IEEE Computer Society

Where are We Today?

Susan K. (Kathy) Land

IEEE Computer Society
2009 President
Overview of IEEE and CS
Primary Activities
Benefits to Industry and the Individual
What’s new and interesting at the CS?
Overview of IEEE and CS
IEEE Vision

To Advance Global Prosperity By Fostering Technological Innovation Promoting IEEE Communities, World-Wide and Enabling Members’ Careers
What is the IEEE?

- World’s largest technical professional society
- More than 360,000 members in 150 countries
- Over 70,000 Student Members
- Divided geographically into 10 Regions
- More than 300 local Sections
- Nearly 2,000 Student Branches
- 37 Societies and 4 Technical Councils
- More than 1300 Society Chapters
The IEEE Regions

IEEE Canada

IEEE-USA

IEEE-USA
IEEE Computer Society Vision

To be the leading provider of technical information, community services, and personalized services to the world's computing professionals
IEEE Computer Society Mission

The purposes of the Society shall be scientific, literary, and educational in character. The Society shall strive to advance the theory, practice, and application of computer and information processing science and technology and shall maintain a high professional standard among its members. The society shall promote cooperation and exchange of technical information among its members, and to this end, shall hold meetings for the presentation and discussion of technical papers, shall publish technical journals, and shall, through its organization and other appropriate means, provide for the needs of its members.
IEEE Computer Society

The largest of the societies and councils organized under the IEEE

... with a unique culture

Volunteer-Staff Partnerships
What is the Computer Society?

- More than 82,000 members
- 40% members live and work outside the U.S.
CS Voting Seats on IEEE Governance

IEEE-USA  EAB  TAB  PUB  SA  RAB

BoD

Excom

10 Regions
2008 CS Management Team

Angela Burgess
Executive Director

Vi Doan
Director of Membership

Vacant
Director of IT&S

Anne Marie Kelly
Director, Governance

Evan Butterfield
Director of Bus Dev & Prod Mgmt

Ann Vu
Director of Products & Services

Dick Price
Assoc Publisher Mktng & Sales
Pyramid of Volunteers & Leaders

- Computer Society Membership: ~80,000
- Volunteers: ~15,000
- Volunteer Leaders: <1,000
- Officers & Senior Leaders: 50-100

Pyramid of Volunteers & Leaders
Primary Activities
What Are the Primary Activities?

- Financially supporting over 540 conferences
  - Sponsors or co-sponsors 200 International conferences
  - Largest event, Super Computing event with over 9000 attendees

- Offers nearly 900 active industry standards (700 in development)
  - Software and Systems Engineering Standards
  - 802

- Provides career resources and continuing education opportunities
  - Continuing education, online training, peer-to-peer networking, certification
IEEE CS Publications (Pubs)

Publishes 17 of the top 20 journals in the field of Electrical and Electronic Engineering

- 10 of the top 10 journals in Telecommunications (up from 9 in 2005)
- 7 of top 10 journals in Computer Science, Hardware & Architecture
- 7 of top 20 journals in Computer Science, Information Systems
- 9 of top 20 journals in Computer Science, Software Engineering
- 722 Conference proceedings
- 19,900 pages published in 2006

Documents delivered online through IEEE Xplore® and CS CSDL platforms

- 156,700 pages
- 210,000 papers are downloaded per day via IEL
- IEL has 1,400,000 full-text articles
Technical Activities (T&C)

Serves as the focal point for the society's activities within a technical discipline and directly influence society standards development, conferences, publications, and educational activities and the identification of emerging technologies.

- Technical Councils
- Technical Committees
- Task Forces

34,000 CS TC memberships held by 14,000 individuals. Currently support CS TCs and TFs sharing common interests in computer hardware, software, applications, and interdisciplinary fields.
IEEE CS Conferences (T&C)

- 200+ international conferences
- 100,000+ attendees overall
- Searchable IEEE conference databases at www.ieee.org/conferencesearch and www.computer.org
- First-hand information on the latest developments from leaders in their fields
CS Standards (SAB)

- Nearly 900 active industry standards
- 700 in development
- Over 50 published in 2005
- 15,000 volunteers
- With IEEE SA Expanding international reach
  - StandardsAsia™
  - StandardsAmericas™
  - StandardsEurope™
  - IEC and IEEE joint branding
Professional Practices Committee (PPC)

- A wide range of career development resources
  - www.ieee.org/careers

- Web-based courses
  - Universities and business organizations
  - IEEE Computer Society

- Certification: CSDP/CSDA

- Free Career Alert electronic newsletter

- IEEE Job Site: www.ieee.org/jobsite, launching new CS specific Job Site
Chapters Activities Board (CAB)

- Members build a network through local Section, Chapter, Student Branch activities
- Develop new skills by taking an active role in IEEE
  - Gain management, teamwork and leadership experience
- Opportunities to meet leaders in technical interest areas
  - Distinguished Visitors Program (DVP)
  - International Science and Engineering Fair (ISEF)
  - National Engineers Week
Educational Activities (EAB)

- Education partnerships provide distance learning opportunities for members at a discount
- University program accreditation
- Faculty development
- Promote engineering and education collaborations to enhance pre-college education in science, mathematics and engineering
Benefits to Industry and the Individual
Benefits for Industry

- CS and IEEE volunteerism helps members build professional skills
  - Management training, leadership, teamwork
- Continuing education opportunities and professional development resources
  - Local seminars, short courses, distance learning options, tutorials
- Software development certification – CSDA/CSDP
- Participation in Standards development
  - Corporations can join the IEEE Standards Assn.
- Participation in educational accreditation activities
Benefits for Industry

- Opportunities to increase corporate visibility
  - Employees present papers/keynotes at conferences
  - Employees contribute articles to IEEE publications
  - Sponsorships for awards, programs and events
  - Corporate branding put on the conference publications, which are widely distributed

- Access to highly skilled workforce via IEEE and CS Job Sites
Why Do Members Join?
Why Do Members Join? *Intangible*

- Access to technical information
- Stay up-to-date in technical field
- Develop career opportunities
- Build a community of colleagues
- Participate in Local/Regional activities
- Obtain products and services
Why Do Members Join? **Tangible**

- Association Magazine: *Computer*
- 40+ Technical Committees/Councils
- Free membership in local chapter
- Free continuing education - 1300 course titles online
- Free online books - ~3,500 articles and books
- Email, news, and networking services
- Employment and career services
- Personal finance benefits: Insurance, credit card, financial planning
- Member discounts: Conferences, certification prep., publications, insurance, travel services
- Award and scholarship eligibility.
## Benefits – A Few

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The CS Today...
Improvements for a Better Society

- Restructuring
  - Governance Restructuring
  - Staff and Volunteer

- Financial Get Well Plan
  - 2008 projected budget surplus
  - Current 2009 projections - $1.3M deficit
  - Working to generate new revenue streams and new CS business opportunities

- Strategic Planning and Refocus
  - Who are we today?
  - What is our relevance in today’s marketplace?
  - What is the role of today’s association for its member?
  - How can we better serve our stakeholders? Who are they?
Revenue Opportunities

- Relaunch of Computer.org
  - www2.computer.org
  - Currently generate ~1M annually plan to double this by end of 2008.

- Certification Programs
  - CSDP + training – $300K
  - CSDA + training – $100K
  - Biometrics

- Continued Growth in Publishing
  - Conferences Publishing - $200K
  - CSDL – Software Corporations Product – $560K (3/yr)
IEEE Computer Society Certified Software Development Professional (CSDP)

- Reflects an engineering viewpoint of professionalism.
- Anticipates career progression similar to engineers.
- Designed for baccalaureate plus four years of experience.
- Certification based on:
  - education,
  - experience,
  - examination,
  - code of ethics, and
  - continuing education.
- Developed to be fair, reliable and valid.

First public exam in April 2002. To date, about 600 certifications.
11 Knowledge Areas for CSDP

- Software Requirements
- Software Design
- Software Construction
- Software Testing
- Software Maintenance
- Software Configuration Management
- Software Engineering Management
- Software Engineering Process
- Software Tools and Methods
- Software Quality
- Business Practices & Engineering Economics

(The next refresh of the CSDP will achieve complete alignment of SWEBOK Guide and CSDP.)

Same as SWEBOK

+
Approximate Distribution of Questions

- Business: 14%
- Design: 23%
- Construction: 11%
- Testing: 16%
- Maintenance: 4%
- CM: 4%
- Tools/Methods: 3%
- Process: 3%
- Mgmt: 11%
- Quality: 7%
- Business: 4%
- Reqmts: 14%
- Design: 23%
CSDA - New Entry-Level Certification

- Certified Software Development Associate (CSDA)
- Suitable for:
  - New graduates from software engineering programs
  - Others who wish to enter the software engineering profession
- Aligned with the knowledge outline for the SWEBOK Guide revision
- First administered in May 2008. Approximately 140 persons received the certification.
Knowledge Areas shared by SWEBOK and Certifications
(roughly ordered with suitability for university teaching toward the left
and suitability for industrial experience toward the right)
Improved Member Services

- Conference Services
  - Conferences Information Management Application (CIMA); computer.org/cima
  - Professionalizing Service Model
  - Change in Business Model (2007)
  - Providing Incentives (2009)

- Electronic Products and Services
  - Improved E-Learning Provider
  - Build Your Career
  - Podcasts and Webinars
Build Your Career

TechSets
Free Articles
Career News
Job Boards
Newsletter

Featured TechSet
Security and Privacy
Technologies in SOA
Guest editor: Patrick C. K. Hung, University of Ontario Institute of Technology
This TechSet will provide you with an understanding of how security and privacy issues are very critical to implement a full-scale SOA to support business processes.

Featured Free Article
Frequently Forgotten
Fundamental Facts about Software Engineering
Robert L. Glass
This month’s column is simply a collection of what I consider to be facts—truths, if you will—about software engineering. I’m presenting this software engineering laundry list because far too many people who call themselves software engineers, or computer scientists, or programmers, or whatever nom du jour you prefer, either aren’t familiar with these facts or have forgotten them.

IEEE computer society
60th anniversary

540x388
Podcasts and Webinars
Improved Member Services

- Standardization and Technical Activities
  - Standards that Support the Environmental Assessment of Computer Products
  - New Task Forces: Haptics, Mobile Computing, and Gaming

- Membership and Chapters Activities
  - Graduates of the Last Decade (GOLD)
  - Emphasis on Integration and Retention
Closing

● The Computer Society
  ● An organization that is here for you.
  ● The Board is consistently looking for ways to improve its service to its membership.

● What Can the CS Do for YOU?
● How Can YOU Get Involved?
● www.computer.org
• Questions

• skland@computer.org
Backup
Organization/Activities

IEEE Computer Society
President (2009)

Professional Practices Committee (PPC)
CSDP/CSDA Test Development
CSIDC Executive Committee
Transformation Task Force '06; Awards

Software Engineering Portfolio
Oversight Committee (Chair 2006)
Information Technology Oversight (2005-2006)

Board of Governors

Standards Activities Board (SAB) (2005 -2006)
2nd Vice President / Standards Activities (Chair)
Responsible for all Standards Activities
Member (2006-present)
Vitality Chair (2001-2003)

1st Vice President / Conferences Activities (Chair)
(2007 - 2008)
Responsible for all Conferences, Workshops, And Tutorials

Software and Systems Engineering Standards Committee (S2ESC)
Management Board (MB)
Secretary (2000 – 2003)

S2ESC Executive Committee
ExCom
Member (2000- Present)
Secretary (2000- 2003)

ISESS/SES
Conference Committees
Publicity Chair (1996 – 1999)

Presenter
1st and 2nd Web Hosted
IEEE Standards Users Survey

SAB/BoG/VP/Etc

S2ESC

Conference