wrightc@admin.gmcc.ab.ca or fax (780) 497-5425. A Web page with up-to-date information will be located at www.interface2000.gmcc.ab.ca.

ACCC ANNUAL CONFERENCE 2000 MAY 28-30, 2000, WHITEHORSE, YUKON

The theme for the 2000 ACCC annual conference is "Reaching Out - Reaching In: Building Success on our Traditions for the New Millennium". The theme was developed to reflect the ways in which Canadian colleges and institutes are interacting to serve an increasingly diverse student body and community. Hosted by Yukon College, Aurora College and Nunavut Arctic College, the 2000 conference will celebrate past successes and build a common direction for continued success into the new millennium. For more information, contact Gail Mulhall, Senior Program Officer/Coordinator at tel.: (613) 746-5916, fax: (613) 746-6721 or e-mail: gmulhall@accc.ca.

CALL FOR PAPERS: IASTED INTERNATIONAL CONFERENCE COMPUTERS AND ADVANCED TECHNOLOGY IN EDUCATION - CATE 2000 MAY 24-27, 2000, CANCUN, MEXICO

Sponsored by the International Association of Science and Technology for Development (IASTED), the International Conference on Computers and Advanced Technology in Education will take place in Cancun, Mexico. The conference will act as a forum for scientists and educators involved in research, development and implementation of computers and advanced technology in education. Educators concerned with the impact of new technologies on education, and engineers and computer scientists concerned with the creation and implementation of new educational technologies will benefit from CATE 2000.

Submissions for workshops, tutorials, special sessions and presentations must be received by the IASTED Secretariat by February 1, 2000. For more information or to be placed on the mailing list, contact: IASTED Secretariat - CATE 2000, #80, 4500 - 16th Avenue N.W., Calgary, Alberta, T3B 0M6. Tel.: (403) 288-1195, fax: (403) 247-6851 or e-mail: calgary@iasted.com. You may also visit www.iasted.com.

CADE - MAY 3-6, 2000, LAVAL UNIVERSITY QUEBEC CITY, QUEBEC

The 15th conference of the Canadian Association for Distance Education (CADE) will be held May 3 - 6, 2000 in Quebec City, hosted by Laval University. For more information on the conference, visit www.ulaval.ca/aced2000cade or contact Bill Frick, Technology Integration and Innovations Marketing Consultant, Northern Alberta Institute of Technology and CADE College Sector Representative at billf@nait.ab.ca or tel: (780) 471-7862.

MINING MILLENNIUM 2000
MARCH 5-10, 2000
METRO TORONTO CONVENTION CENTRE

The Canadian Institute of Mining, Metallurgy and Petroleum (CIM) in conjunction with the Prospectors and Developers Association of Canada are organizing the largest and most comprehensive international convention and trade exhibition of the mineral industry. With the theme "A Spectrum of Mining for the Future," the event will cover all facets of the industry. For more information, contact the CIM at tel.: (514) 939-2710, or visit www.miningmillennium.org.

LITERATE CITIES 2000
MUNICIPAL EXCELLENCE THROUGH
PARTNERSHIPS AND EDUCATION
MAY 14-16, 2000 BATHURST, NEW
BRUNSWICK

Organized by the Canadian Association of Municipal Administrators, this conference will focus on work force education programs and their impacts on stakeholders. For more information, contact Patricia Nutter, Project Director, CAMA at tel.: (613) 236-1600, (613) 726-9532, fax: (613) 726-8247 or e-mail: pnutter@cyberus.ca.

NATIONAL CONSULTATION ON CAREER
DEVELOPMENT (NATCON)
24-26 JANUARY, 2000
OTTAWA

The 26th NATCON will feature over 160 sessions on career development and employment-related issues. Participants will learn about emerging career development initiatives, hear from experts about economic and labour market trends affecting the workplace and discover new techniques and resource aids. To receive a copy of the Preliminary Program and registration form, contact the NATCON office at tel.: (416) 978-8011, fax: (416) 978-2271 or e-mail: natcon.conat@utoronto.ca.

NEW MEDIA 2000 CONFERENCE &
TRADESHOW, MAY 15-18, 2000
METROPOLITAN TORONTO CONVENTION
CENTRE

Explore the world of digital media and communications at one of Canada's largest international multimedia showcase events. Conference sessions will cover digital content creation, production, design and development and distribution and delivery. For more information, visit www.newmedia.ca.

TESOL 2000 - "NAVIGATING THE NEW
MILLENNIUM" MARCH 14 - 18, 2000
VANCOUVER, BC

The TESOL 2000 convention will offer English as a Second Language (ESL) professionals a host of exciting opportunities for professional development. With over 10,000 participants from 90 countries expected, this will be a dynamic convention with four days of valuable workshops, panels, and speakers as well as a showcase of current research in the field of TESL. Don't miss this chance to network with other ESL professionals on an international level. For program and exhibit information, please contact: TESOL, Convention Department, 700 South Washington Street, Suite 200, Alexandria, Virginia 22314 USA. Tel.: (703) 836-0774, fax: (703) 836-7864, e-mail: conv@tesol.edu. The main website can be found at www.tesol.edu or check www.vcn.bc.ca/bctcal.

GLOBAL KNOWLEDGE II
7-10 MARCH, 2000
KUALA LUMPUR, MALAYSIA

The theme of the second Global Knowledge Partnership conference will be Building Knowledge Societies: Access, Empowerment, Governance. More than 1,000 people, representing the public and private sectors, key NGOs and international agencies, are expected to attend the conference. The three broad themes will provide participants with a framework within which to examine opportunities to harness knowledge and information as tools for development at local, national, regional and global levels. For more information, visit the GKII website at www.globalknowledge.org.

WORLD EDUCATION MARKET
24-27 MAY, 2000
VANCOUVER, BRITISH COLUMBIA

An international conference and trade show, billed as the first truly international, intersectoral, education forum and known as the World Education Market (WEM) will take place in Vancouver from May 24-27, 2000. The WEM will showcase practical, effective and innovative approaches for the delivery of education, training and lifelong learning and address major issues impacting on the world of education today as well as providing practical workshops on adapting content to reflect local needs and how to sell, buy and produce materials in the international education marketplace. The conference is expected to draw 4,000 decision-makers and education leaders from around the world and is designed to facilitate cross-border education business arrangements. Visit www.wemex.com for more information or e-mail: info@wemex.com, tel.: +33 (0)1 41 90 49 61 or fax: +33 (0) 1 41 90 49 60.