



Our 25th Anniversary Notre 25e anniversaire

1980

- Appointment of Engineering Institute of Canada Task Force to examine the 'Academy' idea

1985

- Meeting at which the decision to establish a Canadian Academy of Engineering was taken

1986

- Founding Committee of twenty-six engineers was formed from which a Provisional Council of sixteen was selected on November 7, 1986

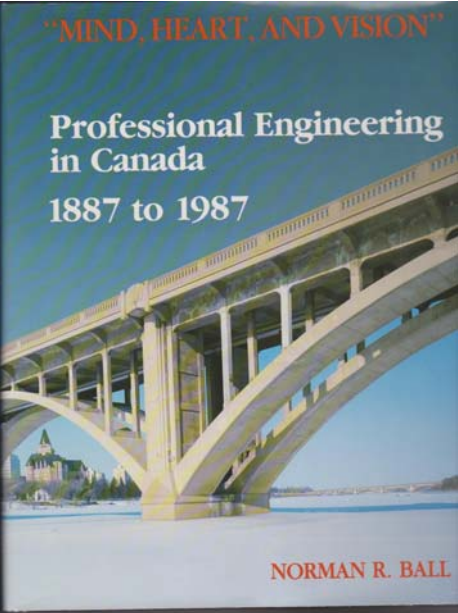
1987

- 100th anniversary of engineering in Canada 1877-1987
- Canada Post Stamp



1987

- Canadian Engineering Centennial Convention held in Montreal, May 18-20, 1987



"MIND, HEART, AND VISION"

**Professional Engineering
in Canada
1887 to 1987**

NORMAN R. BALL

ix

Mind, Heart, and Vision

A hundred years ago a handful of individuals created the first association of engineers in our country—the Canadian Society of Civil Engineers. It marked the beginning of a tradition and the first attempt to gain recognition for our profession.


The following pages recognize the saga of our evolution since that time. They shed a new light on the important role played by engineers in Canadian history, a role seldom acknowledged in the history books. By publishing a book dedicated entirely to engineers and their achievements over the last century, we seek to remedy this oversight. Most of the information skillfully gathered and brought to life by the author, Dr. Norman Ball, to whom we are most grateful, has never been published. It reveals how the mind, heart, and vision of our engineers succeeded in shaping this country through innovative and successful endeavours.

We are confident that this first effort will not be the last, that it will bring a new understanding of our profession, an awareness of our contribution and involvement in all facets of Canadian life, and that it will inspire other research and publications on our great profession.

On behalf of the Engineering Centennial Board, I am very honoured to present to you this tribute to our peers. The future of engineering is inextricably linked to that of Canadian society. In this respect, the theme of our centennial, "Mind, Heart, and Vision—Engineering in Canada: The Next Hundred Years," reflects our commitment to the community.

Bernard Lamare
Chairman
Engineering Centennial Board

**LA MÉDAILLE OFFICIELLE
DU CENTENAIRE!**



Un hommage au génie créateur

Pour marquer le 100^e anniversaire du Génie canadien, quel hommage plus adapté que cette médaille commémorative (commemorative medal)?

C'est dans cet esprit que la Commission du Centenaire de l'ingénierie en a commandé à la firme Lamarche-Mélin de Sherbrooke la frappe d'une médaille officielle qui exprime l'engagement de tous envers le développement, la recherche, l'innovation, le savoir unique et abstrait. La médaille sera en argent ou en or pour reconnaître les réalisations de nos aînés.

Conçue par Madame Françoise Proulx-Hébert — architecte Lamarche-Mélin — la médaille représente le génie canadien, son esprit et ses valeurs, son histoire, l'éthique, son savoir de Léonard de Vinci. On a voulu par la médaille l'apogée de l'ingénierie, le développement des arts, des sciences et de la technologie, le savoir de la médaille pour l'ensemble officiel du Centenaire, témoin de l'innovation, "l'esprit, le cœur et la vision".

La médaille, faite dans un état de pureté absolue, est offerte en bronze, en argent ou en or pour 25 carats.

La médaille en bronze, au fini antique, pèse 10 mm de diamètre et a une épaisseur de 1,5 mm pour un poids de 3,08 g.


La médaille en argent est fabriquée d'argent pur 999 et pèse 25 carats purifiés. Elle mesure 15 mm de diamètre, pèse 12,2 g et est offerte pour un montant de 75 \$.

La médaille en or pur 24 carats pèse 25 carats purifiés. Elle mesure 15 mm de diamètre, pèse 15,5 g et est offerte pour un montant de 125 \$.

Quelle que soit la médaille que vous choisissez, elle deviendra pour vous à la fois véritable pièce de collection et monument historique de grande valeur.

Pour commander votre médaille, veuillez retourner ce coupon à l'adresse mentionnée, accompagné de votre chèque ou de votre mandat de paiement. Les commandes de plus de 100 médailles sont traitées par un service client dédié.

**THE OFFICIAL CENTENNIAL
MEDAL!**



A Tribute to Creativity

To mark the 100th anniversary of Canadian Engineering, what longer lasting tribute could be paid to the creative genius of the people and the profession than a simple official commemorative medal?

With this thought in mind, the Engineering Centennial Board has, with Lamarche-Mélin Inc. of Sherbrooke in mind, commissioned the design and production of an official commemorative medal honoring the spirit of our unique and distinctive tradition. The Lamarche-Mélin is known internationally for the high quality of its craftsmanship.

Designed by Mrs. Françoise Proulx-Hébert — world renowned Lamarche-Mélin architect — the medal depicts our tenacious Leonardo da Vinci's celebrated compass, set against a modern background. The subject was chosen as recognition of the extraordinary role played by this great master of the modern world in the development of engineering, the development of science, technology and the arts. The reverse of the medal bears the official logo of the Centennial, surrounded by the inscription "Mind, Heart, and Vision".

The medal, which comes in its own presentation case, is available in bronze, 100 fine silver or 24 karat pure gold.

The bronze medal is 10 mm in diameter by 1.5 mm in thickness and has a 1.5 mm antique finish. It is now offered for only \$3.08.

The silver medal is made of 999 fine silver and has a 15 mm antique finish. It is 15 mm in diameter, weighs 12.2 g and is priced at \$75.

The 24 karat gold medal has a finished gold finish, is 15 mm in diameter and weighs 15.5 g. It sells for \$125.00.

Whatever one you choose, your commemorative medal is certain to become both a unique collector's item and a valuable monument of a truly historic event.

To order please fill out the coupon below and return it to the address shown, together with your check or Money Card account number. This offer is a limited time only.

LA MÉDAILLE OFFICIELLE DU CENTENAIRE

à la **CENTENNIAL MEDAL DISTRIBUTION DEPT.**
c/o The Lamarche-Mélin Inc.
P.O. Box 205
Sherbrooke, Qué. J1H 5H6

Médaille en bronze (10 mm de diamètre) - 3,08 g (argent et de monnaie)
 Médaille en argent (15 mm de diamètre) - 12,2 g (argent et de monnaie)
 Médaille en or pur 24 carats (15 mm de diamètre) - 15,5 g (or pur et de monnaie)
 Médaille en or pur 24 carats (15 mm de diamètre) - 15,5 g (or pur et de monnaie)

Nom complet _____ Prénoms _____

Adresse complète _____

Ville _____

Code postal complet _____

Bank Service No. 277



**Centennial Medals for Engineering in
Canada**

1987

- Ten major engineering achievements received awards at the 1987 centennial celebrations of the first Canadian engineering institution.
1. The Transcontinental railway network built by the CPR
 2. The St. Lawrence Seaway
 3. The synthetic rubber plant of Polymer/Polysar at Sarnia
 4. The Athabasca commercial oil sands development

1987

5. The Hydro-Quebec very high voltage transmission system
6. The CANDU nuclear power system
7. The De Havilland DHC-2 `Beaver' aircraft
8. The `Alouette 1' orbiting research satellite
9. The Bombardier snowmobile
10. The trans-Canada telephone network

1987

- Inaugural meeting of the Canadian Academy of Engineering held on May 20th in Montreal

1987

First 44 Fellows elected

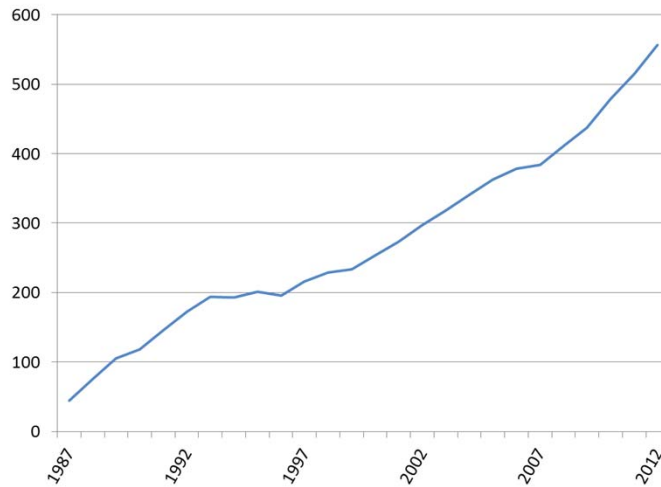
- John B. Stirling
- Pierre R. Bélanger
- Lionel Boulet
- William Boyle
- Angus A. Bruneau
- Donald Chisholm
- J.V. Raymond Cyr
- Camille A. Dagenais
- Alan G. Davenport
- Colin D. DiCenzo
- John T. Dymont
- Bernard Etkin
- John S. Foster
- William H. Gauvin
- Jean Paul Gourdeau
- George W. Govier
- James M. Ham
- Richard D. Hiscocks
- Larkin Kerwin
- Lesmere F. Kickpatrick
- Bernard Lamarre
- Philip A. Lapp

1987

First 44 Fellows elected

- Robert F. Legget
- Walter F. Light
- John S. Macdonald
- Gordon M. MacNabb
- James R. McFarlane
- George G. Meyerhof
- William G. Morison
- Leopold M. Nadeau
- Barry G. Newman
- Peter Nikiforuk
- John L. Orr
- Alphonse Ouimet
- Arthur Porter
- W. Howard Rapson
- Lucien Rolland
- Robert F. Shaw
- Leslie W. Shemilt
- Ernest Siddall
- Elvie L. Smith
- Harold A. Smith
- Donald R. Stanley
- Douglas T. Wright

Growth of the CAE Fellowship



First CAE
newsletter
published
Summer
1987

1987

NEWSLETTER/COMMUNIQUE

THE CANADIAN ACADEMY OF ENGINEERING L'ACADEMIE CANADIENNE DU GENIE

No. 1 SUMMER 1987

A QUARTERLY NEWSLETTER FOR THE INFORMATION OF FELLOWS OF THE ACADEMY AND AS
A RECORD FOR OTHER ENGINEERING ACADEMIES

BACKGROUND

In recent years, small groups of Canadian engineers have occasionally discussed the desirability of establishing a body within the profession, similar to that of the National Academy of Engineering in the U.S. and the Fellowship of Engineering in the U.K.

Knowing of this latent interest, the Honourary Executive Secretary of the Royal Society of Canada, Dr. D.G. Hursi, convened a meeting in August 1985 to discuss the matter. Fifteen eminent engineers attended.

As a result of the positive discussions that took place, an ad hoc group was formed to pursue the matter further. The group consisted of C.A. Dagnault (Montreal), P.A. Lapp (Toronto), J.S. MacDonald (Vancouver), and L. Nadreau (Ottawa).

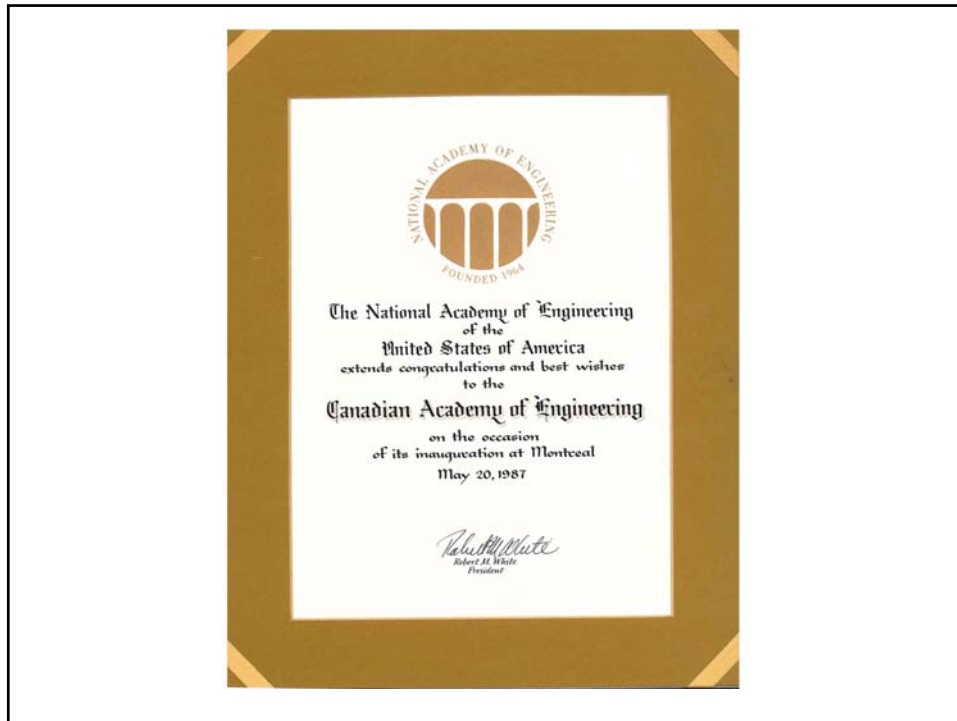
Thereafter, a Founding Committee of twenty-six engineers was formed from which a Provisional Council of sixteen was selected. The Council organized itself into three committees: membership, by-laws and finance. These actions were taken at a meeting in Ottawa on 7 November 1986, after which the Provisional Council held its first meeting.

The Council held two additional meetings, on 5 February and 3 April 1987. To this end, the National Research Council kindly provided a grant to assist with travel expenses. A Constitution and a set of By-Laws were developed, these being essential preliminaries for filing an application for incorporation.

Both documents were thoroughly discussed by Council and considerably amended from the first drafts. The corresponding documents of NAE and FEBC were also consulted. The Constitution sets 250 as the maximum number of Fellows, with no more than 40 being elected in any one year.

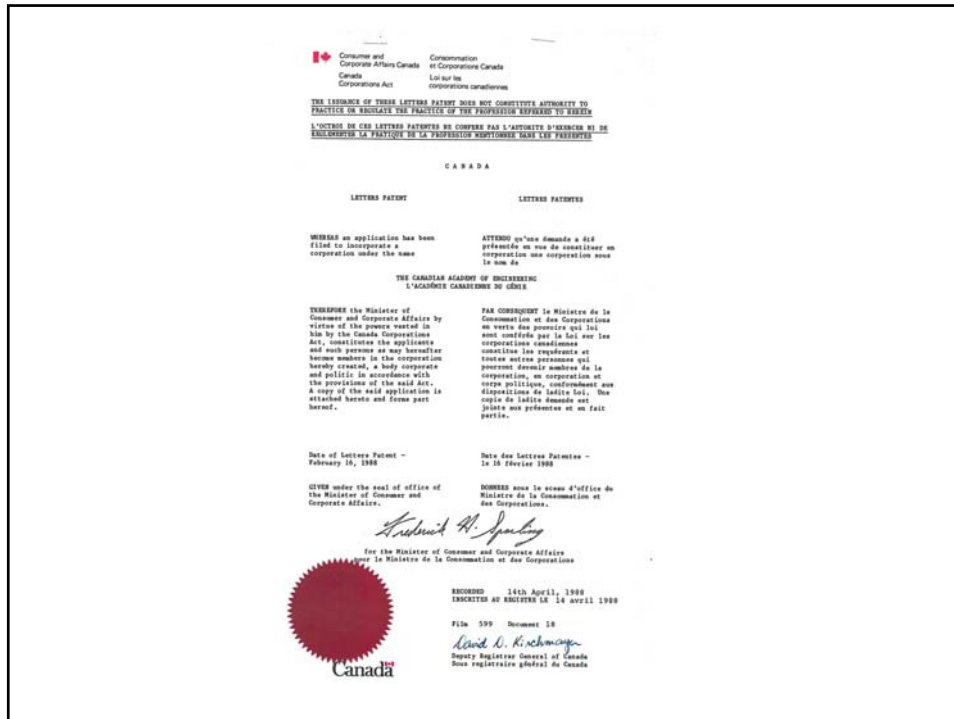
An initial list of about forty founding Fellows was carefully developed. Almost all of those invited to join did so. The Council asked each prospective Fellow to contribute \$300 to finance the start of the Academy. With "money in the bank" and the two essential documents ready, the Council convened the inaugural meeting in Montreal during the Engineering Centennial Conference.

CANADIAN ACADEMY OF ENGINEERING, 25 ACADIE STREET, AYLMER, QUÉBEC, J9S 1H7



1988

- Granted a charter for letters patent February 16, 1988



1988

Members of the CAE Executive Committee at the first annual meeting after inauguration



1988

The first annual meeting after inauguration



1988

Founding member and Past President
Philip A. Lapp



1988

- Co-hosted, with the Royal Swedish Academy of Engineering Sciences, King Gustav of Sweden at a Symposium on *Industrial Progress through Science and Technology*.

**Gift from the Royal
Swedish Academy of
Engineering
Sciences, 1988**



1989

- Léopold Nadeau appointed as first Executive Director
- Established the 10 most pressing engineering issues in Canada

1990

- Beginning of The Decade of Natural Disaster Reduction, a successful collaboration with the Royal Society of Canada

1990

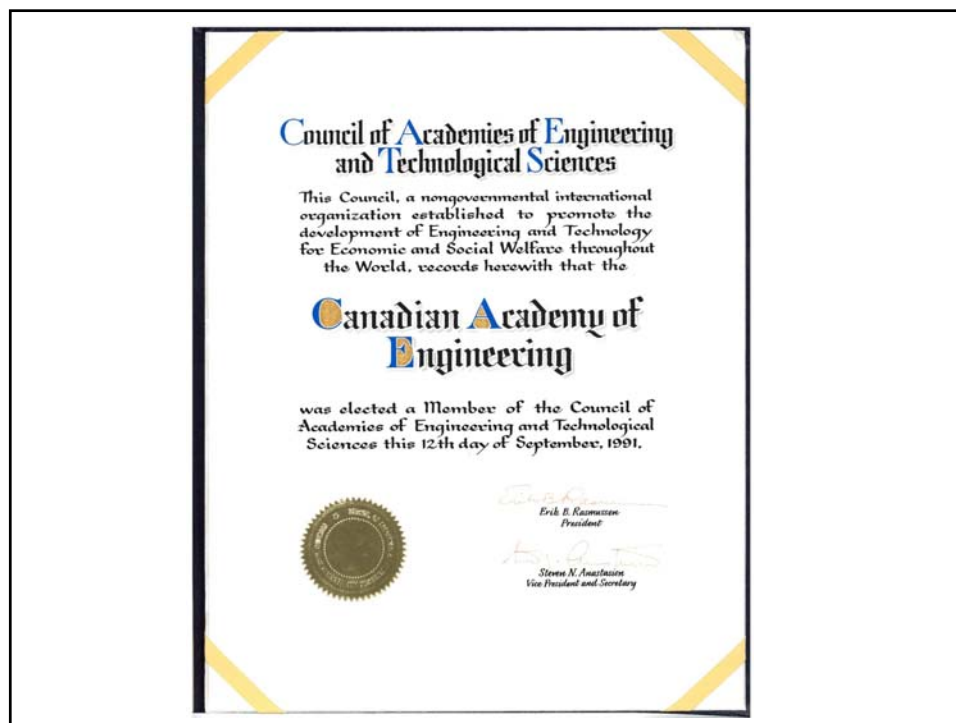
- Contributed to COPSE (Committee of Parliamentarians, Scientists and Engineers) (later PAGSE, *Partnership for Science and Engineering*)

1991

- Endowment fund reaches \$485,000
- CAE Report on “*Engineering Research in Canadian Universities*” was published in August 1991
- “Engineering Issues” No. 1 the first formal publication “*Managing the Environment – The Engineering Challenge*” by Donald R. Stanley was published in December 1991

1991

- CAE elected a member of the International Council of Academies of Engineering and Technological Sciences (CAETS) September 12, 1991



1987 - 1991

Presidents of the CAE

1987 - Dr. Robert F. Legget

1988 - Dr. Philip A. Lapp

1989 - Dr. Larkin Kerwin

1990 - Dr. James M. Ham

1991 - Dr. Camille A. Dagenais

1992

- The first Festival of Engineering '92 with the theme "*Engineering Our Future*" was held April 6-11, 1992
 - Opened by His Excellency the Right Honourable Ramon John Hnatyshyn, Governor General of Canada
 - Guy Saint-Pierre, President and CEO, The SNC Group, was the Honorary Chair
 - Sponsored by Canadian Council of Professional Engineers (CCPE), Association of Consulting Engineers of Canada, Engineering Institute of Canada (EIC) and the CAE. Event co-ordinated by the Ottawa Chapter of PEO.



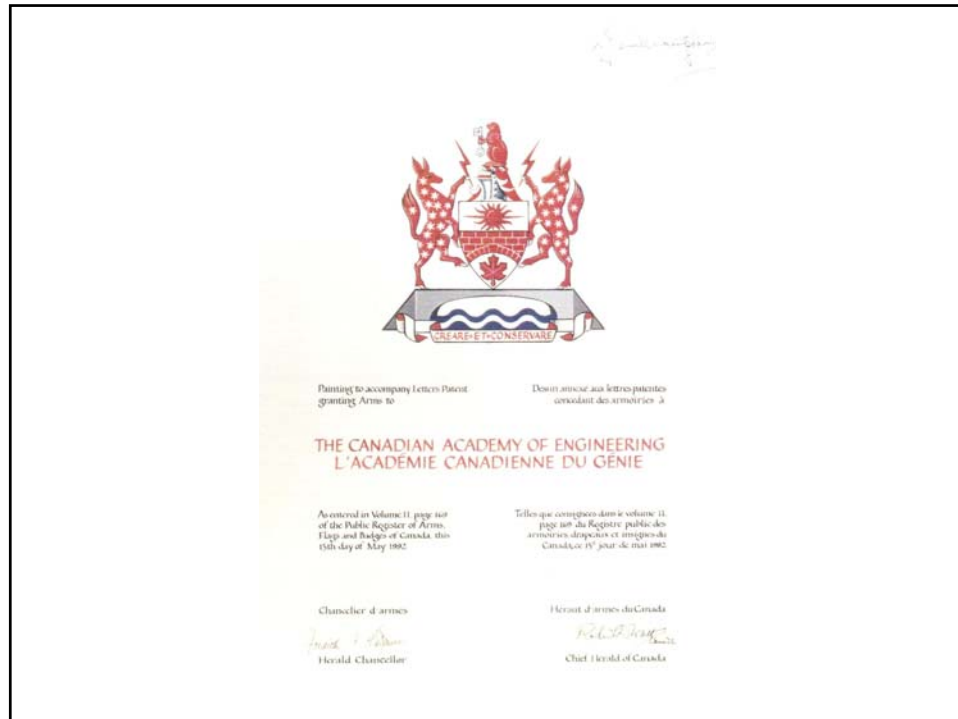
CAE Dispatch Case (since replaced with a USB memory stick; soon to be replaced again with Cloud Computing)

1993

- Coat of arms presented by Governor General Ramon Hnatysyhn



- Founding partner in National Engineering Week



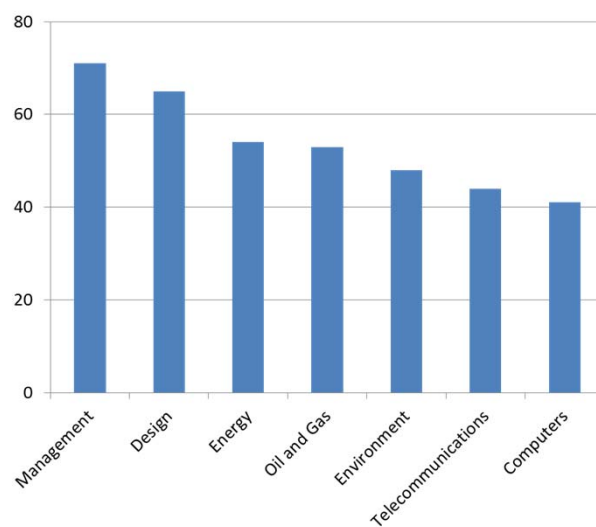
1993

- “Engineering Issues” No. 3 “*Risk, Safety and Society*” was published in July 1993
- “Engineering Issues” No. 4 “*The Central Role of Design in Our Economy*” by J.E. Lockyer was published in November 1993

1994

- Membership dues increased from \$250 to \$300/year
- Revised our Mission statement to the current form
- Brief submitted to Federal S&T Review by CAE, CCPE, ACEC and EIC *“The Role of Engineering in Building a National Strategy in Science and Technology in Canada” September 1994*

Most Common Fellow Skills



1995

- Honorary Fellows category created (renamed Emeritus Fellow in 1999)
- “Engineering Issues” No. 5 “*Natural Disaster Reduction in Canada*” by A.G. Davenport was published in August 1995

1996

- Fellow Dennis Poussart creates CAE web page
- CAE & RSC Report on *Ontario’s Nuclear Emergency Plan* – November 1996

1992 - 1996

Presidents of the CAE

1992 - Dr. Alan G. Davenport

1993 - Dr. Gordon M. MacNabb

1994 - Mr. Jean-Paul Gourdeau

1995 - Dr. Angus A. Bruneau

1996 - Dr. Angus A. Bruneau

1997

- CAE Report on *Engineering Education in Canadian Universities*, published in January 1997
- Pierre Franche succeeds Léopold Nadeau as Executive Director

1997

- “Engineering Issues” No. 6 *“Lifelong Learning for Professional Engineers”* by C.W. Bowman was published in August 1997
- CAE published a Background Report *“Technological Entrepreneurship and Engineering in Canada”* edited by Roger Blais in September 1997

1998

- “Engineering Issues” No. 7 *“Wealth Through Technological Entrepreneurship”* was published in March 1998

1999

- Philip Cockshutt succeeds Pierre Franche as Executive Director
- Honorary Fellow category created - to date, the only Fellows elected to this category are Mike Lazaridis (2008) and Arthur Carty (2008)

1999

- CAE Position Paper *“Public Investments in University Research: Reaping the Benefits”* published in October 1999
- *“Engineering Issues”* No. 8 *“Evolution of Engineering Education in Canada”* was published in December 1999

2000

- Royal Society of Canada (RSC) and Canadian Academy of Engineering (CAE) proposal: *The National Academies of Canada: Part I, A Proposal to the Government of Canada* - May 2000

2001

- CAE Headquarters moves to 180 Elgin Street, Ottawa
- CAE, RSC and Canadian Academy of Health Sciences (CAHS) proposal: *A Proposal to Create a Council to Provide Independent Expert Assessments of Science, Engineering and Technology Issues for the Government of Canada and for the Public of Canada*

1997 - 2001

Presidents of the CAE

1997 - Mr. John H. Dinsmore

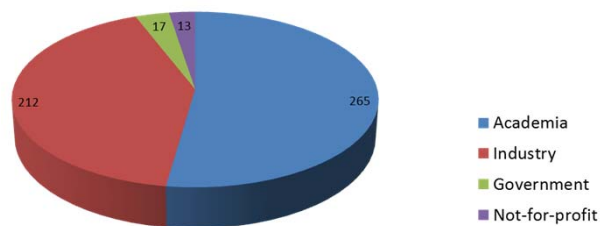
1998 - Dr. Gordon R. Slemon

1999 - Mr. Alex Taylor

2000 - Mme. Micheline Bouchard

2001 - Dr. Joseph D. Wright

Backgrounds of CAE Fellows



2002

- CAE published report “*Protecting the Public and the Environment – A Responsibility of Canadian Professional Engineers*”- February 2002
- CAE published report “*Energy and Climate Change – A Canadian Engineering Perspective*”- March 2002

2002

- The Canadian Academies of Science (CAS), was created under the *Canada Corporations Act* in April 2002 by three founding member academies:
 - The Royal Society of Canada (RSC)
 - The Canadian Academy of Engineering (CAE)
 - The Canadian Institute of Academic Medicine (subsequently to evolve into the Canadian Academy of Health Sciences - CAHS)

2002

- The Canadian Academy of Sciences (CAS) granted letters patent and renamed Council of Canadian Academies (CCA) in 2006
- “Engineering Issues” No. 9 “*Security and the Engineering Profession in Canada*” was published in December 2002

2003

- CAE published a report “*Assuring Competence in the Canadian Engineering Profession*” in February 2003
- “Engineering Issues” No. 10 “*Energy and Climate Change*” was published in March 2003

2004

- *“The First Fifteen Years – A Brief History (1987-2002) of the Canadian Academy of Engineering”* by the late Gordon Slemon was published in March 2004
- Prime Minister Martin announces government’s intention to provide funding for the Canadian Academies of Science - October 6, 2004

2005

- Federal Budget allocates \$30 million to the CAS, February 23, 2005
- Negotiations between government and CAS over terms of funding agreement, February -March, 2005

2005

- Inaugural Meeting of the CAS Board of Governors, September 11, 2005
- CAE Task Force on the Future of Engineering - A Framework for Discussion published in December 2005

2006

- Peter J. Nicholson hired as inaugural President of the CAS, February 6, 2006
- *The Canadian Energy Challenge Workshop: an Engineering Perspective* took place on Friday, May 5, 2006 at the University of Ontario Institute of Technology (UOIT) in Oshawa, Ontario
 - Report on *“The Canadian Energy Challenge Workshop: An Engineering Perspective”* by Kamiel S. Gabriel and Richard J. Marceau published June 2006

2006

- CAS renamed the Council of Canadian Academies, June 20, 2006
- Michael A. Ball succeeds Philip Cockshutt as Executive Director

2006

- The Canadian Engineering Leadership Forum (CELFL) is formed by:
 - CAE
 - CCPE
 - ACEC
 - EIC
 - NCDEAS (National Council of Deans of Engineering and Applied Sciences)
 - CFES (Canadian Federation of Engineering Students)

2002 - 2006

Presidents of the CAE

2002 - Dr. Claude Lajeunesse

2003 - Dr. Morrel P. Bachynski

2004 - Mr. Ron Nolan

2005 - Ms. Kathleen Sendall

2006 - Dr. John McLaughlin

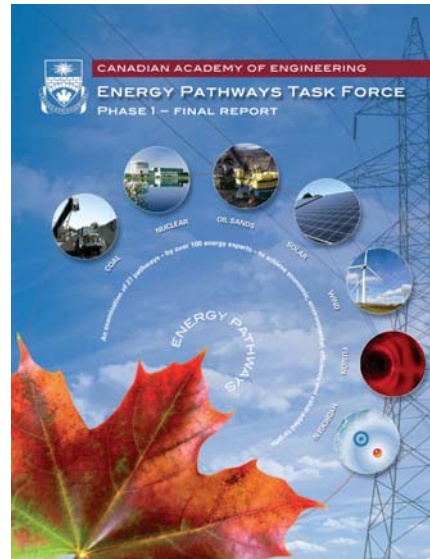
2007

- Dr. Clem Bowman presented with the CAE's first Distinguished Service Award (renamed the Léopold Nadeau Memorial Award for Distinguished Service in 2008) by President John D. McLaughlin



2007

- CAE Energy Pathways Task Force Phase 1 – Final Report published in August 2007



2007

- CAETS 2007 Convocation – “Environment & Sustainable Growth” held in Tokyo, Japan, October 22-26, 2007



2007

- “Benchmarking the CAE against CAETS Member Academies’ Governance, Finance, Membership and Outreach: A Critical Look at the CAE – Where Do We Stand?” - Final report published in February 2007

2008

- Clem Bowman receives the prestigious 2008 Global Energy International Prize in St. Petersburg, Russia, April 2008



2008

- Morrel P. Bachynski presented with the Léopold Nadeau Memorial Award for Distinguished Service by President C. Ravi Ravindran



2008

- Mike Lazaridis and Arthur Carty elected as Honorary Fellows

Arthur
Carty and
President
L. John
Leggat at
the 2009
Annual
Meeting



2008

- CAETS 2008 Annual Meeting & Symposium – “*Delta Technology*”, held in The Hague and Delft, Netherlands, June 25-26, 2008



2008

- CAE launched new website
- CAE Newsletter redesigned

2009

- Engineering Summit “*Leading a Canadian Future: The New Engineer in Society*” organised by CELF held in Montreal, May 18-21, 2009
- CAE Strategy & 3-Year rolling Business Plan announced

2009

- The CAE hosted the bi-annual CAETS Convocation in Calgary, July 13-17, 2009. The theme was “*Our Heritage of Natural Resources – Management and Sustainability*”



2009

- President-elect Axel Meisen took a well deserved break after hosting the CAETS Convocation



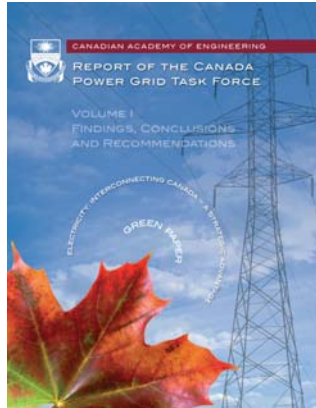
2009

- The CAE signed a cooperation agreement with the Indian Academy of Engineering in Calgary



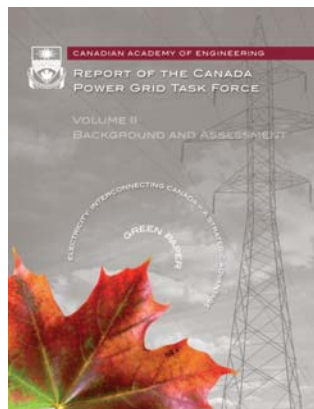
2010

- CAE Report of the Power Grid Task Force: Volume I – Findings, Conclusions & Recommendations – *“Electricity: Interconnecting Canada – A Strategic Advantage” Green Paper* published April 2010



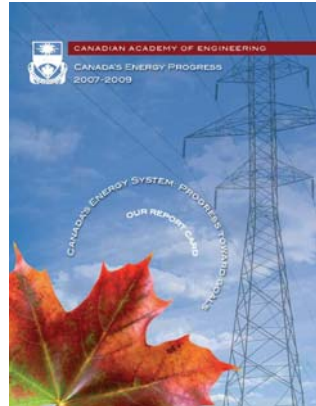
2010

- CAE Report of the Power Grid Task Force: Volume II – Background and Assessments *“Electricity: Interconnecting Canada – A Strategic Advantage” Green Paper* published April 2010



2010

- CAE Report on Canada's Energy Progress 2007 - 2009
"Canada's Energy System: Progress Towards Goals – Our Report Card" published May 2010



2010

- MOU signed between the Trottier Family Foundation, The David Suzuki Foundation and the CAE to establish the "Trottier Energy Futures Project"



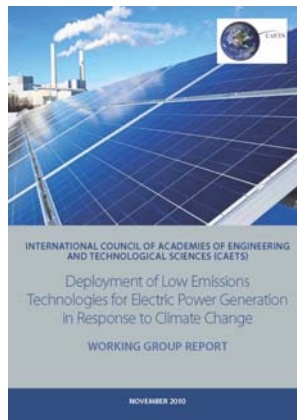
2010

- CAETS 2010 Annual Meeting & Symposium – *“Sustainable Food Systems”* held in Copenhagen, Denmark, June 28-29, 2010



2010

- CAETS Working Group Report on *“Deployment of Low-Emissions Technologies for Electric Power Generation in Response to Climate Change”* – published September 2010



2011

- CAETS 2011 Convocation held in Mexico City, Mexico, June 27-July 1, 2011
- CCA issued “Statement of Common Understanding” with the RSC, CAE and CAHS.

2011

- CAE hosted a delegation from the Chinese Academy of Engineering August 22-23, 2011



2007 - 2011

Presidents of the CAE

2007 - Prof. C. Ravi Ravindran

2008 - Dr. John Leggat

2009 - Dr. Axel Meisen

2010 - Dr. Michael E. Charles

2011 – Ms. P. Kim Sturgess

1987 - 2011

Executive Directors of the CAE

1987 – 1997 • Léopold Nadeau

1997 – 1999 • Pierre Franche

1999 – 2006 • E. Philip Cockshutt

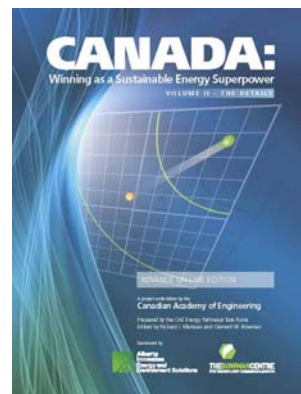
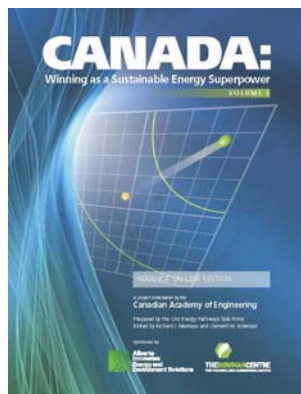
2006 – 2011 • Michael A. Ball

2012

- Kevin Goheen succeeds Michael A. Ball as Executive Director
- CAE begins its presence on Facebook
- “Canada: Winning as a Sustainable Energy Superpower”, ed. Richard Marceau and Clem Bowman, published.

2012

- The CAE Energy Pathways Task Force’s new book “*Canada: Winning as a Sustainable Energy Superpower*” is reported in a special Sustainable Energy supplement in The Globe and Mail on May 25, 2012



2012

- CAE to co-host, with the Indian National Academy of Engineering, a technical workshop on Clean Coal Technologies
- CAE and Engineers Canada co-host a visit from the Beijing Association for Science and Technology

**Gift from
Beijing
Association for
Science and
Technology**



2012

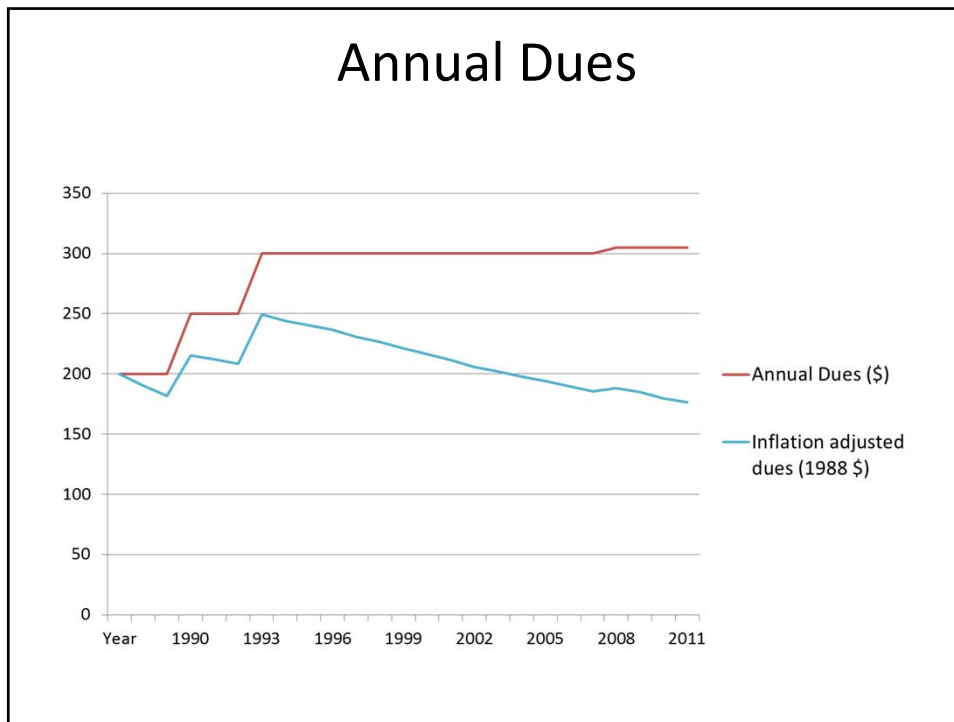
Surviving Founding Fellows

Pierre R. Belanger	John S. MacDonald
Angus A. Bruneau	Gordon M. MacNabb
Camille A. Dagenais	James R. McFarlane
Bernard Etkin	William G. Morison
Jean-Paul Gourdeau	Lucien Rolland
Bernard Lamarre	Ernest Siddall
Philip A. Lapp	Douglas T. Wright

2012

CAE Membership

354 Active Fellows
149 Emeritus Fellows
3 Honorary Fellows
49 New Fellows
Total 555





Here's to even greater achievements in
our second quarter century

CAE 25th Anniversary 1987 • 2012 25^e anniversaire de l'ACG