

A 25-YEAR HISTORY OF

IEEE Canada

Advancing Engineering Across Borders



Welcome

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Dear IEEE Colleagues,

Bienvenue and welcome to IEEE Sections Congress 2008, to Quebec City and to IEEE Canada (Region 7)! It is my privilege and honor to be your host as President of IEEE Canada and the Director of Region 7 (2008-2009). What a delight it is for me to be part of the success and history of IEEE Canada at a time when Quebec is celebrating its 400th anniversary. It is certainly a time for reflection on our past and historic milestones, as we participate in a meeting that will help shape our future.

IEEE Canada proudly hosted Sections Congress 1990 in Toronto. Once again, we are equally proud to host Sections Congress 2008 and the prestigious 2008 IEEE Honor Awards Ceremony here in Quebec City. It is fitting that we should all share the celebration of the award winners for their proud achievements in such a beautiful and historic location.

IEEE Canada has a long, rich history of achievement. A snapshot of this 25-year period, this brochure is a living document which includes IEEE Canada's Sections growth, organizational developments and remarkable records of administrative change. The material includes a history of Canadian pioneers in our profession and IEEE Canada historic milestones.

I extend my heartfelt thanks to the team of IEEE volunteer "historians," headed by Dave Kemp, who assembled the materials for this fine collection. They have done a wonderful job.

We all hope that participants will enjoy the program and have a memorable experience of Sections Congress 2008 and of our beautiful Quebec City. It is exciting to ponder how we are, even at this moment, all creating IEEE history in Canada.

Bienvenue à Québec et au Canada. Welcome to IEEE Canada.



Dr. Ferial El-Hawary

P.Eng., F.IEEE, F.EIC, F.MTS
President of IEEE Canada (2008-2009)
Director of Region 7 (2008-2009)
www.ieee.ca

About IEEE Canada

IEEE Canada (Region 7) is the Canadian arm of IEEE, as well as the constituent society of the Engineering Institute of Canada (EIC) for the technical fields of electrical, electronics and computer engineering. While both organizations provide educational services and products, IEEE provides technical information through its member societies and EIC focuses on the professional component. By bringing together both entities, IEEE Canada can provide its members with quality information on the latest technology and important networking opportunities.

Early Milestones of AIEE/IRE/IEEE History in Canada

- 1884** AIEE* formed in Philadelphia, USA
- 1887** Canadian Society of Civil Engineers (CSCE) formed
- 1901** Marconi's first transatlantic wireless reception in St. John's, Newfoundland
- 1903** AIEE Toronto Section formed at the Engineers Club in Toronto
- 1912** IRE** formed by merging the Society of Wireless Telegraph Engineers and the Wireless Institute
- 1912** CSCE becomes the Engineering Institute of Canada (EIC)
- 1921** AIEE District 10 (Canada) formed
- 1925** IRE Canadian Section formed at Canadian General Electric in Toronto
- 1944** Ralph Hackbush becomes first Canadian to be IRE Vice President
- 1957** John Henderson becomes first Canadian to be IRE President
- 1963** IEEE Region 7 created out of AIEE District 10 (Canada) and IRE Region 8 (Canada) during the merger of AIEE and IRE
- 1972** Bob Tanner becomes first Canadian to be IEEE President
- 1976** CSEE formed
- 1990** CSEE renamed CSECE
- 1995** IEEE Region 7 and CSECE merge to form IEEE Canada



John Henderson
First Canadian IRE President

*American Institute of Electrical Engineers
** Institute of Radio Engineers

IEEE Canada History

In 1969, there were three technical organizations with a focus on electrical engineering in Canada: IEEE, which included 31 technical groups spanning a wide range of interests and 10 regions across the world; the Engineering Institute of Canada (EIC), which had members in various disciplines including civil and electrical engineering; and the Institution of Electrical Engineers (IEE), a licensing body for British electrical engineers. Despite obvious interest in the field, there was no single Canadian organization for electrical engineering.

According to Bob Alden, IEEE Vice President of Regional Activities, 1990-1991, it took 25 years of hard work from dedicated individuals for IEEE Canada, which serves as both Region 7 of a decentralized IEEE and a member society of EIC, to be formed in 1995.

Two such individuals, Bob Tanner, IEEE Region 7 Director, 1968, IEEE President, 1972; and Bill Thomson, IEEE Region 7 Director, 1970-1971, were pivotal in creating the environment for the future IEEE Canada. Tanner's contribution was as the principal author of the first IEEE long-range planning report, while Thomson obtained important funding for the startup of the first IEEE Region 7 office. George Armitage, who served as Manager for the original office in Thornhill, Ontario, also made important efforts to realize the vision of IEEE Canada. Alden, who served as IEEE Region 7 Director, 1988-1989, oversaw the official naming of IEEE Canada and the publishing of the region's magazine, IEEE Canadian Review.



Guglielmo Marconi (left), a pioneer in wireless telephony, with his assistant George Kemp.



Marconi workers at Signal Hill in St. John's, Newfoundland, with antenna kite for transatlantic signal.

In 1995, the Canadian Society of Electrical and Computer Engineering (CSECE), previously the Canadian Society of Civil Engineering (CSCE), joined with IEEE Region 7 and officially formed IEEE Canada in order to better serve the needs of engineering professionals across Canada.

Currently, IEEE Canada operates 20 local sections in three geographic areas (Western, Central and Eastern Canada), as well as over 50 student branches in universities and colleges. In addition to hosting two annual conferences in different cities across Canada, IEEE Canada publishes an electronic newsletter, a general interest magazine and a technical journal. The Region also maintains a Web site containing publication archives, a digital library of specialized lectures and a showcase of Canadian engineering achievement; recognizes the individual achievements of its members through an extensive program of awards; promotes student growth and development by providing scholarships and grants through the IEEE Canadian Foundation; and provides resources to assist members in upgrading their knowledge base, professional skills and networking capabilities.

IEEE Canada is known for being a leader in organizational innovation, having been first in many accomplishments:

- First IEEE Regional office
- First Region to have a Web site
- Merger of CSECE with Region 7
- First Regional magazine: IEEE Canadian Review
- First Regional Standards Committee: IEEE Canada Standards Committee, est. 2000
- First Regional Foundation: IEEE Canadian Foundation

The First Canadian Student Branch

The first Canadian student branch was founded at the University of Toronto in 1945 when Gordon R. Slemon proposed uniting the student branches of the AIEE and the IRE to maximize resources and simplify membership for students. Together with the Electrical Club at the University, the new student branch sought to integrate both technical development and social affairs for students.

Read Slemon's full account of the first Canadian student branch:
www.ieee.ca/history/branch_1.htm

IEEE Canada has a long history of supporting engineering innovation. Below is a timeline of the formation of IEEE Canada Sections, as well as important events that each Section has hosted.

	Established	Important Events
WEST		
Northern Canada	02 Feb. 1955	CCECE* 1999
North Saskatchewan	23 Aug. 1985	CCECE 2005
Southern Alberta	10 May 1956	50th Anniversary 2006; CCECE 1996
South Saskatchewan	10 May 1956	50th Anniversary 2006
Victoria	05 Oct. 1956	50th Anniversary 2006
Vancouver	22 Aug. 1911	90th Anniversary 2001; CCECE 2007, 1998
Winnipeg	18 Aug. 1953	50th Anniversary 2003; CCECE 2002
CENTRAL		
Hamilton	07 May 1952	50th Anniversary 2002; CCECE 2008, 2004
Kingston	04 May 1955	50th Anniversary 2005
Kitchener/Waterloo	18 May 1960	CCECE 1998
London	31 Oct. 1944	50th Anniversary 1994
Peterborough	23 Nov. 1985	
Toronto	30 Sept. 1903	100th Anniversary 2003; CCECE 2001, 1992; Sections Congress 1990
EAST		
Canadian Atlantic	20 July 1966	CCECE Halifax 2000, 1994
Montreal	Dec. 1936	50th Anniversary 1986; CCECE 2003, 1995, 1989
New Brunswick	28 Mar. 1973	
Newfoundland & Labrador	Dec. 1978	CCECE St. John's 1997, 2009
Ottawa	Sept. 1944	50th Anniversary 1994; CCECE 2006, 1990
Quebec	10 Sept. 1958	50th Anniversary 2008; CCECE 1991; Sections Congress 2008
St. Maurice	24 June 1954	50th Anniversary 2004

*Canadian Conference on Electrical and Computer Engineering

IEEE Canada Awards

IEEE Canada recognizes the achievements of engineers in Region 7 through a variety of prestigious awards.

A.G.L. McNaughton Award

IEEE Canada remembers, through the A.G.L. McNaughton Gold Medal, General McNaughton's contributions to the engineering profession in Canada. Recipients of this medal are outstanding Canadian engineers recognized for their exemplary contributions to the engineering profession. Established in 1969, the award consists of a gold medal, a plaque and a travel allowance to the awards ceremony.

R.A. Fessenden Award

IEEE Canada remembers, through the R.A. Fessenden silver medal, his pioneering of voice transmission by continuous waves and establishing of the foundation of the radio broadcast industry. Recipients of this medal are outstanding Canadian engineers recognized for their important contributions to the field of telecommunications engineering. Established in 2000, the award consists of a silver medal, a plaque and a travel allowance to the awards ceremony.

Power Engineering Award

Recipients of this medal are outstanding Canadian engineers recognized for their important contributions to the field of electric power engineering. Established in 2007, the award consists of a silver medal, a plaque and a travel allowance to the awards ceremony.

Computer Award

Recipients of this medal are outstanding Canadian engineers recognized for their important contributions to the field of computer engineering and science. Established in 2007, the award consists of a silver medal, a plaque and a travel allowance to the awards ceremony.

Outstanding Engineer Award

Recipients of this medal are outstanding Canadian engineers recognized for their important contributions to electrical and electronics engineering. Established in 1994, the award consists of a silver medal, a plaque and a travel allowance to the awards ceremony.

Outstanding Engineering Educator Award

Recipients of this medal are outstanding Canadian engineers recognized for sharing their technical and professional abilities through teaching—in industry, government or an institution of higher learning—and, in doing so, have made an outstanding contribution to engineering education. Established in 1994, the award consists of a silver medal, a plaque and a travel allowance to the awards ceremony.

IEEE Canada Awards

Service Awards

W.S. Read Outstanding Service Award

Recipients of this award are exceptional IEEE volunteers who are recognized for outstanding and sustained service to IEEE Canada and the Institute. Established in 2000, the award consists of a gold medal, a plaque and a travel allowance to the awards ceremony.

J.J. Archambault Eastern Canada Merit Award

Recipients of this award are exceptional IEEE volunteers who are recognized for meritorious service in eastern Canada at the local IEEE Section and Area level. Established in 1991, the award consists of a silver medal, a plaque and a travel allowance to the awards ceremony.

M.B. Broughton Central Canada Merit Award

Recipients of this award are exceptional IEEE volunteers who are recognized for meritorious service in central Canada at the local IEEE Section and Area level. Established in 1991, the award consists of a silver medal, a plaque and a travel allowance to the awards ceremony.

E.F. Glass Western Canada Merit Award

Recipients of this award are exceptional IEEE volunteers who are recognized for meritorious service in western Canada at the local IEEE Section and Area level. Established in 1986, the award consists of a silver medal, a plaque and a travel allowance to the awards ceremony.

New for 2009!

Industry Leadership Award

Recipients of the medal are outstanding Canadian professionals recognized for their important leadership contributions in Canadian industry where there is significant activity in areas of interest to IEEE. To be first presented in 2009, the award consists of a silver medal, a plaque and a travel allowance to the awards ceremony.

Created to continue the philanthropic activities of International Electrical & Electronics Conferences Incorporated (IEEC Inc.), the IEEE Canadian Foundation (ICF) officially came into being September 1992. The mission of the IEEE Canadian Foundation is “to promote within Canada the theory and creative practice of electrical and electronics engineering in all its branches.”

Through donations from dedicated members, the ICF awards up to 10 scholarships annually to exceptional students registered in electrical, electronics and computer engineering or technology programs for their final year of undergraduate studies; supports over 25 IEEE McNaughton learning resource centers in Canadian universities and colleges; awards special grants in support of education; and presents additional scholarships and grants that have been endowed by directed gifts. In 2008, the ICF also approved the establishment of a Canadian IEEE Life Members Fund.

As of the end of 2007, the ICF (and its predecessor IEEC Inc.) had awarded approximately C\$1,198,000 in grants and scholarships.

2008 IEEE Canadian Foundation Award Winners

IEEE Canadian Foundation Scholarships (C\$3,500 each)

- Robert Cove, Memorial University
- Desbiens Guy, Université du Québec à Trois-Rivières
- Mohammad Haj-Shafiei, University of Toronto
- Sean Cloghesy, Concordia University
- Taban Rizvi, University of Alberta
- Nathan Adolph, University of Calgary
- Aminul Islam, Carleton University
- Éric Breault, Université de Sherbrooke

IEEE Canadian Foundation Special Grants

- University of Ontario Institute of Technology “Engineering Week by IEEE” initiative
- University of Alberta Space Elevator Racing Team
- IEEE Canada Student Training Workshop
- CCECE’08 Best Student Paper Awards

IEEE Canada Power Quality Scholarship (C\$1,500)

- Audrey Catherine Kertesz, University of Calgary

IEEE Canada Women in Engineering Prize (C\$1,000)

- Visda Vokhshoori, Toronto Section

Find out more about the IEEE Canadian Foundation:

www.ieeecanadianfoundation.org

Collaboration of Historical Proportions

IEEE Canada and the Engineering Institute of Canada (EIC) share a common vision and work together to promote the history of engineering in Canada, enhance the image of engineers across the country and record their contributions to the nation’s development.

Since 1887, the Canadian Society of Civil Engineers (CSCE)—and the Engineering Institute that it became in 1918—has made great contributions to recording the history of engineering in Canada. In 1991, a Secretary for History & Archives was appointed by the Council of the Institute to initiate a program that would help increase awareness of the engineer’s role in Canadian development. In June 1999, the Council established a Standing Committee for History & Archives that, together with IEEE Canada, set out to:

- encourage the publication and dissemination of new information related to the history of engineering in Canada;
- publish historical information on the Institute itself, the engineering profession, as well as Canadian engineers and specific engineering projects;
- collaborate with the Historic Sites and Monuments Board of Canada and other public and private institutions to ensure that significant achievements by Canadian engineers are adequately commemorated;
- encourage cooperation with academic, public and private institutions, associations and other organizations with similar interests and objectives; and
- promote the collection, secure storage and accessibility of archival material associated with the Institute, its Member Societies and the engineering profession.

Additionally, IEEE Canada and the EIC have collaborated on a number of other initiatives to support the engineering profession, including the Canadian Climate Change Technology Conference Series; the EIC Honours and Awards program; and our jointly promoted standards for continuing education.

IEEE Canada is extremely proud of its collaboration with the EIC to ensure that the significant achievements of Canadian engineers are recorded and disseminated for all to appreciate.

Learn more about Canadian Engineering Achievements:

www.ieee.ca/showcase/

Canadians and the IEEE Presidency

No history of IEEE Canada would be complete without mention of the members who have been elected to the prestigious position of IEEE President. At this writing, three Canadians have led IEEE in this capacity.



Robert H. Tanner (1915-2002)

Robert Tanner joined the Institute of Radio Engineers (IRE) in England in 1938 after graduating from Imperial College (University of London) with a B.Sc. in Electrical Engineering, later receiving a M.Sc. in Acoustics. He became a Senior Member in 1948 and a Fellow in 1958. Mr. Tanner became Ottawa Section Chairman of Region 7 in 1965 and was Secretary Treasurer from 1963 to 1967. He was elected Regional Director in 1968, appointed Institute

Secretary in 1970, elected Vice President in 1971 and President in 1972.

During his year of office, he set up the U.S. Activities Committee (now USAB) and steered the constitutional amendment on professional activities through the Board of Directors. Mr. Tanner was active on several Institute committees, including the chairmanship of a special three-year Long Range Planning Committee and service on the Foundation Board. Mr. Tanner has received two honors from Region 7: the A.G.L. McNaughton Gold Medal in 1974, IEEE Canada's highest award, and the IEEE Haradan Pratt Award in 1981 "for contributions toward professionalism and dedicated service to the Canadian Region, to IEEE and to the profession over many years."



Wallace S. Read

Dr. Wallace Read of St. John's, Newfoundland, Canada, brought a worldview to the IEEE Standards process that forever changed the way the organization serves its constituents. As Vice President of IEEE Standards Activities from 1993 to 1994, he strengthened relations with the International Electrotechnical Commission (IEC), the International Telecommunications Union (ITU) and the International Organization for Standardization (ISO), thereby positioning the IEEE for a greater leadership role in international standards development. During this same period, Dr. Read played a key role in refining the IEEE Standards Activities' structure to better serve industry through the formation of the IEEE Standards Association (SA) and the IEEE Industry Standards and Technology Organization (IEEE-ISTO).

An IEEE Life Fellow, Dr. Read served as IEEE President in 1996 and was on the IEEE Board of Directors for a decade. His many honors include the IEEE Standards Association

Canadians and the IEEE Presidency

International Award and the IEEE Power Engineering Society's Power Life Award. Dr. Read has also been a Member of the Order of Canada since 2003 and was the first recipient of the W.S. Read Service Medal in 2000.



Raymond D. Findlay

Dr. Raymond Findlay earned his B.A.Sc., M.A.Sc. and Ph.D. degrees from the University of Toronto and began his teaching career at the University of New Brunswick (1967-1981) before joining McMaster University in 1981, where he is currently Emeritus Professor in the Department of Electrical and Computer Engineering. He holds four patents in electromagnetic fields and losses in electrical power devices.

Dr. Findlay has served on the IEEE Board of Directors, 1994-1997, 2001-2003; as President of IEEE Canada, 1995; IEEE Vice President, Regional Activities, 1996-1997; and as IEEE President in 2002. In addition to various regional positions, he has been active in several IEEE Societies and serves on the IEEE Canadian Foundation and the Council of the Engineering Institute of Canada, where he is currently the Chair of the History Committee.

A Fellow of IEEE and the Engineering Institute of Canada, Dr. Findlay's many awards include the IEEE Canada Merit Award, the IEEE Millennium Medal and the W.S. Read Service Award. He was also awarded the 2007 IEEE Canada A.G.L. McNaughton Medal in recognition of "outstanding contributions to the analysis and design of electrical machines, particularly to the theory and measurement of shaft currents in induction motors, and for leadership in the profession."

Milestones in IEEE Canada History

IEEE Milestones in Electrical Engineering and Computing is a program of the IEEE History Committee to honor significant achievements in electrical, electronic and computer engineering, as well as the associated sciences. Milestones recognize technological innovation and excellence for the benefit of humanity found in unique products, services, seminal papers and patents. Each milestone honors a significant achievement that occurred at least 25 years ago in an area of technology represented in IEEE. To date, more than 75 milestones have been approved and dedicated around the world—10 of them in Canada.

IEEE Newfoundland-Labrador Section

- Landing of the Transatlantic Cable, 1866
- Reception of Transatlantic Radio Signal, 1901
- First Submarine Transatlantic Telephone Cable, 1956 (with Canadian Atlantic Section)

IEEE Ottawa Section

- Alouette-ISIS Satellite Program, 1962

IEEE Hamilton Section

- Decew Falls Hydroelectric Power Plant, 1898
- First Distant Speech Transmission in Canada, 1876

IEEE Winnipeg Section

- Nelson River HVDC Transmission System, 1972
- Pinawa Hydroelectric Power Plant, 1906

IEEE Montreal Section/ IEEE Quebec Section

- First 735 KV AC Transmission System, 1965



The Great Eastern landing the western end of the transatlantic cable.
IEEE Newfoundland-Labrador Section



Decew Falls original building.
IEEE Hamilton Section

The story of one of IEEE's newest milestone—the first long-distance voice transmission—was recently published in *The Institute* (7 May 2008).

First Long-Distance Voice Transmission is Newest IEEE Milestone

By Willie D. Jones

The spot in Canada where the first long-distance voice transmission was received was honored recently with an IEEE Milestone in Electrical Engineering and Computing. A commemorative plaque was unveiled at the old telegraph office in Paris, Ont., where Alexander Graham Bell heard voice signals being sent through wires from the telegraph office in Brantford, 13 kilometers away.

IEEE President Lewis Terman and IEEE Canada President Ferial El-Hawary were among the luminaries who joined members of the IEEE Hamilton Section for the 4 May unveiling. The ceremony coincided with the IEEE Region 7 (Canada) spring meeting in nearby Niagara Falls, Ont. A number of meeting attendees traveled to the site to help recognize the milestone.

The one-way transmission on 10 August 1876 was a giant leap forward, considering that previously Bell had been able to transmit voice signals only between rooms in a building. True telephony, with two-way voice transmission came a few months later.

“The most significant milestones are for things we take for granted today,” says IEEE Member Chris Maryan, chair of the Hamilton Section. “Despite using it constantly, most of us don’t even think about the effort that went into the development of the telephone in its infancy.” Maryan notes that a lot of

intermediate steps between Bell’s initial experiments and the eventual commercialization of the telephone are lost to history. “What we have here represents one of the more significant jumps in the technology,” he says.

The Brantford-to-Paris call, which included a one-way conversation to Bell from his relatives and the voices of a choir singing in Brantford, took place over the telegraph network. The Paris site where the plaque is displayed was the local telegraph office at the time. The building has been rebuilt a number of times due to fires, most recently in 1901, and used for other purposes, but the site has always been remembered for its contribution to communications history, Maryan says.



For every Milestone, a bronze plaque commemorating the achievement is placed at an appropriate site.

IEEE Canada provides a high quality general interest magazine, a technical journal, an electronic newsletter and two annual conferences designed especially for IEEE Canada members. Additionally, IEEE Canada hosts several other major conferences each year and provides information for the volunteer network of local Sections, Chapters and Student Branches on the IEEE Canada Web site (www.ieee.ca).



The Canadian Journal of Electrical and Computer Engineering

The Canadian Journal of Electrical and Computer Engineering began as the Canadian Electrical Engineering Journal in 1976 with the support of Tom Pavlasek, then president of the Canadian Society for Electrical Engineering, and George Sinclair, then president of the Canadian Region (Region 7) of IEEE. It became the Canadian Journal of Electrical and Computer Engineering in 1988.

The first issue expressed the still relevant desire to “meet the long-felt need of the electrical engineering community to have a medium for communicating technical information of particular interest to Canadians, while also serving as a forum to make Canadian electrical engineering achievements known to a worldwide readership.”



The IEEE Canadian Review (La Revue Canadienne de l'IEEE)

The IEEE Canadian Review was the very first magazine produced as a regional product. The IEEE Canadian Review serves to project an image of the Canadian electrical, electronics, communications and computer engineering professions, and their associated academic and business communities, to IEEE Canada members as well as the larger professional and academic community.

AURUM—The Canadian Newsletter for IEEE GOLD

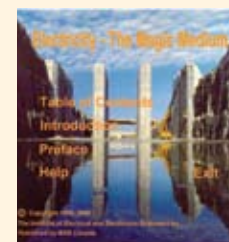
AURUM, first published December 2003, is the newsletter designed to meet the needs of IEEE Canada's GOLD (Graduates of the Last Decade) members. AURUM was created to increase national communication and help create a national GOLD identity. The newsletter promotes all of the successful GOLD activities across the country and serves as proof to new and existing members that IEEE is a large and active organization offering a wide variety of personal and professional benefits.

IEEE Canada Digital Library

IEEE Canada's digital library is an electronic library of distinguished lectures, proceedings from Canadian conferences, webinars and other items of historical and technical interest to IEEE members and the general public.

Content includes a collection of webinars on project management, general interest lectures on Canadian milestones and very specialized historical lectures in information technology, communications, microelectronics, laser and electrooptics, electromagnetics, power engineering and human factors.

Visit the IEEE Canada Digital Library:
www.ieee.ca/diglib/



Electricity: The Magic Medium

Published in 1985 by IEEE Canada to commemorate the IEEE Centennial, this book bears testimony to the ingenuity and dedication of Canadian contributors to the advancement of electrical technology.

A collaborative effort, the book outlines the history of electricity and all the educators, manufacturers, utility and industry workers that have influenced what we know about this amazing energy form. According to Wallace Read, IEEE Region 7 Director, 1984–1985, the book highlights that the “age of discovery and invention is never over and that, with like perseverance, we can look forward to equally great successes in the future.”

Learn more about Electricity: The Magic Medium:
www.ieee.ca/diglib/library/electricity/preface.htm



IEEE Sections Congress

Held every three years since 1984, IEEE Sections Congress provides IEEE Section leadership with an opportunity to impact the future of IEEE. Attendees are able to network with other Section leaders, participate in training programs and develop recommendations to guide the future of IEEE. Congress attendees also learn how to utilize IEEE resources to maximize their effectiveness as IEEE volunteer leaders.

Sections Congress 1990 was the first Congress to take place outside the United States and opened to the wail of bagpipes in Toronto, Canada. A diverse collection of 650 delegates attended this meeting, which was dedicated to Don Suppers, a proponent of the concept of Sections Congress who passed away on 1 January 1990. IEEE Sections Congress 2008, held in Quebec City, highlights the importance of IEEE volunteers with the theme “Celebrating Volunteer Achievements Worldwide.”

Canadian Conference on Electrical and Computer Engineering (CCECE)

CCECE is the annual flagship conference for researchers, students and practicing engineers in the area of electrical and computer engineering from Canada and around the world to meet annually in a Canadian city and present the latest technological advancements and discoveries; network and exchange ideas; and strengthen existing partnerships while fostering new collaborations.

CCECE 2009 will be held 3-6 May 2009 in St. John's, Newfoundland, Canada.

Visit the conference Web site for more information:
www.ieee.ca/ccece09/

IEEE Electrical Power & Energy Conference (EPEC)

EPEC 2008 will be a national debut of the power- and energy-focused conference. Centered on “Energy Innovation,” the conference will highlight the current activities and achievements, as well as investigate the future progression and expansion of both the local and global electrical power and energy industries.

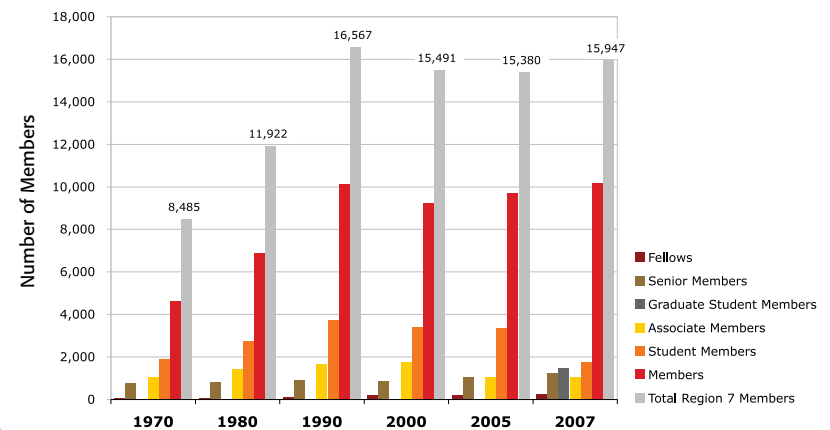
EPEC 2008 will be held 6-7 October in Vancouver, British Columbia, Canada.

Visit the conference Web site for more information:
www.ieee.ca/epc08/

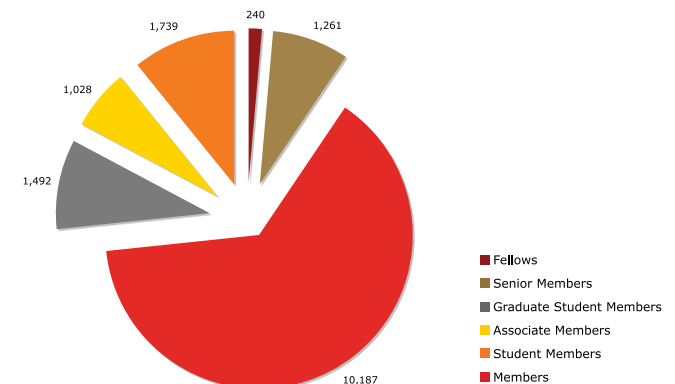
Since its inception, IEEE Canada has grown steadily, supporting professionals and academics across the country as they strive to make a lasting impact on the engineering field and the world around them.

IEEE Canada has 20 Sections, 116 Chapters, 31 Affinity Groups, over 80 student organizations and nearly 16,000 members.

Growth by Membership Grade 1970–2007



Member Composition by Grade, 2007



IEEE Canada Membership

IEEE Women in Engineering

The IEEE Women in Engineering (WIE) initiative was established to promote and support the achievements of women professionals in fields of interest to IEEE. WIE membership is open to anyone (women and men) and WIE Student Membership is free.

For more information, visit their Web site or subscribe to their newsletter:
www.ieee.org/web/membership/women/newsletter/

IEEE Canada Women in Engineering Prize

The IEEE Canada Women in Engineering prize, sponsored by the Judy Clift Fund, recognizes female IEEE Canada members who received their first professional degree within the last 10 years and are active in IEEE activities.

For more information, please visit:
www.ieeecanadianfoundation.org/EN/clift_prize.htm

IEEE Canada has the following WIE Affinity Groups:

- Hamilton Section
- Kitchener-Waterloo Section
- Montreal Section
- North Saskatchewan Section
- Ottawa Section
- Toronto Section
- Victoria Section
- Winnipeg Section
- Carleton University, Student Branch
- Dalhousie University, Student Branch
- Red River College, Student Branch
- University of Alberta, Student Branch
- University of British Columbia, Student Branch
- University of Toronto, Student Branch

Learn more about Women in Engineering in Canada:
www.ieee.ca/wie

IEEE Students

IEEE Canada offers a number of committees, conferences, competitions and projects to help engineering students expand their research, development, project management and entrepreneurial skills while networking with other student members and engineering professionals.

Learn more about IEEE Canada student activities:
www.ieee.ca/students

IEEE Canada Membership

IEEE GOLD (Graduates of the Last Decade)

This dynamic group, led by recent graduates, operates around the non-technical aspects of engineering: professionalism, personal development and community involvement. IEEE GOLD looks to address the personal and professional needs of recent graduates (networking, career development and exploration, personal management) and to provide opportunities to contribute to the engineering community and develop their non-technical skills.

IEEE Canada has the following IEEE GOLD Affinity Groups:

- Hamilton Section
- Kitchener-Waterloo Section
- Montreal Section
- Northern Canada Section
- North Saskatchewan Section
- Ottawa Section
- Peterborough Section
- Saint-Maurice Section
- Southern Alberta Section
- South Saskatchewan Section
- Toronto Section
- Vancouver Section
- Victoria Section
- Winnipeg Section

Learn more about IEEE GOLD activities in Canada:
www.ieee.ca/gold

IEEE Life Members

Any member who is at least 65 years of age and whose “age plus continuous years of membership” exceed 100 automatically becomes a life member of IEEE. For IEEE Life Members, basic mandatory dues cease and other charges (for conference and publications) are generally lower, although members are asked to make a voluntary contribution to one of the IEEE charitable entities such as the IEEE Life Member Fund, the IEEE Foundation or the IEEE Canadian Foundation.

IEEE Canada has the following IEEE Life Members Affinity Groups:

- Hamilton Section
- Kingston Section
- Kitchener-Waterloo Section
- London Section
- Montreal Section
- Ottawa Section
- Southern Alberta Section
- Toronto Section
- Vancouver Section
- Winnipeg Section

Learn more about IEEE Life Members in Canada:
www.ieee.ca/activities/life_mem.htm

Notable Canadian IEEE Members

IEEE is made up of thousands of dedicated, hardworking members who are committed to supporting engineering and the engineering profession in Canada. A special thank you goes out to a few Canadian IEEE members who have been instrumental to changing IEEE in a significant and positive way.



Brent Hughes

As the Publicity Chairman for the Vancouver Section, Mr. Hughes was instrumental in creating the first IEEE membership database (SAMIEEE). The database greatly improved how IEEE accessed member information, allowing us to reach out to members in a more productive and targeted manner. For his efforts, Mr. Hughes received the Distinguished Service Award for 1989-1990 from the Vancouver

Section, a Special Recognition Award from the IEEE Regional Activities Board (presented at Sections Congress 1990 in Toronto, Canada) and a Third Millennium Medal in 2000.



Gerald Karam

While serving as the IEEE RAB SAC Chair, Gerald Karam developed the first online registration system. Initially created for students, the early system evolved to make online application more efficient for all IEEE members. Dr. Karam has served as the IEEE-Canada Regional Student Representative, 1985-1986; Chair of the IEEE-Canada Student Activities Committee, 1988-1990; Chair of the Student

Professional Awareness Activities (SPAA) Subcommittee of the Regional Activities Board's Student Activities Committee (RAB/SAC), 1992-1994; Vice Chair of RAB/SAC, 1995; and Chair of RAB SAC, 1996-1997. Dr. Karam is an IEEE Senior Member and received the IEEE Third Millennium Medal in 2000, as well as the 1998 Regional Activities Board Innovation Award.



Dave Kemp

Dedicated to helping recent graduates find their way in the engineering profession, Dave Kemp served as the first IEEE GOLD Committee Chair. For this work, he was recognized with the 1997 Regional Activities Board (RAB) Leadership Award. Mr. Kemp served as President of IEEE Canada and Director, IEEE Region 7, 1998-1999 and as IEEE Secretary, 2000. He is a Senior Member of IEEE and a

Fellow of the Engineering Institute of Canada. Mr. Kemp has also served on the boards of two Societies and is a member of the ICF.

A.G.L McNaughton Award Winners

Recipients of the A.G.L. McNaughton Medal, IEEE Canada's highest award, are outstanding Canadian engineers recognized for their important contributions to the engineering profession. Below is the list of past medal winners:

2008	Colin A. Franklin	1989	John S. Foster
2007	Raymond D. Findlay	1988	Rodolf deBuda
2006	Hussein Mouftah	1987	Theodore Wildi
2005	Anthony B. Sturton	1986	Simon Haykin
2004	Renato G. Bosisio	1985	John A. Hopps
2003	Tas Venetsanopoulos	1984	H. Halton
2002	Prakasj Bhartia	1983	J. Lionel Boulet
2001	Om Malik	1982	Gordon Frederick Mac Farlane
2000	Nicolas D. Georganas	1981	W. Bennett Lewis
1999	Mohamed E. El-Hawary	1980	Wallace S. Read
1998	Chandra M. Kudsia	1979	John H. Chapman
1997	Thomas David Collett	1978	Harold A. Smith
1996	John Plant	1977	James M. Ham
1995	Vijay K. Bhargava	1976	J.C.R. Punchard
1994	Roy Billinton	1975	George Sinclair
1993	Ray Bartnikas	1974	Robert H. Tanner
1992	M. Val O'Donovan	1973	Hector J. McLeod
1991	William J.M. Moore	1972	Alphonse Ouimet
1990	Harry M. Ellis	1971	Thomas Ingledow

Chers collègues de l'IEEE,

Bienvenue et *Welcome* au Congrès 2008 des sections de l'IEEE dans la ville de Québec et à l'IEEE Canada (la région 7!) C'est un honneur et un privilège d'être votre hôte en tant que présidente de l'IEEE Canada et directrice de la région 7 (2008-2009). C'est un plaisir de faire partie de ce succès et de l'histoire de l'IEEE Canada à un moment où la ville de Québec fête son 400^{ième} anniversaire. Notre participation à cette réunion qui forgera notre avenir est certainement une occasion de réflexion sur notre passé et nos réalisations. L'IEEE Canada a fièrement accueilli le Congrès 1990 des sections à Toronto. De nouveau, nous sommes fiers d'accueillir en 2008 le Congrès des sections ainsi que la prestigieuse cérémonie des récompenses honorifiques de l'IEEE, ici dans la ville de Québec. Il va de soit que nous partageons ensemble dans ce lieu historique et enchanteur la célébration des lauréats.

L'IEEE Canada a une histoire longue et riche d'accomplissements. Un instantané de cette période de 25 ans, cette brochure est un document vivant qui décrit la croissance des sections de l'IEEE Canada, les développements organisationnels, et des faits remarquables des changements administratifs. Il dépeint des pionniers canadiens de notre profession et des jalons historiques de l'IEEE Canada.

Je remercie sincèrement l'équipe de bénévoles « historiens » de l'IEEE dirigée par Dave Kemp qui a rassemblé le matériel pour cette excellente collection. Ils ont réalisé un travail formidable.

Nous espérons tous que les participants apprécieront le programme et auront une expérience mémorable du Congrès des sections 2008 ainsi que de notre belle ville de Québec. Il est excitant de considérer comment nous sommes, à ce moment même, en train d'écrire l'histoire de l'IEEE au Canada.

Welcome to IEEE Canada. Bienvenue à Québec et au Canada.



Dr. Ferial El-Hawary

P.Eng., F. IEEE, F. EI C, F. MTS
Présidente de l'IEEE Canada (2008-2009)
Directrice de la Région 7 (2008-2009)
www.ieee.ca

IEEE Canada (la Région 7) est la division canadienne de l'Institute of Electrical and Electronics Engineers (IEEE) ainsi qu'une société constituante de l'Institut canadien des ingénieurs (ICI) pour les domaines techniques du génie électrique, électronique, et informatique. Alors que les deux organismes fournissent des services et produits éducatifs, l'ICI se concentre sur la dimension professionnelle et l'IEEE fournit des informations techniques par le biais de ses sociétés membres. En rassemblant les deux entités, l'IEEE Canada peut fournir à ses membres de l'information de qualité sur les dernières technologies ainsi que d'importantes occasions de réseautage.

Jalons de AIEE/IRE/IEEE au Canada:

1884	Formation de AIEE à Philadelphie
1887	Formation de la Société canadienne de génie civil (SCGC–CSCE)
1901	Première transmission sans fils transatlantique de Marconi à l'Université Memorial
1903	Formation de la section AIEE de Toronto au Club des ingénieurs
1912	Formation de l'IRE suite à la fusion de la Society of Wireless Telegraph Engineers et le Wireless Institute
1912	Le SCGC devient l'Institut canadien des ingénieurs (ICI)
1921	Formation du district 10 (Canada) de l'AIEE
1925	Section canadienne de l'IRE formée à General Electric du Canada à Toronto
1944	Ralph Hackbrush devient le premier canadien vice-président de l'IRE
1957	John Henderson devient le premier canadien président de l'IRE
1963	La Région 7 de l'IEEE est créée suite à la fusion de l'AIEE et de l'IRE
1972	Bob Tanner devient le premier canadien président de l'IEEE
1976	Formation de la Société canadienne de génie électrique (SCGE–CSEE)
1990	La SCGE est renommée SCGEI (... et informatique)
1995	La région 7 de l'IEEE et la SCGEI fusionnent pour former l'IEEE Canada



John Henderson
Premier canadien président de l'IRE

Histoire de l'IEEE Canada

En 1969, il y avait trois organismes techniques se concentrant sur le génie électrique au Canada: l'IEEE, qui inclut 31 groupes techniques couvrant un large éventail d'intérêts et de 10 régions dans le monde; l'institut canadien des ingénieurs (ICI), qui avait des membres dans diverses disciplines incluant le génie civil et le génie électrique; et l'institut des ingénieurs électriques (IEE), un organisme de permis d'autorisation de pratique pour les ingénieurs électriques britanniques. En dépit de l'intérêt évident pour le domaine, il n'y avait pas d'organisation canadienne unique pour le génie électrique.

Selon Bob Alden, vice-président aux affaires régionales de l'IEEE, 1990-91, il a fallu 25 ans de dur labeur par des volontaires dévoués pour que l'IEEE Canada, qui sert de région 7 d'un IEEE décentralisé et de société membre de l'ICI, soit fondée en 1995.

Deux d'entre eux, Bob Tanner, directeur de la région 7 de l'IEEE en 1968 et président de l'IEEE en 1972, ainsi que Bill Thomson, directeur de la région 7 en 1970 en 1971, ont été cruciaux en créant l'environnement pour le futur IEEE Canada. La contribution de Bob Tanner a été en tant qu'auteur principal du premier rapport de planification à long terme de l'IEEE, alors que Bill Thomson a recueilli les fonds pour le démarrage des premiers bureaux de la région 7. George Armitage, qui a été directeur du premier bureau régional à Thornhill, Ontario, a également des efforts importants pour réaliser la vision de l'IEEE Canada.



Guglielmo Marconi (gauche), un pionnier de la téléphonie sans fils, avec son assistant George Kemp.

Alden, qui a été directeur de la région 7 en 1988-89, a supervisé la fondation officielle de l'IEEE Canada et l'édition de la première Revue canadienne de l'IEEE. En 1994, la Société canadienne du génie informatique et du génie électrique (SCGÉI), précédemment la Société canadienne du génie civil (la CSCE), a fusionné avec la région 7 de l'IEEE et formé officiellement l'IEEE Canada afin de mieux servir les besoins des ingénieurs professionnels au Canada.



Employés de Marconi à Signal Hill à St. John's, Terre-Neuve, Avec une antenne cerf-volant.

L'IEEE Canada aujourd'hui

L'IEEE Canada encadre présentement 20 sections locales réparties dans trois régions géographiques (L'Ouest, le Centre et l'Est canadien), ainsi que plus de 50 branches étudiantes dans les universités et collèges. En plus de tenir un congrès annuel, IEEE Canada publie un bulletin électronique de nouvelles, une revue d'intérêt général ainsi qu'un journal scientifique. La région maintient également un site web contenant des archives des publications, une bibliothèque numérique des conférences spécialisées ainsi qu'une vitrine des accomplissements de l'ingénierie canadienne. Elle promeut les accomplissements de ses membres par un vaste programme de récompenses. Elle favorise le développement des étudiants en fournissant des bourses et subventions par la Fondation canadienne de l'IEEE. Elle procure aussi des ressources afin d'assister les membres dans l'amélioration et la mise à jour de leurs connaissances, qualifications professionnelles et capacités de réseautage.

L'IEEE Canada est reconnu en tant que leader dans l'innovation organisationnelle:

- Premier bureau régional de l'IEEE
- Première région à avoir un site web
- Fusion du CSECE avec la région 7
- Première revue régionale
- Création en 2000 du premier comité régional de standards dans l'IEEE
- Performance financière

La première branche étudiante canadienne

La première branche étudiante canadienne fut fondée à l'Université de Toronto en 1945 lorsque Gordon R. Slemon proposa d'unifier les branches étudiantes de l'AIEE et de l'IRE afin de maximiser les ressources et de simplifier les inscriptions des étudiants. Conjointement avec le Club Électrique de l'Université, la nouvelle branche étudiante entreprit d'intégrer les aspects développement techniques et actions sociales des étudiants.

Rapport complet de Gordon R. Slemon sur la première branche étudiante canadienne:
www.ieee.ca/fr/historique/branch_1.htm

IEEE Canada | www.ieee.ca

