IEEE EAB ORIENTATION

23 January 2016

S. K. Ramesh, Jamie Moesch, Burt Dicht, Mirelle White, Eileen Fitzgerald, Jennifer McClain, Nancy Ostin, Yvonne Pelham, Rachel O. Warnick, Joanne Van Voorhis



Webex Details

Utilizing Webex, please note:

- The orientation is being recorded
- The chat feature can be used to:
 - Advise of technical difficulties
 - Ask questions during the presentation
 - Brief answers will be shared in the chat window, while more in depth questions will be addressed in follow up communications
- Kindly mute your line during the presentation





AGENDA

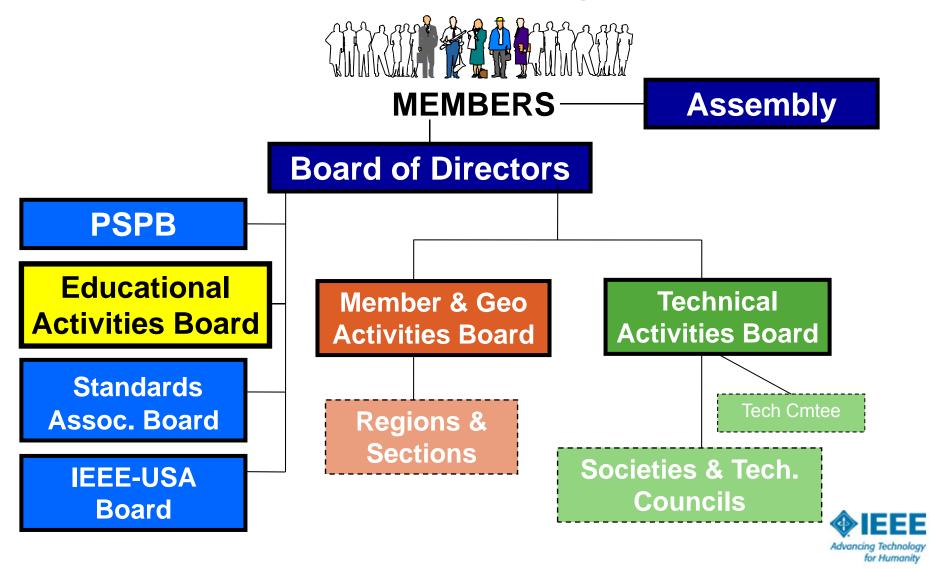
- > EAB/EAD Organizational Structures
- University Education
- Business Development
- Continuing and Professional Education
- > IEEE-HKN
- Pre-University Education
- EAB Awards
- Promotion, Content Support and Development



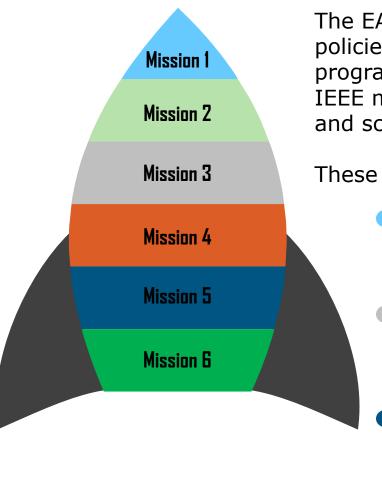




IEEE Governance Organization



Educational Activities Board Mission



The EAB shall recommend to the Board of Directors policies on educational matters and implement programs specifically intended to serve and benefit IEEE members in educational pursuits, the engineering and scientific community, and the general public.

These programs shall include:

- The broad planning of educational activities of the IEEE
- The development of guidelines for the IEEE representatives to accreditation bodies
- The coordination of pre-university programs

- The development and delivery of continuing education products and activities.
- The monitoring of accreditation activities
- The representation of the IEEE in matters regarding engineering education

And, the EAB shall be the IEEE interface in education-related matters with external bodies. EAB shall be responsible for administration of the annual assessment paid to ABET (formerly the Accreditation Board for Engineering and Technology, Inc.)



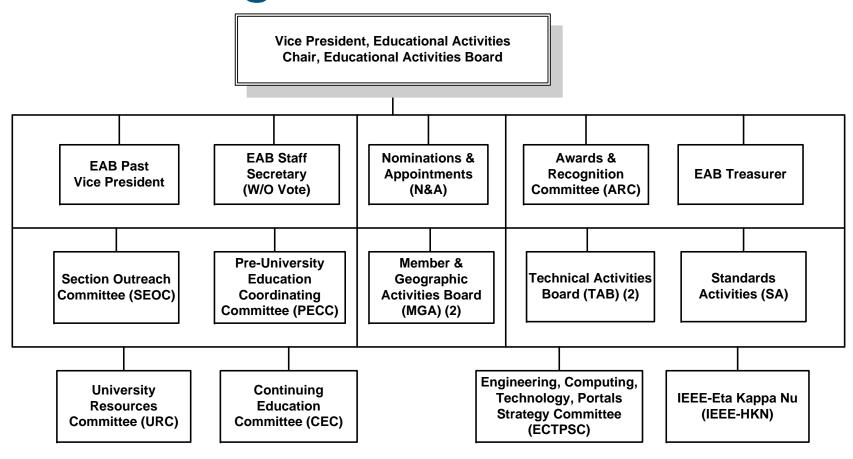
Educational Activities Board Vision

- 1. To become a major resource of choice for learners, educators, and education policy makers in all educational matters within IEEE's fields of interest
- 2. To be the voice of professionals in IEEE's fields of interest on education policy; accreditation; curriculum development; preuniversity science, mathematics, engineering and technology education; and continuing education





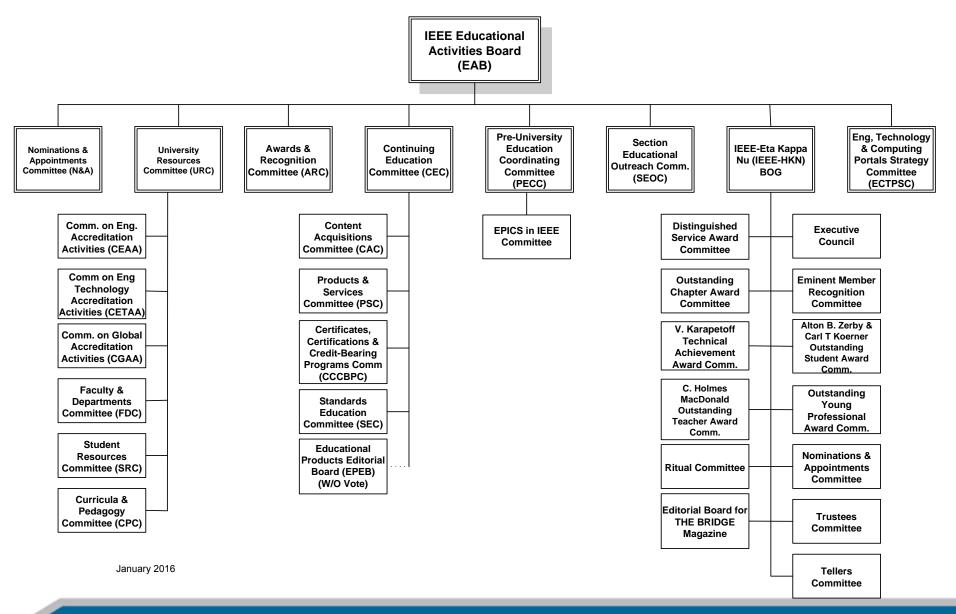
EAB Organizational Structure



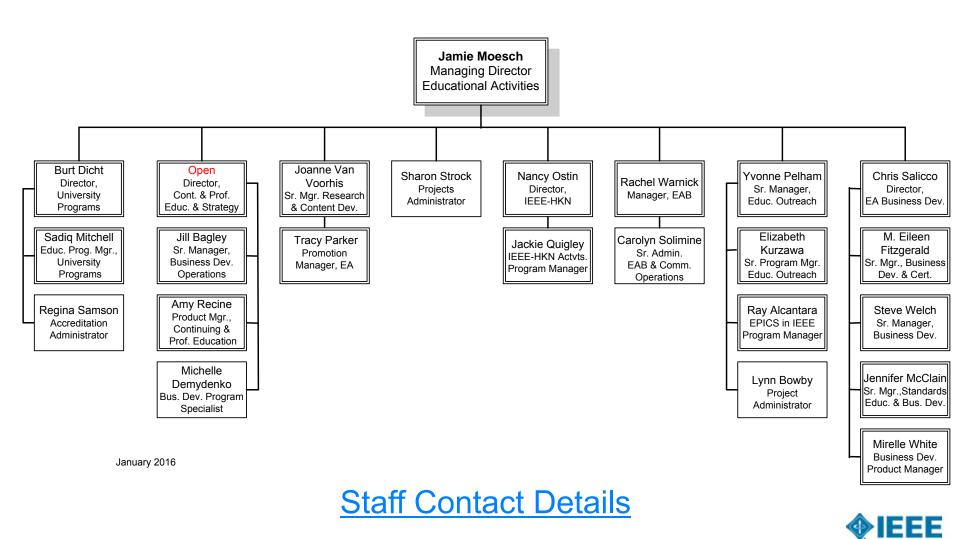
Total Members = 17
Voting Members = 16
One Non-Voting Member = 1
EAB Staff Secretary/Managing Director, EAD



EAB Standing Committee Org Chart



IEEE Educational Activities Department Organizational Structure



Advancing Technology for Humanity

UNIVERSITY EDUCATION ACTIVITIES





University Education Mission

To promote and enhance the content and delivery of engineering, computing and technology (ECT) education globally by assisting in:

The implementation of a portfolio of programs, products and services for students and faculty across IEEE's fields of interest in ECT

Mission

The continued **evolution of curricula and pedagogy** practices

To identify and meet the accreditation needs of the profession by assisting in:

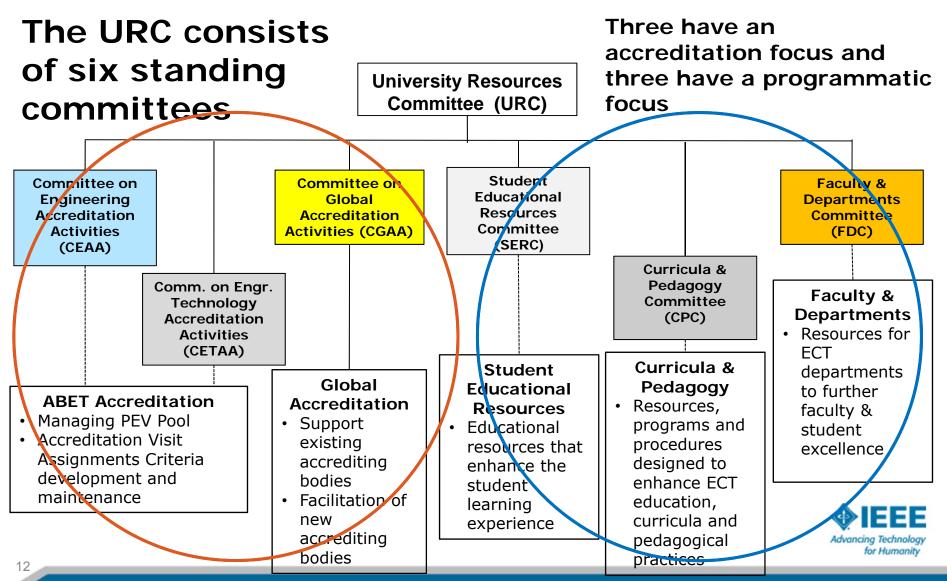
The establishment, development and implementation of new accrediting bodies and accreditation procedures in ECT, as well as pertinent areas within applied science.

Mission

The operation of existing accrediting bodies and procedures



University Resources Committee Structure



URC Product and Services Portfolio

Note: These products and services have either been offered in the past or are currently in the portfolio

Product or Service	CEAA	CETAA	CGAA	FDC	SERC	CPC
Program Accreditation	X	X				
Accreditation Agency Support & Training	X	X	Χ			
Accreditation.org			X			
IEEE - IBM Smarter Planet Challenge (2011- 2014)					X	
IEEE - IBM Watson Student Showcase					X	
I EEE Academic					X	
Advanced Learning Workshop					X	
Early Career Faculty Development				X		
Real World Engineering Products				X		
Perspectives on ECT Education Survey						X
MOOC Reviews						X

FACULTY, DEPARTMENT & STUDENT RESOURCES







Faculty/Department Programs

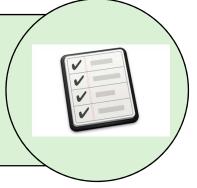


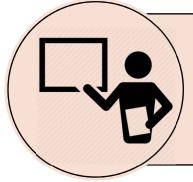
Perspectives on ECT Education Survey

Deployed in 2014 to educational stakeholders, survey was developed to assess how engineering programs might innovate and adapt and to explore potential opportunities for IEEE Educational Activities related to ECT education.

MOOC Guidelines and Reviews

Developed a guidelines document that is in IEEEx's resources for MOOC authors and implemented a process for reviewing the educational effectiveness of MOOCs developed for IEEEx





Early Career Faculty Development

Provide early career faculty (ECF) with a portfolio of tools and resources necessary to enhance their professional development and manage their career choices and paths



Student Programs

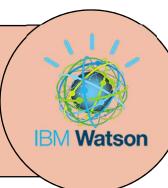


IEEE Academic

A student-driven and locally-based online educational resource developed in cooperation with professors and universities to aid students in their academic learning and to help them achieve academic success

IEEE – IBM Watson Student Showcase

Teams of 2-5 students use IBM's Watson/Bluemix platform to develop apps in order to increase their awareness of the new era of cognitive computing and the role it will play in transforming industries





Advanced Learning Workshop

A "self-contained" kit to enable IEEE-HKN chapters and IEEE student branches to organize and conduct programs and workshops around student learning and academic success



ENGINEERING EDUCATION ACCREDITATION



Why is EAB/University Resources Involved in Accreditation?

01 Because it is in IEEE's stated mission

02

Because accreditation has a significant impact on the content of the curriculum in IEEE's fields of interest . . . and hence, on the future of the profession



03

Because IEEE's involvement introduces the voice of the profession and its practitioners into the decision making process of educational institutions



ABET ACCREDITATION



ABET Accreditation Activities

- IEEE is involved in the accreditation of more than 800 programs through ABET, a non-profit and non-governmental accrediting agency
- IEEE is a founding member of ABET and the largest of its 35 member societies
- In the 2015-16 Accreditation Cycle:
 - 163 engineering program and 38 engineering technology program evaluations
 - Currently more than 344 IEEE volunteers, including program evaluators, are involved in supporting this process

IEEE is lead or co-lead for the following programs:

- Bioengineering, Biomedical Engineering, and Bioengineering Technology
- Biological Engineering
- Computer Engineering and Computer Engineering Technology
- Electrical Engineering and Electrical/Electronic(s) Engineering Technology
- Electromechanical Engineering Technology

- Engineering Management
- Information Engineering Technology
- Laser-Optics Engineering Technology
- Ocean Engineering
- Software Engineering
- Systems Engineering
- Telecommunications
 Engineering Technology



GLOBAL ACCREDITATION





Global Accreditation Scope

- IEEE's policy is to support regional or country accreditation processes when requested and where possible
- The Committee on Global Accreditation Activities (CGAA) was established to oversee these activities
- Provides guidance, support and resources to stakeholders, when requested, to facilitate the formation of regional/country accrediting bodies
- Works to establish and maintain relationships with similar global professional organizations, accrediting bodies and educational institutions

Global Accreditation Activities



- Support existing accreditation bodies with training, facilitation, and consultation
- Assist members and stakeholders in starting new accrediting bodies and implementing program accreditation systems

Region 9 Accreditation Body Summit

Held in Lima, Peru on 1-2 Sept 2015, the objective was to foster the development of Mutual Recognition Agreements in Latin America. Signed Lima Declaration.





IEEE-EIZ Engineering Education Programme Accreditation Workshop: Held in Lusaka, Zambia on 1-2 June 2015, the objective was to develop a roadmap to assist Zambia in instituting a programme accreditation system.

IEEE Kenya University Education Workshop:

Held in Nairobi on 25 October 2014, the objective was aimed at bringing together engineering education stakeholders in Kenya to help chart a future for the Kenyan university infrastructure.



University Education

Major Challenges:

- Identify and explore new product and service opportunities for ECT faculty, departments and students
- Strategically expanding our global program accreditation efforts
- Continue to identify and recruit a pool of global faculty SMEs for content development and presenters
- Exploring new revenue opportunities
- Managing the MOOC review workload

Major Activities:

- Development of Core Learning Objectives for EE
- Expansion of the Early Career Faculty Development Online Community and new program offerings
- Advanced Learning Workshop & IEEE Academic expansion
- Lima Accord Development



BUSINESS DEVELOPMENT





The EA Business Development team's focus is on identifying opportunities for new or expanded sustainable lines of business across Educational Activities.



REVENUE STRATEGY: Focus on LoBs with the strongest infrastructure for growth

LoB 1:
eLearning Library
50%
Individual &
Institutional

Sales Support: MSD for institutional EAD for individual Lob 2: New Initiatives 15% Individual

Sales Support: EAD for all pilots TBD if pilot graduates to LoB LoB 3: IEEEx 35% Individual

Sales Support: edX for sales transactions EAD for marketing & promotions

LoBs' EAD Support System

Revenue Portfolio Management: CSS, EF

Business Development: CSS & BD Team

Marketing, Communications, Client Management, & Promotions: TP, MSW

Operations, Finance, & Administration: JB, MD

Product Management: AR

PIPELINE ACTIVITIES

FIFEEINE ACTIVITIES					
Pipeline Activity		Goal			
IEEE Certificates Program	Content acquisitionSME acquisitionRevenue generation	Feed content & SMEs into LoBsBecome self-funding, self-sustaining			
CES ServicesContent partnershipsCustom training designVirtual & webinarEducational marketing	Content acquisitionSME acquisitionRevenue generation	 Feed content & SMEs into LoBs Graduate pilots into LoBs when appropriate Become self-funding, self-sustaining 			
mooc+	Provide a safe way to test market new topicsRevenue generation	 Become the primary testing area for approved topics, delivery methods Become self-funding, self-sustaining 			

CUSTOMIZED EDUCATIONAL SOLUTIONS & BUSINESS DEVELOPMENT



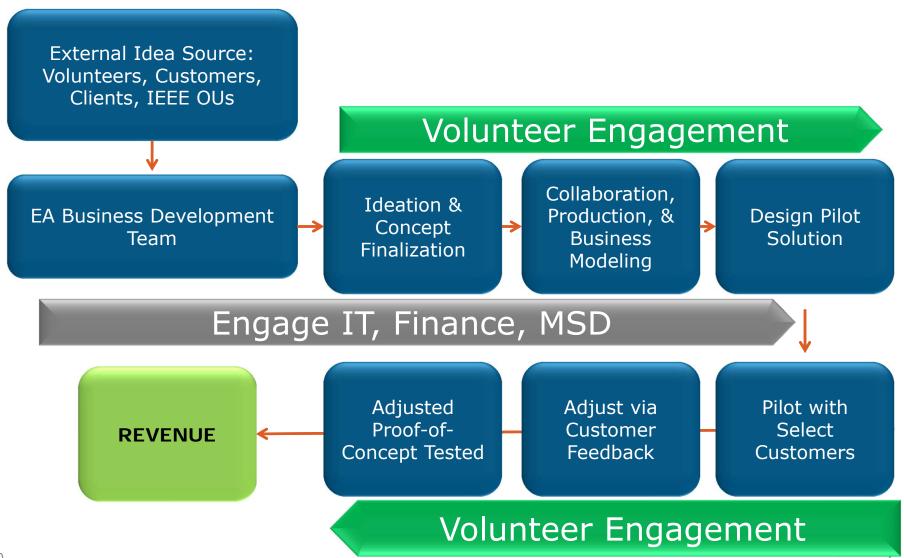
AN EDUCATIONAL ACTIVITIES SERVICE MODEL



What is Customized Education Solutions (CES)

- Customized Education Solutions is a Business Development service used to create custom solutions between educational providers and IEEE for mutual benefit.
 - Examples of solutions include:
 - Webinar administration and production
 - Virtual platform communities
 - Content partnerships
 - Certificate administration
 - Marketing Channels
- Client solutions are not limited to the above list

From Idea to Customer Solutions



Business Development

Major Challenges:

- Develop a surplus-generating, education line of business for IEEE
- Obstacles to get contracts through the IEEE process
- Length of time to convert clients to signed contracts
- Available resources (e.g., professional staff) to service all clients
- Get ahead of market needs for new services, capabilities and programs

Major Activities:

- Develop and establish a market segment for industry and academia
- Grow EA products and services across Educational Activities
- Prioritize opportunities and establish lines of business
- Work with IEEE OU's to leverage EA capabilities as an enterprisewide solution



CONTINUING AND PROFESSIONAL EDUCATION



Continuing and Professional Education (CPE) 2016 Focus

- Continue transformation from a productoriented business to a service provider business
- Implementation arm of CPE-related, vetted Business Development opportunities
- Extend legacy product lifecycles through Business Development opportunities



CPE Products and Services

- IEEE eLearning Library
 - 440 online tutorials on a wide range of topics
 - Available on the IEEE Xplore platform
 - Introductory, Intermediate, and Advanced level course available
- IEEE English for Engineering
 - Over 45 hours of online learning content
 - Addresses listening, speaking, reading, and writing
 - Available via IEEE Xplore



CPE Products and Services (cont.)

IEEEx

- Massive open online courses (MOOCs) and paid courses
- Seven courses offered during our first year with over 85K enrollments

IEEE Certificates Program

- CEUs, PDHs, completion, custom
- More than 23K certificates produced and distributed in 2015
- Free for internal OUs



CPE Product Focus in 2016

Elearning

- Produce as many as 75 new courses
- Reaffirm/update 140 existing tutorials
- Convert up to 200 tutorials to HTML5
- Strategy for individual sales growth

IEEEx

- Produce and launch more than 20 new courses
- Explore additional opportunities to repurpose eLearning as MOOC-style courses

English for Engineering

Explore opportunities to increase sales and improve product



CPE Challenges and Activities

Major Challenges:

- Available resources (e.g., professional staff, volunteer reviewers) to service all clients
- Develop a surplus-generating CPE line of business for IEEE
- Length of time to convert client opportunities to actual offerings
- To get ahead of market needs with our current products, including IEEE eLearning Library

Major Activities

- Develop strategy to better position and/or repurpose existing products
- Develop and establish CPE market segments
- Continue to explore and develop CES Lines of Business
- Leverage EA/Society/Chapter partnerships



IEEE STANDARDS EDUCATION





Standards Education Committee

- Joint standing committee of the EAB and SA BoG
- Education about standards
 - Educating students about standards and standardization
 - Continuing efforts to more widely influence the inclusion of technical standards into university curricula
 - Providing resources for university professors and students
 - Teaching the open standards development process
 - Delivering technical content about specific areas of standardization



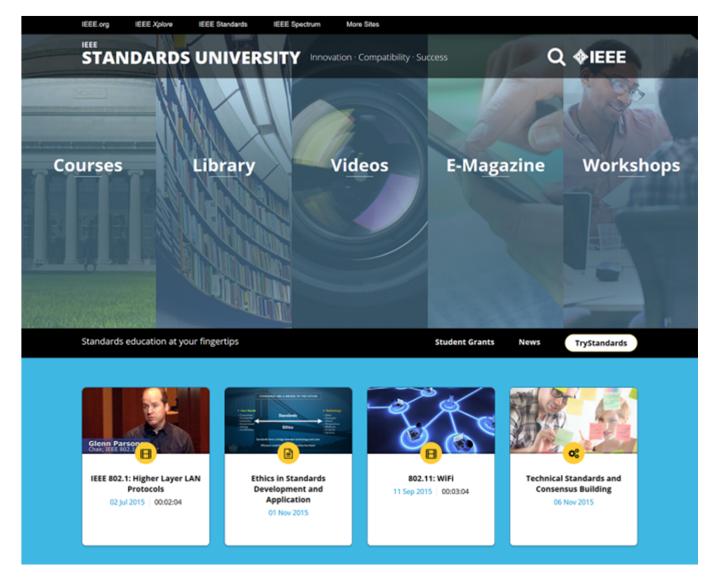
IEEE Standards University Project

- A multi-track initiative intended to greatly expand IEEE's standards education content and resources for educators, students and professionals focusing on the development and use of standards; the impact of standards on business; an understanding of patents and standards; and the role of conformity assessment.
- IEEE Standards University includes:
 - On-Line University Experience http://StandardsUniversity.org/
 - Publication Track (eZine)
 - Standards Education Video Channel Track
 - Massive Open Online Course (MOOC) Track
 - Standards Simulation Game Track
 - Workshop Track

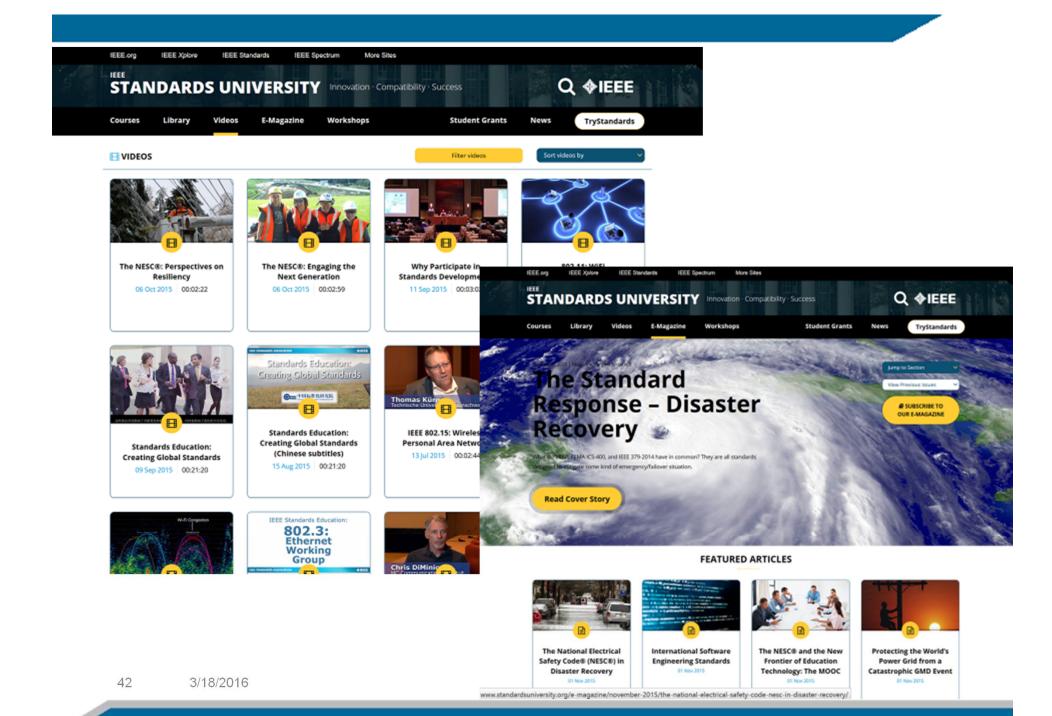
10/3/2015

3 year NIC funded project. Now in year 2.









Areas of focus in 2016

- Completing the development and delivery of the MOOC
 - Innovation & Competition: Succeeding through Global Standards
- Development of Standards Simulation Game (based on our successful Standards Consensus Building Workshops)
- Development of new type of workshop
- Plus continuation of everything else
 - Student Grants, eZine, more videos, eLearning courses, Practical Tips from Professors series, etc.



IEEE-HKN





IEEE-HKN Mission

IEEE-Eta Kappa Nu (IEEE-HKN), founded in 1904, is the honor society of IEEE, is dedicated to encouraging and recognizing individual excellence in education and meritorious work, in professional practice, and in any of the areas within the IEEE-designated fields of interest.

The recognition of scholastic and professional achievements of individuals based on the highest ideals of our profession: hard work, sound judgement, service and ethics.

Mission

The three founding principals of IEEE-HKN: SCHOLARSHIP ATTITUDE CHARACTER

The vision of IEEE-HKN is to:

To be recognized globally as the society that develops well rounded students through excellence in scholarship, technical achievement, leadership & service, for both students and professionals, benefitting society over the span of their careers in IEEE's technical fields of interest.

Vision

The Wheatstone bridge is our emblem symbolizing when the bridge is adjusted to be in prectical prectical process. The desired solution obtained when the strive for as members of Eta Kappa Nu: to lead a balanced life



Who is IEEE-HKN?



Larry Page Founder of Google



Eric Schmidt CEO of Google



Steve Wozniak Founder of Apple



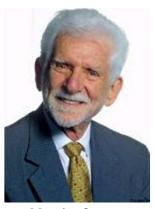
Paul and Irwin Jacobs
Founders of Qualcomm



David Filo Founder of Yahoo!



Sabeer Bhatia
Founder of Hotmail



Martin Cooper Conceived the first handheld mobile phone

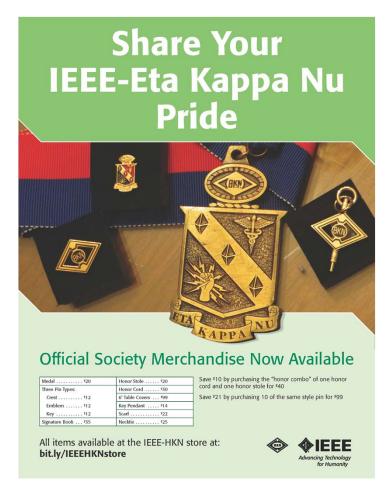


Henry Samueli
Founder of Broadcom



Amar Bose Inventor of Bose Speakers

IEEE-HKN Store





Signature Programs

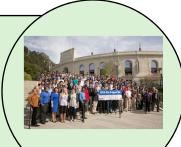


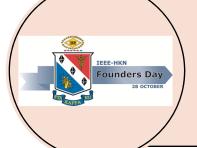
THE BRIDGE

Published since 1910, THE BRIDGE is the flagship publication of IEEE-HKN. Published 3 times a year, this award winning magazine is the primary communication channel of IEEE-HKN.

Student Leadership Conference (SLC)

Hosted by a University Chapter, this conference brings together IEEE-HKN students from around the world for training and networking in a leadership program designed to help them develop skills to become a "complete engineer".





FOUNDERS DAY

Each year on 28 October, the anniversary of the establishment of the first chapter, we celebrate Founders Day. Chapters around the world have activities, contests, competitions and fun to promote the mission of IEEE-HKN.



The Impact of IEEE-HKN



Community Service

In 2014-2015 IEEE-HKN Chapters reported 53,930 hours of service to others. Activities include tutoring, peer mentoring, community outreach, industry programs, career fairs, and more.

Global Expansion

To fulfill a goal of the merger, to expand globally and to provide quality program and improve retention rates of both students and professionals.





Virtual Campus

The IEEE-HKN Virtual Campus is a central resource for chapters, alumni, and the public. Organized into 4 areas (buildings), there is a conference center, resource library, alumni hall and career center.



Upcoming Chapter Installations

Mu 7eta

Western Washington University (Jan 15)

Mu Delta

Eastern Washington University (Feb)

Mu Gamma

National Technical University of Athens

Mu Eta

University of KwaZulu-Natal, South Africa

Lambda Phi

Khalifa University, Abu Dhabi, UAE

Mu Beta

Arab Academy of Science, Technology, and Maritime Transport, Alexandria, Egypt









IEEE-HKN 2016 Focus

Major Challenges:

- Identify and develop new lines of business
- Develop and support new chapters outside of the U.S.
- Re-activate and establish new chapters in the
- Integration with IEEE processes, systems, and tools
- Structural deficit

Major Activities:

- Find and Engage Alumni Annual Giving and Support
- Virtual Campus training, templates and tools to support Chapters
- Partnership project with TAB Societies
- Integrations with MGA, Regions, Sections and structure

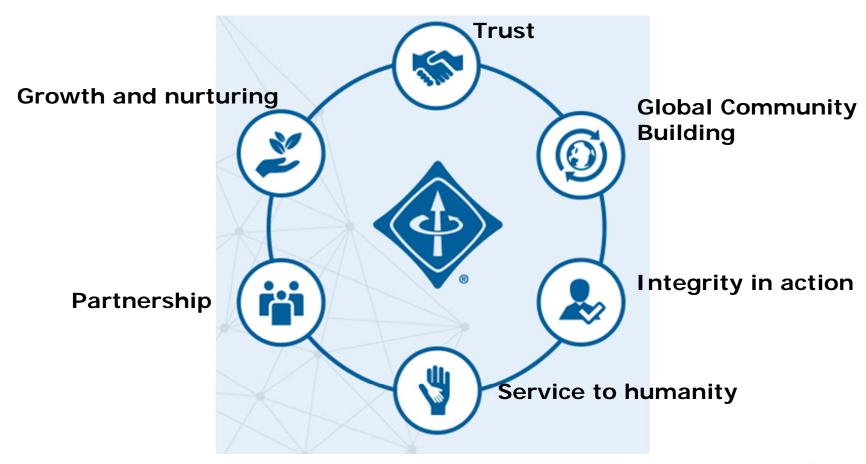


PRE-UNIVERSITY EDUCATION ACTIVITIES





Community Impact Through Pre-University Education and Outreach



IEEE's Strategic Plan 2015-2020 – Core Values



Pre-University Activities



- > Aim
 - Increase the understanding of engineering, computing and technology (ECT) among the pre-university constituencies
 - Demonstrate the impact of technology on the community
- Objective
 - Increase the propensity of young people to select engineering as a career path by providing programs and products for the adult influencers in their lives
 - Increase public understanding and appreciation of technology

Program Areas

Engineering in the Classroom

- Teacher Capacity Building
- Inquirybased Hands-on Activities

Online Resources

- Information Portals
- Lesson Plans and Resources
- E-magazine

Social Innovation

- Service Learning
- Mentoring
- Professional Skills Development
- Ethos of Service

Informal Education

• Interactive Exhibits for Science Centers



IEEE's TEACHER IN-SERVICE PROGRAM

"Engineering in the Classroom"





A train the trainer program that trains IEEE volunteers to work with pre-university teachers

Demonstration of approved inquiry-based lesson plans Emphasis on **volunteer-teacher interaction** as opposed to volunteer-student interaction

Teacher In-Service Program (TISP)

- The in-service session demonstrates the application of engineering concepts to support the teaching and learning of science, mathematics and technology disciplines.
- The goal is to empower TISP champions with tools and strategies to ultimately enhance the level of technological literacy of pre-university teachers and students



Online Pre-University Education Resources









- ☐ Engineering, computing and technology disciplines, career preparation, and profiles of professionals/students
- ☐ Camps, scholarships, and research programs
- ☐ Accredited engineering, computing and technology programs
- ☐ Lesson plans
- ☐ Insights from experts, articles on innovation in engineering, technology and computing, IEEE Society spotlight
- ☐ Online Games, comics, external resources

EPICSINIEEE

Engineering Projects In Community Service

From powering villages with solar cells...to developing assistive devices for the physically challenged...to connecting rural schools with technology, the EPICS in IEEE Program has enabled engineers and students to make a difference in the lives of people in their communities around the world.







An IEEE Foundation Signature Program

EPICS in IEEE - A Social Innovation and Educational Program

Program that organizes university and high-school students to work on engineering-related projects with local area community organizations.

Goals

 (1) To solicit proposals to fund community focused projects from: student branch members, Young Professionals, WIE, SIGHT, IEEE-HKN Chapters; (2) to develop and deliver training on human centered design and professional skills

Objective

 Raise students' awareness of engineering-related careers and encourage university students to practice professional skills



Exhibits for Informal Education

- ➤ The US National Research Council reported that "learning experiences across informal environments may positively influence children's science learning in school, their attitudes toward science, and the likelihood that they will consider science-related occupations."
- In many locations science centers are the only facility in the community where students are exposed to hands-on experiments in science and engineering.
- An opportunity exists to engage and inform the public about engineering, technology and computing and associated careers in informal learning environments.



IEEE's Exhibits for Science Centers Program Objectives

- Create impact within informal education spaces by developing a variety of hands-on science center exhibits and heighten visibility of the IEEE brand
- Encourage interest in engineering, technology, and computing and associated careers among preuniversity students and the public
- Contribute to public awareness and understanding of electrical and computing technologies, and their applications



Pre-University Education

- Major Challenge
 - How to expand our pre-university education products and services
- Major Activity
 - Identifying funding strategies



EAB AWARDS





EAB Awards

- ➤ EAB is Soliciting Nominations for 10 Awards and 2 Scholarship Awards in 2016
 - Meritorious Achievement Award in Accreditation Activities
 - Meritorious Achievement Award in Continuing Education
 - Meritorious Achievement Award in Informal Education
 - Pre-University Education
 - Major Educational Innovation Award
 - Meritorious Service to IEEE EAB
 - Standards Education
 - Employer Professional Development
 - Section Professional Development
 - Society/Council Professional Development
 - IEEE Life Members Graduate Study Fellowship in Electrical Engineering
 - The Charles LeGeyt Fortescue Graduate Scholarship





Summary of Nominations and Recipients by Region - 2008-2015









2008 - 2015		
	Noms	Recip
Region 1	35	13
Region 2	17.5	9.5
Region 3	14	8
Region 4	9	2
Region 5	14	4
Region 6	16	6
Region 7	6	0
Region 8	*31.5	*11.5
Region 9	15	4
Region 10	31	4
Totals	189	62

*This is a shared award.
The 2nd recipient was from Region 2

EAB Awards

Goals in 2016:

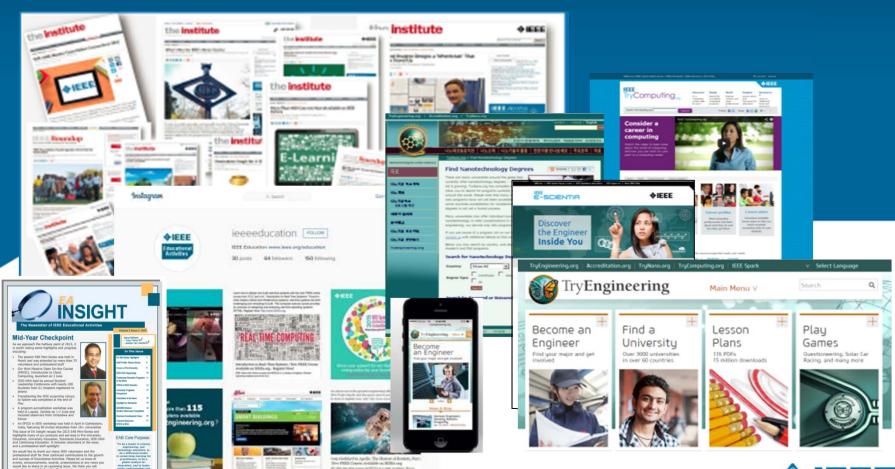
- Increasing nominations
 - Focus on developing within all regions, but emphasis in Regions 7-10
 - Further reach to members in IEEE Societies/Councils for nominations
- Increasing promotion through new avenues
 - Partnerships with IEEE communities
- New management of Scholarship Awards, previously IEEE Awards

Major Activities:

- Promotion of awards
- Further analysis of nominations process for user experience



PROMOTION, CONTENT SUPPORT AND DEVELOPMENT

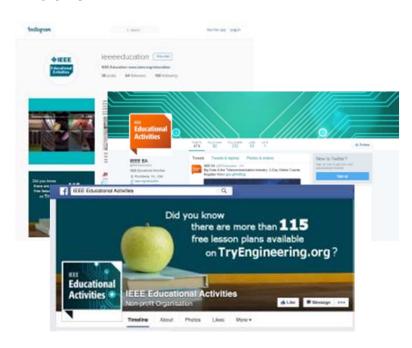




PIEEE

Portals and Social Media

- EAD currently supports and/or manages several portals, furthering the goals of EA
- EA products and services are also promoted online via social media

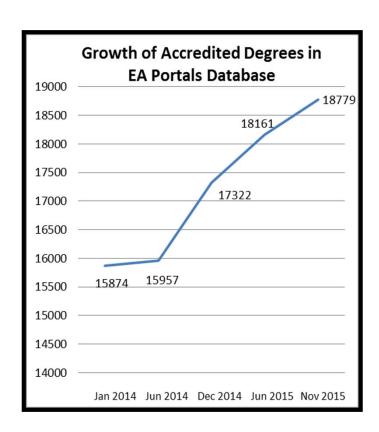


- Accreditation.org
- eLearning Library
- English for Engineering
- Epics.IEEE.org
- IEEE E-Scientia
- IEEE SPARK
- IEEE-HKN
- Online Education Portal
- IEEE Academic
- Standards University
- TryComputing.org
- TryEngineering.org
- TryNano.org



Content Support: Accredited Program Database Growth

- We experience ongoing growth in # of countries/universities/programs managed and searchable via our EA portals:
 - Accreditation.org
 - TryEngineering.org
 - TryComputing.org
 - TryNano.org
- Data currently represents:
 - 77 Countries
 - 3598 Universities
 - 18779 Programs
- Consolidation in 2015 reduced # of databases required to feed portals





Promotion Highlights

- Expanded EA promotion in 2015
 with media placements in internal
 IEEE publications including The
 Institute Online, The Institute Print,
 and InsideIEEE.
- Through partnerships with MGA, TAB, and BDRS, used new opportunities to promote EA programs, products, and services, including digital web/display ads.
- Expanded social media efforts.
- Branding Support: EPICS in IEEE logo development













Promotion: EA Insight

- EA Insight is EA's newsletter
- Three issues annually
- Issues highlight EA products, services, events, and more
- Provide profiles of volunteers and professional staff
- Available online or via email





Major Activities:

- Continually maintain, update, and expand databases with accredited engineering, technology and computing programs
- Develop and engage constituents and build awareness through promotional efforts
- Support news sections of portals with fresh content
- Promote EAD news via EA Insight newsletter

Major Challenges:

- Expand reach & user base w/limited marketing budget
- Ensure portal content is refreshed, rich, and reflects current and engaging resources and information
- Adapt portals to new vehicles (mobile/social media)



PLEASE NOTE

AN APPENDIX FOLLOWS WITH FURTHER DETAILS AND A STAFF DIRECTORY



QUESTIONS OR COMMENTS?

THANK YOU

