

Co-op Program

Employers benefit from the co-op program as much as the students!



Just some of the perks of hiring a co-op student:

Students at various levels are available year-round.

Students can often release regular employees for higher-level tasks.

Co-op provides employers with the opportunity to assess prospective full-time employees.

Students may provide a stimulus to regular staff.

Co-op student wages are lower than those of a regular, full-time employee.

Co-op provides opportunities for employers and educational institutions to interact and exchange information on such issues as: the human resources needs of employers and technology advances

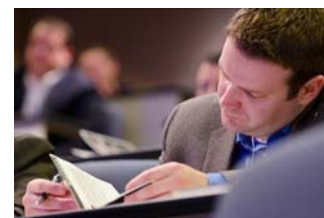
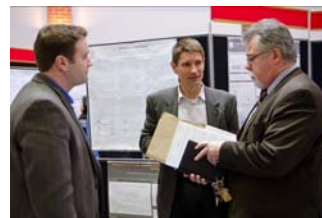
Contact us today to learn more!

Patricia Meng

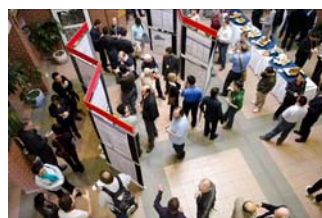
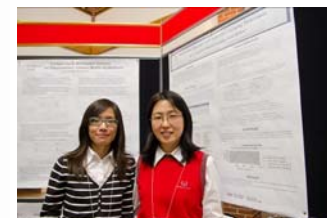
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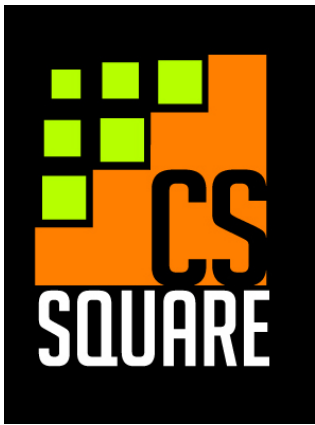
Faculty of
**COMPUTER
SCIENCE**



Ninth Annual Research Expo



April 10th
2012



Computing Science Creative Space CS Square

CS Square is a Creative Space for peer learning, knowledge sharing, and extracurricular technical-creative IT related activities and entrepreneurship.

An 'open space' entrepreneurship centre in the Faculty of Computer Science where-in students, faculty and local industry can meet to collaborate and exchange innovative ideas and vision.

As an INCUBATOR CS Square provides:

- Mentoring and networking opportunities
- Match making with CS entrepreneurs and business leaders
- One-on-one support, advice and counselling for new entrepreneurs
- Workshops and seminars
- Customized business development workshops



Panelists

Gerry Pond

Chairman
Mariner Partners



Gerry Pond has over 45 years of experience in the Information & Communications Technology sector. He is currently the Chairman of Mariner Partners Inc., a company he co-founded in 2003. Mariner, with a staff of over 130 professionals, provides IPTV software products globally and broad range professional IT services from offices in Saint John (HQ), Moncton, Fredericton, Halifax, Calgary, and Regina.

As the former CEO of telecom services provider NBTel (now part of Bell Aliant) and the former CEO of software start-up ImagicTV Inc. (acquired by Alcatel in 2003), Gerry has always had a passion for innovation. The Canadian Information Productivity Association named him Innovator of the Year in 1997 and inducted him in their Hall of Fame (www.cipa.com). Gerry has co-founded 10 technology start-up companies in the past 10 years.

He currently chairs the Boards of Mariner Partners Inc, Brovada Technologies Inc., and Shift Energy Inc. He sits on the Advisory Boards of Medrunner Health Solutions Inc., Smart Skin Technologies Inc., Zaptap Inc., and Enovex. He is a co-founder and past Chairman of Radian6 (acquired by Salesforce.com in 2011) and past Chairman of Q1 Labs Inc. (under acquisition by IBM in 2011).

A graduate of the University of New Brunswick (BA'66), he received an honorary Doctor of Letters from UNB (SJ) in 2005.

Very active in community and economic affairs, he is a Director of Propel ICT, the Atlantic Cancer Research Institute, the NB Business Council, the NB Innovation Foundation, and is a co-chair of New Brunswick's Economic and Social Inclusion Corporation focused on poverty reduction. He is a fellow of the Wallace McCain Institute and a Rotary International Paul Harris Fellow.

Panelists

Calvin Milbury

President & CEO

New Brunswick Innovation Foundation (NBIF)



As President and Chief Executive Officer, Mr. Milbury manages NBIF's operations, leads its investment activities, and actively manages its growing portfolio of venture capital investments. Calvin established NBIF's Venture Capital Fund in 2003, and has participated in the creation and development of over 40 new innovative companies since then.

Prior to joining the Foundation, Calvin worked for Montreal-based venture capital firm Foragen Technologies Management, and BioAtlantech, where he managed the business development activities of two early-stage biotechnology companies. He is a graduate of University of New Brunswick (B.Sc., MBA).

À titre de président-directeur général, monsieur Milbury gère les opérations de la fondation, dirige ses activités de placement et gère activement son portefeuille d'investissements en capital-risque. Calvin est au service de la Fondation depuis 2003, d'abord à titre de directeur puis de vice-président du développement; il a été nommé à son poste actuel en 2009. Il a participé à la création et au développement de plus de 40 entreprises novatrices.

Avant d'arriver à la Fondation de l'innovation, Calvin a travaillé chez Foragen Technologies Management, une société nationale de capital-risque de Montréal, et chez BioAtlantech, où il a dirigé les activités de développement de deux entreprises de biotechnologie en stade initial. Calvin est diplômé de l'Université du Nouveau-Brunswick (B. Sc., MBA).

Welcome



Welcome to the 2012 Faculty of Computer Science Annual Research Exposition. I hope that you enjoy the exposition's program and find the experience of meeting and sharing thoughts with our students and researchers as well as one another unique and worthwhile!

The 2012 Faculty of Computer Science's Annual Research Exposition showcases the excellent research, new developments, and experience related to the area of information and communication technology. This year we have 29 Posters. The coverage of the contributions is very wide, which is one of the features that distinguishes our research expo from other events that focus on more specific areas. The participants in the Exposition will have the opportunity to hear leading experts and IT leaders present keynote talks and have the opportunity to view the posters at the poster session.

Many people contributed to the success of this Exposition. I would like to thank all the organizing committee members, in particular, Dr. Virendra Bhavsar and Dr. Wei Song, Co-Chairs of the organizing committee, for their effort and dedication. I am also very pleased to thank all the students and professors for their posters which are the main attraction, the keynote speakers, members of the panel, and to all the participants. You are the ones who make all this effort worthwhile!

Ali A. Ghorbani
Professor and Dean

Program

8:00—8:50

Registration

8:55—9:00

Dr. Ali Ghorbani, Dean, Faculty of Computer Science, UNB

9:00—9:05

Dr. H E A (Eddy) Campbell, President, UNB

9:05—9:25

Dr. Gregory Kealey, Provost & Vice President (Research), UNB

9:25—9:45

Anne E. Bertrand, Q.C., Access to Information and Privacy Commissioner

9:45—10:00

Dr. Weichang Du, Faculty of Computer Science, UNB

10:00—10:15

Mary Goggin, Co-founder, Accreon Inc.

10:15—11:30

Break & Poster Session I

11:30—11:45

Dr. Wei Song, Faculty of Computer Science, UNB

11:45—12:00

Dr. Eric Aubanel, Faculty of Computer Science, UNB

12:00—12:15

Dr. Bradford Nickerson, Assistant Dean, Research & Outreach, Faculty of Computer Science, UNB

Panelists

Hon. Craig Leonard

MLA, Fredericton-Lincoln

Minister of Government Services, Province of New Brunswick



Craig Leonard, a native of Fredericton, was elected as the MLA for the Fredericton-Lincoln riding in the September 2010 provincial election. He was subsequently appointed by Premier David Alward as the Minister of Energy and, in March of 2012, was appointed Minister of Government Services and Minister responsible for Service New Brunswick and the NB Internal Services Agency.

Prior to his election, Craig was a business executive with over 15 years of senior management experience with the Leonard Corporation, one of Atlantic Canada's largest companies. Based in Fredericton and with operations throughout Canada, the Leonard Corporation is a management, investment, and holding company involved in the transportation, insurance, and building materials industries. Over that time, Craig was vice-president of the Leonard Corporation. Previously, he was involved in the investment industry with ScotiaMcLeod Inc.

Craig has been an active member of his community, volunteering with various groups and organizations. He was a director of the Chalmers Hospital Regional Foundation, member of the East Coast Music Awards 2008 organizing committee, Chair (and now Director Emeritus) of the Harvest Jazz & Blues Festival, and a coach in several youth sports programs.

He has a Bachelor of Arts degree in Economics from Davidson College in North Carolina. He and his wife, Jill Davidson, have two children – William and Wallis – and reside in Fredericton.

Panelists

Hon. Victor Boudreau

MLA, Shediac—Cap-Pelé
Leader of the Official Opposition



Liberal MLA Victor Éric Boudreau was re-elected to the 57th Legislature in the provincial election held September 27, 2010. He is the Leader of the Official Opposition and represents the constituency of Shediac—Cap-Pelé. He is opposition critic for areas of interest related to intergovernmental affairs; Aboriginal affairs; the Premier's Council on the Status of Disabled Persons; Citizen's Engagement; the Office of Government Review, and the Advisory Council on the Status of Women.

He was first elected to the 55th Legislature in a by-election held on October 4, 2004. He was a member of the standing committees on Crown corporations and estimates. He was a member of the Select Committee on Health Care. As a member of the official Opposition, he was critic for areas of interests relating to health and wellness.

He was re-elected in the September 18, 2006, provincial election. On October 3, 2006, he was sworn in as a member of the Executive Council and appointed Minister of Finance, Minister of Local Government (he served in this capacity until October 31, 2007), Minister responsible for the New Brunswick Liquor Corporation, the New Brunswick Investment Management Corporation and the Lotteries Commission of New Brunswick (now the New Brunswick Lotteries and Gaming Corporation). He was a member of the Standing Committee on Legislative Administration. In January 2008, he assumed responsibility for the Regional Development Corporation.

Formerly the manager of the Village of Cap-Pelé, he served as executive assistant to Bernard Richard during his tenure as minister in the provincial cabinet (1995-1999). He was also riding assistant to Senator Fernand Robichaud while the latter was secretary of state in the federal Cabinet (1993-1995).

Over the years, he has been involved with the Shediac Lions Club, Beauséjour Family Crisis Resource Centre, Cap-Pelé Regional Chamber of Commerce, Cap-Pelé Watershed Association and Hospice Shediac.

Program

12:15—13:00

Lunch & Poster Session II

13:00—13:15

Mike Richard, Senior Project Manager (Technical), City of Fredericton

13:15—13:30

David Baxter, VP - Innovation, T4G

13:30—14:30

Postgraduate Student Presentations

Michael Francis, MCS student, UNB

Mostafa Karami, PhD student, UNB

Marcel Dombrowski, MCS student, UNB

Pouya Bisadi, MCS student, UNB

14:30—15:00

Break & Poster Session III

15:00—16:30

Panel Discussion

Topic: The Innovation Challenge in New Brunswick

Moderator: Dr. H E A (Eddy) Campbell, President, UNB

Panellists:

Sandy Bird, CTO, IBM Security Systems Division

Chris Boudreau, CEO, ClinicServer

Hon. Victor Boudreau, MLA, Shediac—Cap-Pelé, Leader of the Opposition

Hon. Craig Leonard, Minister of Government Services, MLA, Fredericton-Lincoln

Calvin Milbury, President & CEO, New Brunswick Innovation Foundation (NBIF)

Gerry Pond, Chairman, Mariner Partners

Posters

1. Ali Shiravi, Ali A. Ghorbani. *Network Security Using Graph Theory Techniques*
2. Amir Pourafshar, Hadi Shiravi, and Ali A. Ghorbani. *Graph-Based Risk Assessment of Network Assets: An Application to Botnet Mitigation*
3. Ehsan Mokhtari, Ali A. Ghorbani. *Auction-based Decision Fusion Technique for Multiple Classifier Combiners*
4. Saeed Nari, Ali A. Ghorbani. *Botnet Analysis Framework*
5. Shaojun Zhang, Ali A. Ghorbani. *Conversation-based p2p botnet detection*
6. Suyu Gu, Ali A. Ghorbani. *Peer to Peer Botnet Detection Based on Node-Level Network Traffic Behaviour.*
7. Mostafa Karamibekr and Ali A. Ghorbani. *A Sentiment Analysis Framework for Social Issues*
8. Matthew S. Keays, Bradford G. Nickerson. *A Platform-Independent Game Engine for the Web*
9. Pouya Bisadi and Bradford G. Nickerson. *Orthogonal Range Search using a Distributed Computing Model*
10. Lingchen Zhou , Bradford G. Nickerson. *Position Estimation of Nodes Moving in a Wireless Sensor Network*
11. Stuart A. MacGillivray and Bradford G. Nickerson. *Exclusion Persistence in Spatial Data*
12. Xiaojing Li, Wei Song and Bradford G. Nickerson. *Simulator for Adaptive Multimedia Delivery over Wireless Networks*
13. David Bremner, Eric Aubanel, Sajjad Asghar. *A Framework for Parallel SAT Solving Using Batch Schedulers*
14. Gen Zou, Reuben Peter-Paul, Harold Boley and Alexandre Riazanov. *PSOA2TPTP: Designing and Prototyping a Translator from PSOA RuleML to TPTP Format.*
15. Harold Boley. *RuleML for Object-Relational Knowledge Representation on the Web*

Panelists

Chris Boudreau

Chief Executive Officer
ClinicServer



As CEO of ClinicServer, Chris leads the company's strategic vision and builds relationships with IT partners and investors in Canada and abroad. Under his leadership ClinicServer has expanded both in Canada and recently into the UK.

Chris began his IT career with Nortel Networks. At Nortel, he developed implemented and optimized tools and processes globally for localization of content and applications for foreign markets. His bent for innovation resulted in patent applications for "Method and Apparatus for Integrated and Automated Language Translation".

Over the years Chris has worked with large enterprise development groups in providing research, process development and business development services. He is a serial entrepreneur. His creations have included ARVISE Technologies that focused on language technology research and development. He took ARVISE Technologies into a merger with The Babel Fish Corporation where he served as the Vice President of Localization Research & Development. From Babel Fish he went on to create a co-operative of SME's under the banner TRANSETIX GSI.

Chris has also provided C-Level mitigation strategy consulting for Genesys Labs (Alcatel-Lucent). While at Genesys he was recognised with multiple awards including Global Corporate Contributor. He has also sat on the Industry Canada's National Language Technology Roadmap (TRM) Sectorial Committee. He has contributed and collaborated in the creation of the National Language Industry Association, AILIA (www.ailia.ca). He shares his knowledge of industry and business process freely with various associations and academic institutions. He sits on the Boards of NBITC, UPTown Saint John and Vault 15. He has a keen interest in growing the local economy especially in the ICT Sector and contributing to his community. You will always see Chris both promoting and encouraging innovation.

Panelists

Sandy Bird

Chief Technology Officer
IBM Security Systems Division



Sandy Bird is the CTO of the IBM Security Systems Division where he is responsible for the company's strategic security technology direction. Prior to joining IBM, he was a co-founder and Chief Technology Officer of Q1Labs, which was acquired by IBM in November, 2011. Bird has extensive technology experience specializing in database design and development for web applications.

Prior to Q1 Labs, he held a variety of technical positions at the University of New Brunswick in support, development, and administration. Bird studied Electrical Engineering at the University of New Brunswick.

Posters

16. Sadnan Al Manir, Harold Boley, Alexander Riazanov. *PSOA RuleML API : An Open-source JAVA Based Tool for Rendering PSOA RuleML/XML to Presentation Syntax*
17. Yassaman Zand-Moghaddam and Joe D. Horton. *Mapping Relational Database Schemas to Ontologies: An approach*
18. Andrew Somerville, Kenneth B. Kent. *Improving Memory and Validation Support in FPGA Architecture Exploration*
19. Emily Wilson, Kenneth B. Kent. *Exploring the use of Semantic Techniques in Online Dating*
20. Marcel Dombrowski, Kenneth B. Kent, Yves Losier, Adam Wilson, Rainer Herpers. *Monitoring and Analysis of Bus Data on a Prosthetic Limb System Using FPGA and Microcontroller Devices*
21. Matthew S Roscoe, Kenneth B. Kent, Rainer Herpers, and Paul G Plöger. *Determining the Viability of the Kinect as a Research Tool*
22. Konstantin Nasartschuk, Kenneth B. Kent, Rainer Herpers. *Visual Exploration of Simulated FPGA Architectures in Odin II*
23. Dizhi Zhou, Wei Song. *Traffic Load Sharing with Femtocell for Cellular Network*
24. Dong Dong, Weichang Du. *Peer Collaboration Service Framework.*
25. Shirin Ghorbani and Weichang Du. *Personal Health Service Framework*
26. Chaudhry Usman Ali, Harold Boley, Weichang Du. *Design and Implementation of a Distributed Query System Supporting Conference Organization Committees*
27. Raid A. Alghamdi. *Movement Generator for Mobile Network Simulation*
28. Ahmed Alghamdi. *Simulation of Carry Protocol (c-protocol) in MANET*
29. J.D. Horton. *Simulation of Consciousness Using Evolution*

Speakers

Dr. Gregory Kealey

Provost & Vice President (Research)
University of New Brunswick



Dr. Kealey has lived in Atlantic Canada for more than half his life. He has a strong sense of the region's history and is extremely committed to the region and the role of Atlantic universities in promoting economic and social development. He joined Memorial's history department in 1981, became a University Research Professor in 1992 – a designation recognizing the university's most successful researchers – and was appointed Dean of the School of Graduate Studies in 1997. Earlier he taught at Dalhousie University for eight years. Dr. Kealey holds a BA in modern history from the University of Toronto (1970) and master's (1971) and doctoral (1977) degrees from the University of Rochester.

The Vice-President's areas of specialization are Canadian social and labour history. His contributions to scholarship include serving as founding editor of *Labour/Le Travail* for 21 years and as general editor of the Canadian Social History Series with over 30 volumes published to date. He has published four books, edited 26 others, written 22 chapters for books, published 32 articles in refereed journals with 20 articles reprinted, and delivered over 200 papers and commentaries. Over the past 30 years, Dr. Kealey has received numerous grants, fellowships, prizes and appointments, including visiting professorships and being named Fellow of the Royal Historical Society in 1983 and fellow of the Royal Society of Canada in 1999.

In his role as VP Research at UNB he chairs the Board of Enterprise UNB, the university's incubator facility. He also chairs the Advisory Boards of the Canadian Research Institute for Social Policy, the Canadian Rivers Institute, the Chronic Illness Research Institute, and the Institute for Biomedical Engineering. He also serves on the Boards of ACEnet, BioAtlantech, King's Landing, Knowledge Park Inc., a Fredericton Science Park, Muriel McQueen Fergusson Centre for Family Violence Research, Research Productivity Council, the New Brunswick Health Research Foundation, the New Brunswick Innovation Foundation, and Populomix Cancer Research Institute.

Moderator

Dr. H E A (Eddy) Campbell

President
University of New Brunswick



A professor of mathematics, Dr. H E A (Eddy) Campbell holds two degrees from Memorial University of Newfoundland and a Ph.D. from the University of Toronto.

He held a Natural Sciences and Engineering Research Council (NSERC) Postdoctoral Fellowship at the University of Western Ontario. Dr. Campbell's main research interest is the invariant theory of finite groups and he continues to maintain an active research career. His NSERC Discovery Grant was renewed in 2008 for an additional five years. Dr. Campbell has served in a variety of capacities with NSERC and currently sits on the Executive Committee and the Committee on Research Integrity and is a member of its governing body.

Appointed to a five-year term, Dr. Campbell led the university through the development of a strategic plan, building on UNB's rich tradition of education, research and community service.

With roots that go back more than two centuries, UNB today is a bustling university community with two main campuses in Fredericton and Saint John, providing a home for a network that extends throughout Canada and around the world.

Dr. Campbell has extensive experience in university administration, having served as President and Vice-Chancellor (Acting) and Vice-President (Academic) at Memorial University in St. John's, Newfoundland. He also served as Associate Dean of the Faculty of Arts and Science and as Professor and Head of the Department of Mathematics and Statistics at Queen's University in Kingston, Ontario.

In New Brunswick, he serves on the Boards of Future NB, Invest NB, the Atlantic Provinces Economic Council, the Huntsman Marine Science Centre and represents UNB on the New Brunswick Business Council, where he advocates for "Smart(er) NB".

Speakers

David Baxter

VP—Innovation
T4G



As the VP of Innovation at T4G, David fosters a culture of creating customer value from T4G's richest resource, our talented and creative people. David enables the experimentation and entrepreneurial thinking necessary for innovation that will contribute to T4G's growth and long-term success from new or expanded markets, new or enhanced services or through new ways of thinking and working.

David brings 20 years of telecommunications and technology experience with innovation and industry leaders like NBTel, MT&T, iMagicTV and Alcatel. David's product development and commercialization firsts include MT&T's MPoweredPC, Canada's first consumer DSL service with on-demand software store, and the world class iMagicTV and Alcatel IPTV platforms and applications for telecom digital TV.

David is currently a member of the board of Medrunner Health Solutions Inc. and is the Chairman of the Board for PropellCT, a New Brunswick based entrepreneurship accelerator for early stage high growth potential ICT ventures.

David is actively involved in several charitable organizations including T4G's Future Focus Foundation. David was one of the founding members of Students Run With It, a pilot program inspiring youth to achieve their dreams through a life-transforming experience of training for, and completion of a marathon.

David enjoys living in Saint John, New Brunswick where there are trails to run and world class rivers to sail.

Speakers

Anne E. Bertrand, Q.C.

Access to Information and Privacy Commissioner
Province of New Brunswick



Anne Elizabeth Bertrand hails from northern New Brunswick and she pursued her post-secondary studies in Sciences and in Law at the University of New Brunswick. She established her private law practice in Fredericton and worked in the areas of administrative law, criminal law, employment law and civil litigation for more than 24 years. In doing so, Ms. Bertrand acquired extensive experience as counsel appearing before all levels of courts including two appearances before the Supreme Court of Canada.

For many years Ms. Bertrand sat as an adjudicator on various administrative tribunals, including as Vice-Chair of the Labour and Employment of New Brunswick, Member of the Public Service Staff Relations Board, and as Alternate Chair of the New Brunswick Review Board to review cases of accused persons suffering from mental disorders.

Ms. Bertrand continued to find time to be involved as a volunteer in a number of not-for-profit organizations. Among those, she became National Vice-President of the Mounted Police Foundation, Director of the Greater Fredericton Economic Development Corporation, President of the York Sunbury Law Society, President of the Conseil Économique du Nouveau-Brunswick, Chair of the New Brunswick Foundation for the Arts, Member of the Advisory Committee on Judicial Appointments for New Brunswick.

On September 1st, 2010, Anne E. Bertrand, Q.C. became the Province's first Access to Information and Privacy Commissioner, an appointment which carries a mandate of five years.

Speakers

Mary Goggin

Co-founder
Accreon



Mary Goggin is a co-founder of Accreon, one of the largest privately held information technology and business solutions companies in Atlantic Canada. Accreon has two business lines: the Professional Services arm delivers architectural, project management, management consulting and application development services; the Innovation group seeks out opportunity to develop software products for the large to mid-tier markets. The Innovation and Professional Services groups work hand in hand to keep ahead of the market trends, new technology, approaches and service.

Throughout her career Mary has worked for IT consulting companies in both consulting roles and business management positions. Mary has extensive leadership experience in systems integration, software development and IT planning.

In Business Management, Mary has been instrumental in the creation and growth of Accreon, formed by the consolidation of three companies with the vision of establishing an Atlantic based, full service technology company with the capacity to service large technology initiatives and invest in innovation. Since its formation in 2008 Accreon has grown to over 100 people servicing customers in Atlantic Canada, Ontario and the United States.

Mary is a graduate of UNB (BSc Computer Science '82), a past board member of the Fredericton Chamber of Commerce and a current member of the New Brunswick Premier's Advisory Council on Technology.

Mary currently is responsible for Corporate Programs within Accreon and provides Consulting and Project Management services to customers.

Speakers

Mike Richard

Senior Project Manager (Technical)
City of Fredericton



Mr. Richard is currently the Senior Project Manager (Technical) for the City of Fredericton and Vice President of Operations for e-Novations ComNet Inc. a City owned fiber optic utility and ISP. Mr. Richard joined the City in 1985 as a police officer and after championing technology in the Police Force as a police sergeant he moved to the City's Corporate Services Division and began working on City wide initiatives and was a founding staff member of e-Novations.

Mr. Richard has led various technical projects over the years for the City, Public Safety and e-Novations. During 1999 he worked on the City's Voice / Data project where a \$10 million trunked radio and wireless data system was installed City wide. Other types of projects Mr. Richard has managed include: Fred-eZone the City's free public WiFi network, major fiber optic builds in the greater Fredericton area and the creation of the first multi-homed ISP co-op operated in the region.