



# YOU AND YOUR CAREER

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# Roadmap

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- The role that education plays in our lives and careers
- Life and career choices, experiences in industrial and academic jobs, and opportunities when volunteering for professional organizations
- The importance and power of commitment to always try to achieve one's best



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# Biographical Note

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- Dipl. Ing. Degree in Power Engineering, University of Pristina, Yugoslavia, 1974
- MS in EE and MS in CE, Syracuse University, 1979 and 1981 (respectively)
- Ph.D. in EE, UCLA, 1986
- Visiting Lecturer, UCLA, 1986-1988
- Member of Technical Staff, AT&T Bell Laboratories, Murray Hill, NJ, 1988-1990
- Research Scientist, Bell Communications Research, Morristown, NJ, 1990-1995
- NSF Visiting Professor, UC Berkeley, 1995-1997
- Associate Professor and Professor, Simon Fraser University, 1998-present





# Biographical Note: Research

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## Communication networks:

- modeling and analysis of computer networks
- characterization and modeling of network traffic
- performance analysis of communication networks
- simulation of protocols and network control algorithms
- intelligent control of communication systems

## Nonlinear circuits and systems:

- analysis of complex systems and networks
- theory of nonlinear circuits and systems
- software tools for circuit simulation
- homotopy methods for finding dc, steady-state, and transient solutions of transistor circuits



# Biographical Note: Teaching

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## Communication networks:

- ENSC 427 Communication Networks
- ENSC 835 Communication Networks
- ENSC 833/CMPT 885 Network Protocols and Performance
- ENSC 894 Special Topics: Communication Networks

## Circuits and systems:

- ENSC 151 Digital and Computer Design Laboratory
- ENSC 220 Electric Circuits I
- ENSC 320 Electric Circuits II
- ENSC 895 Special Topics: Theory, Analysis, and Simulation of Nonlinear Circuits

# Childhood Memories

Prokletije, mountains in Yugoslavia on the border between Montenegro and Albania



# Simon Fraser University Burnaby Campus





# Communication Networks Laboratory

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# You and Your Research

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- “You And Your Research,” talk by Richard W. Hamming, given at Bellcore (March 7, 1986)
- R. W. Hamming spent 30 years at Bell Laboratories and is known by his work in mathematics, information theory, coding, and computer science.
- The talks centered on Hamming's observations and research on the question:
- “Why do so few scientists make significant contributions and so many are forgotten in the long run?”
- About what he has learned in terms of the properties of the individual scientist, their abilities, traits, working habits, attitudes, and philosophy



# You and Your Research

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- “If you chose to assert your ego in any number of ways, ‘I am going to do it my way,’ you pay a small steady price throughout the whole of your professional career. And this, over a whole lifetime, adds up to an enormous amount of needless trouble.”
- “In summary, ... some of the reasons why so many people who have greatness within their grasp don't succeed are:
  - they do not work on important problems,
  - they don't become emotionally involved,
  - they don't try and change what is difficult to some other situation which is easily done but is still important, and they keep giving themselves alibis what they don't.”





# You and Your Research

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- "Luck favors a prepared mind. Luck changes the odds, but there is some definite control on the part of the individual."
- One prescription: work hard!



# Great Teachers

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- “The mediocre teacher tells. The good teacher explains. The superior teacher demonstrates. The great teacher inspires.”

William A. Ward

- “The teacher who is indeed wise does not bid you to enter the house of his wisdom but rather leads you to the threshold of your mind.”

Khalil Gibran

- “A teacher affects eternity; he can never tell where his influence stops.”

Henry Adams



# Great Teachers

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- “Great teachers do not all have a single style - but they do all have a singular goal: to reach students in ways that have deep and lasting influence on how they think and act throughout their lives and careers.”

Hass School of Business, UC Berkeley

- Great teacher:
  - Communicates a thorough knowledge of and enthusiasm for the relevant field or subject
  - Presents that knowledge coherently and connects it with other allied fields or subjects
  - Challenges students and increases their capacity for independent thought
  - Transforms, enhances, or innovates teaching methodology and practice.

Otis College of Design and Arts

# Guts, Gumption, Smarts, and Luck

- Are they enough to get you to the top?





# Communications Skills

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Presenting your way to the top:

- "No skill opens more doors, creates more visibility, or gives you more opportunity to exercise power. Right or wrong, fair or unfair, the person who is capable of articulating an idea is usually credited with having had it."

J. Calano and J. Salzman, *Career Tracking: 26 Success Shortcuts to the Top*. New York: Simon and Schuster, 1988.



# Communications Skills

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- 204 British CEOs rated the five factors they felt were most influential in their rise to the top:
  - the ability to work with variety of people
  - early overall responsibility for important tasks
  - a need to achieve results
  - leadership experience early in career
  - wide experience in many functions prior to age 35

*US News and World report, Sept. 25, 1989.*



# Professional Organizations

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- IEEE  
<http://www.ieee.org/>
- IEEE WiE  
[https://www.ieee.org/membership\\_services/membership/women/women\\_in\\_engineering.html](https://www.ieee.org/membership_services/membership/women/women_in_engineering.html)
- Association of Computing Machinery  
<http://www.acm.org/>
- Sigma Xi Scientific Society  
<https://www.sigmaxi.org/>
- Society of Women Engineers  
<http://societyofwomenengineers.swe.org/>

- Institute of Electrical and Electronics Engineers:
  - professional association for electrical and electronics engineers
  - a NY not-for-profit corporation - governed by NY law for corporate governance issues
  - a U.S. corporation governed by US law
  - a member organization - no shareholders
  - focused on “public benefit”
  - organized as a single organization
  - governed by the Board of Directors





# IEEE Vision and Mission

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## VISION

IEEE will be essential to the global technical community and to technical professionals everywhere, and be universally recognized for the contributions of technology and of technical professionals in improving global conditions.

## MISSION

IEEE's core purpose is to foster technological innovation and excellence for the benefit of humanity.



# IEEE Statistics

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July 2018:

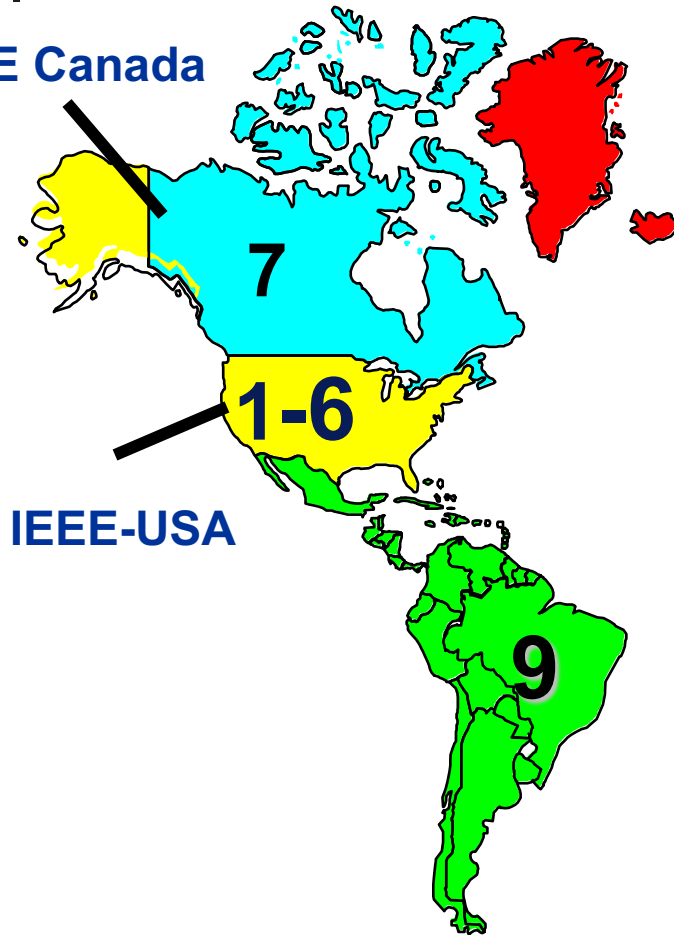
- 374,778 members including 41,677 graduate students and 58,565 undergraduate student members in more than 160 countries

December 31, 2017:

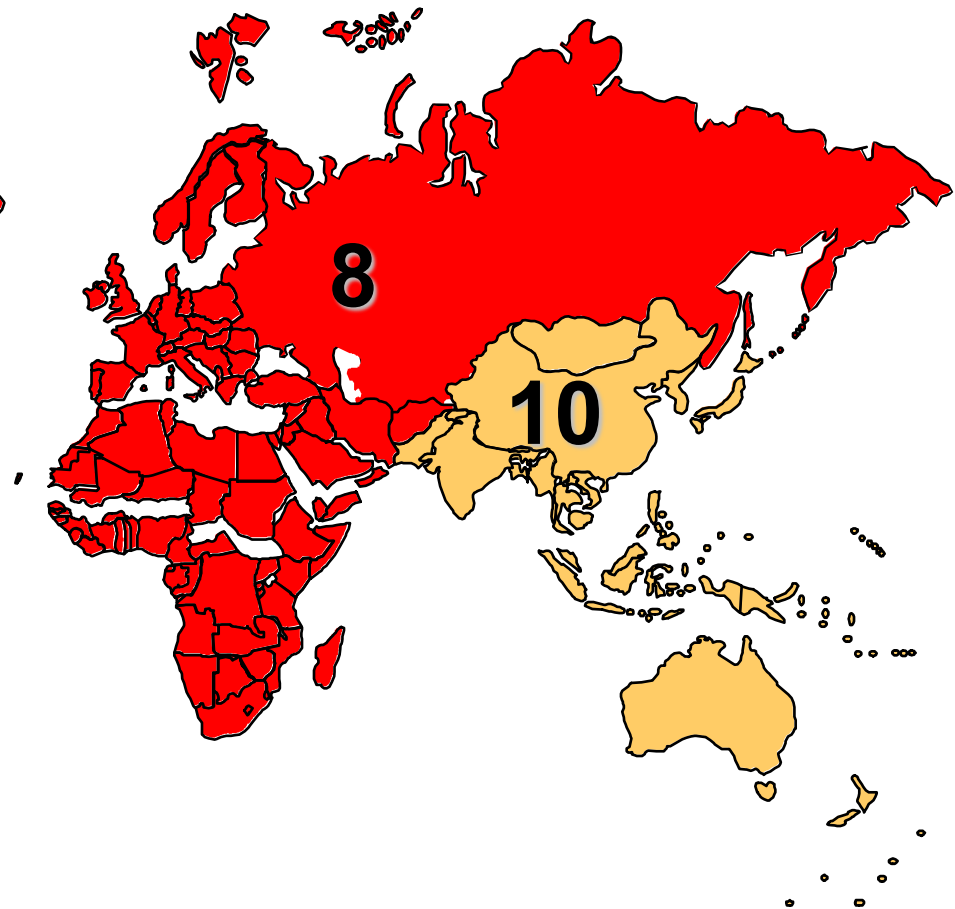
- 334 Sections in ten geographic regions worldwide
- 2,116 Society chapters
- 3,005 Student branches at colleges/universities in over 100 countries
- 1,481 student branch chapters if IEEE technical societies
- 486 affinity groups: IEEE-USA Consultants' Network, Young Professionals (YP), Women in Engineering (WIE), Life Members (LM), and IEEE Entrepreneurship

# The IEEE Regions

IEEE Canada



IEEE-USA





# IEEE Statistics

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- 39 technical Societies and seven technical councils
- More than 4 million documents in the IEEE Xplore® Digital Library, with more than 8 million downloads each month
- Over 1,300 active standards and more than 600 standards under development
- Publishes approximately 200 transactions, journals, and magazines
- Sponsors more than 1,800 conferences in 98 countries:
  - Partnering with more than 1,400 non-IEEE entities globally
  - Attracting more than 484,000 conference attendees
  - Publishing more than 1,700 conference proceedings via IEEE Xplore



# Biographical Note

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IEEE:

- IEEE Division Delegate-Elect/Director-Elect (2018), IEEE Division X Delegate/Director (2019-2020)

IEEE Systems, Man, and Cybernetics Society:

- President (2014-2015)
- Vice President Publications (2012-2013, 2010-2011)
- Vice President Long-Range Planning and Finance (2008-2009)
- Member at Large, Board of Governors (2004-2006)

IEEE Circuits and Systems Society:

- President (2007)
- Member, Board of Governors (2001-2003, 2004-2005)



# Biographical Note

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- Chair, IEEE Circuits and Systems Society joint Chapter of the Vancouver/Victoria Sections.
- Chair, IEEE Technical Committee on Nonlinear Circuits and Systems (1998).

## Conferences:

- General Co-Chair of SMC 2020, SMC 2016, HPSR 2014
- Technical Program Co-Chair, ISCAS 2005; Technical Program Chair and Vice General Co-Chair, ISCAS 2004

## Publications:

- Associate Editor, IEEE Transactions on Circuits and Systems (Part I) (2018, 2004-2005, 1993-1995), (Part II) (1999-2001, 2002-2003), IEEE Circuits and Systems Magazine (2001-2003)



# Biographical Note

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- Distinguished Lecturer of the IEEE Circuits and Systems Society (2010-2011, 2002-2003)
- Professional Member of IEEE-HKN (2015)
- Fellow of the IEEE (2005)



# Professional Organizations: Young Professionals

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## Membership in IEEE Young Professionals:

- Graduate Students (GSM) and higher grade members within 15 years of receiving their first professional degree
- higher grade members beyond 15 years who wish to opt in

## July 2018:

- Higher grade w/o GSM: 51,252
- GSM w/o Students: 39,276
- Total: 90,528





# Professional Organizations: Women in Engineering

- IEEE WiE:  
<http://wie.ieee.org/>
- WIE Chair:  
[women@ieee.org](mailto:women@ieee.org)



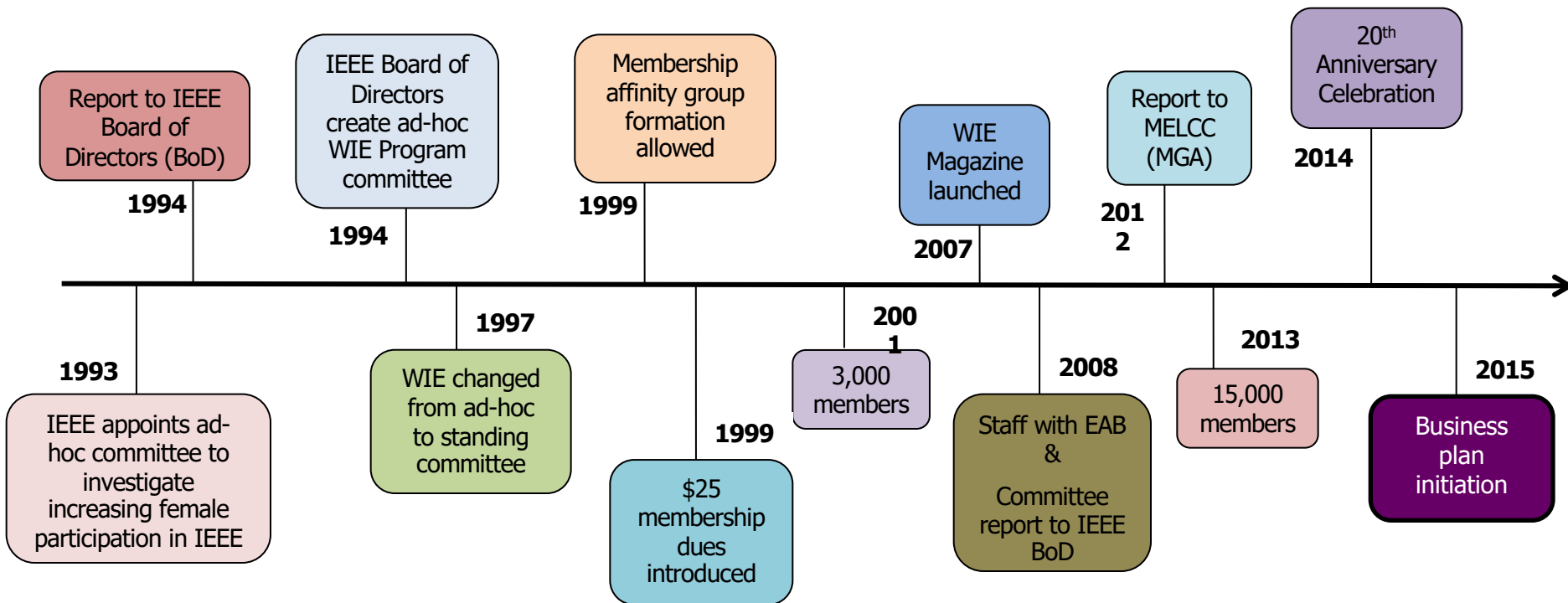


# IEEE Women in Engineering

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- The mission of IEEE WIE is to facilitate the global **inspiration, engagement, and advancement** of women in technical disciplines. IEEE WIE envisions a vibrant community of IEEE **women and men** collectively using their diverse talents to innovate for the benefit of humanity
- Established in 1994: 25 years history

# IEEE WiE History



# IEEE WiE Statistics: 19,238 members, July 2018



WIE Global Membership

# 2018: IEEE WIE International Leadership Conference

[Home](#)[Exhibit](#)[Call For Speakers](#)[Volunteers](#)[Travel](#)[Join](#)[Contact](#)

IEEE WIE ILC | 21-22 May 2018 | San Jose, CA

## LEAD BEYOND

Accelerating innovative women who  
change the world!

[2018 CALL FOR SPEAKERS](#)[2018 EXHIBIT](#)[2017 PICTURES](#)



# IEEE WiE Magazine





September 13, 2018

SisX 2018, Subotica, Serbia





**Egypt**



**Trinidad & Tobago**



**Madras**



**Brazil**



**Ecuador**

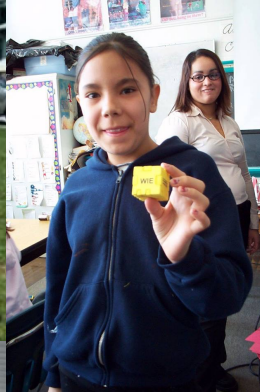


**Germany**





**United States**



**Ireland**



**United Arab Emirates**



**Hyderabad**



**Vancouver**



**Alabama**

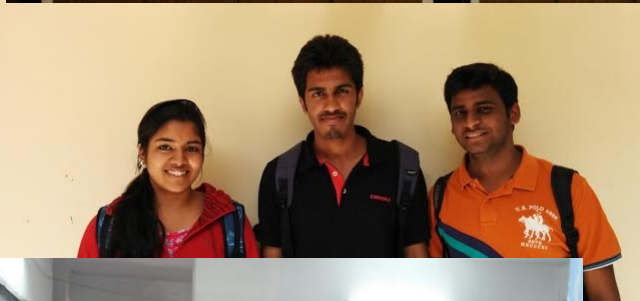


**Japan**



**Puerto Rico**





R10



September 10, 2018

SISY 016, Subotica, Serbia

18.04.2015



# IEEE Women in Engineering

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Recent and upcoming events:

- 10-12 Aug. 2018, IEEE WIE ILS Tunisia Leadership Summit
- 14-15 Sept. 2018, Conference On Comp and Char Techniques in Engineering & Sciences (CCTES-18)
- 21 Sept. 2018, IEEE WIE Tech Powered by Women (TechW) Workshop, Vancouver, British Columbia, Canada
- 8 Nov. 2018: IEEE WIE ILS El Salvador
- 26-27 Nov. 2018: IEEE WIE ILS Australia



# Internet Resources

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- Computer Professionals for Social Responsibility:  
<http://cpsr.org/issues/womenintech/>
- The Ada Project (TAP):  
<http://women.cs.cmu.edu/ada/>
- Women's Opportunities in Technology:  
<https://meetingtomorrow.com/content-library/womens-opportunities-in-technology>



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