APPENDIX

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EAB Committees / Chairs / Staff Support

Committee	Volunteer Chair/President	Staff Support	Email
EAB			
Vice President, Educational Activities Chair, EAB	S.K. Ramesh	Rachel Warnick Carolyn Solimine	r.o.warnick@ieee.org c.solimine@ieee.org
Treasurer	Ravi Todi	Joan Muzzio Chris Salicco Jamie Moesch	j.muzzio@ieee.org c.salicco@ieee.org j.moesch@ieee.org
Nominations and Appointments (N&A)	Saurabh Sinha	Rachel Warnick Carolyn Solimine	r.o.warnick@ieee.org c.solimine@ieee.org
Awards and Recognition Comm. (ARC)	Karen Panetta	Rachel Warnick Carolyn Solimine Sharon Strock	r.o.warnick@ieee.org c.solimine@ieee.org s.strock@ieee.org
UNIVERSITY EDUCATION & ACCRED.	CHAIR	STAFF SUPPORT	EMAIL
University Resources Comm. (URC)	Steve Phillips	Burt Dicht Sadiq Mitchell	b.dicht@ieee.org sadiq.mitchell@ieee.org
Student Educational Resources Comm. (SERC)	Arthur Winston	Burt Dicht Sadiq Mitchell	b.dicht@ieee.org sadiq.mitchell@ieee.org
Curricula & Pedagogy Comm. (CPC)	Euan Lindsay	Burt Dicht Sadiq Mitchell	b.dicht@ieee.org sadiq.mitchell@ieee.org
Comm. on Engineering Accreditation Activities (CEAA)	Raman Unnikrishnan	Regina Samson Burt Dicht	r.m.samson@ieee.org b.dicht@ieee.org
Comm. on Engineering Technology Accreditation Activities (CETAA)	Richard Cliver	Regina Samson Burt Dicht	r.m.samson@ieee.org b.dicht@ieee.org
Comm. on Global Accred. Activities (CGAA)	Joberto Martins	Burt Dicht Regina Samson	b.dicht@ieee.org r.m.samson@ieee.org
Faculty and Departments Comm. (FDC)	Stephen Williams	Burt Dicht Sadiq Mitchell	b.dicht@ieee.org sadiq.mitchell@ieee.org

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PRE-UNIVERSITY EDUCATION	CHAIR	STAFF SUPPORT	EMAIL
Pre-University Education Coordinating Comm. (PECC)	Sohaib Sheikh	Yvonne Pelham Liz Kurzawa Lynn Bowlby	y.pelham@ieee.org e.kurzawa@ieee.org l.bowlby@ieee.org
EPICS in IEEE Comm.	Nicholas Kirsch	Ray Alcantara Yvonne Pelham	r.alcantara@ieee.org y.pelham@ieee.org
EPICS in IEEE Signature Working Group	Saurabh Sinha	Ray Alcantara Yvonne Pelham	r.alcantara@ieee.org y.pelham@ieee.org
PROMOTION/CONTENT SUPP. & DEV.	CHAIR	STAFF SUPPORT	EMAIL
Engineering/Computing/Technology Portals Strategy Comm. (ECTPSC)	Elizabeth Burd	Joanne Van Voorhis Tracy Parker	j.vanvoorhis@ieee.org tracy.parker@ieee.org
Section Educational Outreach Comm. (SEOC) (TBD for 2016)	Pamela Jones	Tracy Parker Joanne Van Voorhis	tracy.parker@ieee.org j.vanvoorhis@ieee.org
CONTINUING & PROFESSIONAL EDU.	CHAIR	STAFF SUPPORT	EMAIL
Continuing Education Comm. (CEC)	Maja Bystrom	Eileen Fitzgerald Amy Recine Chris Salicco	m.e.fitzgerald@ieee.org a.recine@ieee.org c.salicco@ieee.org
Content Acquisitions Comm. (CAC)	Maja Bystrom	Amy Recine Steve Welch Eileen Fitzgerald	a.recine@ieee.org s.m.welch@ieee.org m.e.fitzgerald@ieee.org
EAB Products & Services Comm. (PSC)	Jason Yao	Mirelle White Jill Bagley Chris Salicco	m.s.white@ieee.org j.bagley@ieee.org c.salicco@ieee.org
Certificates, Certifications, and Credit-Bearing Programs Comm. (CCCBPC)	Mo El-Hawary	Michelle Demydenko Eileen Fitzgerald	m.demydenko@ieee.org m.e.fitzgerald@ieee.org
Educational Prod. Editorial Board (EPEB)	TBD	Jill Bagley	j.bagley@ieee.org
STANDARDS EDUCATION	CHAIR	STAFF SUPPORT	EMAIL
EAB/SA Standards Educ. Comm. (SEC)	TBD	Jennifer McClain	j.mcclain@ieee.org

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IEEE-ETA KAPPA NU (IEEE-HKN)	PRESIDENT/CHAIR	STAFF SUPPORT (FOR ALL)	EMAIL (FOR ALL)
IEEE-HKN Board of Governors	S.K. Ramesh	Nancy Ostin Jackie Quigley	n.ostin@ieee.org j.quigley@ieee.org
Nominations & Appointments Comm. (N&A)	Evelyn Hirt		
IEEE-HKN Executive Council	S.K. Ramesh		
Distinguished Service Award Comm.	Mark Law		
Outstanding Chapter Award Comm.	Sampathkumar Veeraraghaven		
V. Karapetoff Technical Achievement Award Comm.	James D'Arcy		
C. Holmes MacDonald Outstanding Teacher Award Comm.	David Soldan		
Alton B. Zerby & Carl T.Koerner Outstanding Student Award Comm.	John DeGraw		
Outstanding Young Professional Comm.	John Bredeson		
Eminent Member Recognition Comm.	Leah Jamieson		
Editorial Board for THE BRIDGE Mag.	Steve Watkins		
Ritual Comm.	Leann Krieger		
Trustees Comm.	S.K. Ramesh		
Tellers Comm.	John Orr		

FACULTY / DEPARTMENT RESOURCES

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Perspectives on ECT Education Survey

- **Background:** The 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.
  - Survey was deployed in July 2014 to 20,000 stakeholders with 2300 responses
- **Outcomes:**
  - CPC is exploring new opportunities , including the creation of Core Learning Objectives for EE programs
  - CPC presented results at the following venues:
    - Facilitated session at the Conference for Industry and Education Collaboration (CIEC) in Palm Springs in Feb 2015
    - Facilitated session at the ECEDHA Annual meeting in March 2015
    - Paper presented at the ASEE Annual Meeting in June 2015
- **2016 Plans**
  - Plans to deploy the survey to additional stakeholders in India and Europe

MOOC Guidelines and Reviews

- **Background:** Working in cooperation with the Future Directions Committee in 2014, the Curricula and Pedagogy Committee (CPC) was asked to develop a set of guidelines on the key components of an effective MOOC (Massive Open Online Course).

- **Outcomes:**
  - Reviewed existing best practices and solicited input from external sources
  - CPC has collaborated with EAB's Continuing Education Committee (CEC)to develop and implement a process for reviewing the educational effectiveness of MOOCs developed for IEEEx (IEEE collaboration with edX).
  - Developed a guidelines document that is in IEEEx's resources for MOOC authors
  - Provide ongoing feedback on the MOOC review process and the submission form
  - Conducted multiple reviews to-date and provided feedback to the MOOC authors/instructors for inclusion on the IEEEx catalog

- **2016 Plans:**
  - Formalize process for MOOC reviews and continue supporting IEEEx

Early Career Faculty Development (ECFD) Project

- **Description:** Provide early career faculty (ECF) with tools and resources necessary to enhance their professional development and manage their career choices and paths
- **Objective(s):** Assist ECF in developing teaching and pedagogical skills; organizing and executing research programs; creating a professional development roadmap and charting their careers
- **Target Audience:** Engineering, computing and technology faculty members with zero to five years experience
- **Concept:** On-line virtual mini-conferences and workshops, featuring recognized experts, focused on providing skills and guidance that can be put into practice immediately. Face-to-face 5-day workshops piloted in Kerala, India, with the intent of replicating in other areas.
- **For More Information:** http://bit.ly/18u6ZVW

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ECFD Project - 2015 Results

- **Activities:**
  - Three virtual mini-workshops

	Virtual Mini-Workshop: Student Assessment– 23 October	Virtual Mini-Workshop: Standards Education– 18 November	Virtual Mini-Workshop: Creating a Research Program – 16 December
Number of Attendees	110	80	60
Number of Attendees (On-Demand Viewing)	200	181	99
Total Attendees	310	261	159
Number of Educational Institutions	249	144	135
Number of Countries	34	36	29

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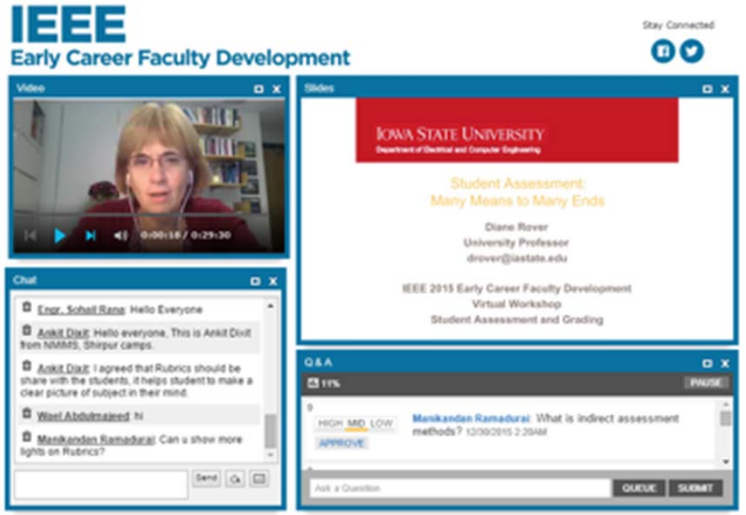
ECFD Project - 2016 Plans

- Several virtual Mini-workshops to be conducted bi-monthly in 2016
- Expand content offerings to include:
  - Virtual short-courses
  - Repackage content from other activities
  - Online guides and resources



- Further Development of a Virtual Early Career Faculty Community (INXPO Platform)
  - Archived content from previous sessions
  - Online resource library
  - Showcase future programs
  - Links to other IEEE resources valuable to ECF

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IEEE Academic

- **Description:** IEEE Academic is a student-driven and locally-based online educational resource developed in cooperation with professors and universities

- **Objective(s):** Provide students with a resource to aid in their academic learning and to help them achieve academic success
- **Target Audience**: Undergraduate engineering, computing and technology students
- **Concept:** Presented in multi-languages this is an on-line library of 5-7 minute videos that provide students with easy access to educational materials that can help them with hard to learn course concepts from classes at their institutions
- **Getting Involved:**
  - Students can use videos as a study resource - *http://academic.ieee.org/*
  - Students can join the team and help develop new videos to add to the library - *http://academic.ieee.org/join*

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STUDENT RESOURCES

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IEEE Academic - Status and 2016 Plans

- **Status**
  - Currently in 4 regions and 7 countries, 48 student-branches have contributed to the library
  - 439+ Videos and 65+ hours of content
  - Top 5 topics areas (Mathematics and Algebra, Computer Science, Biomedical Engineering, Electronics Engineering and Programming Languages)

- **2016 Plans**
  - Continue implementation of New Initiative Grant (Phase II has been approved for 2016)
  - Coordinate content delivery on IEEE.tv
  - Recruitment of new content partners
  - Development and launch of new module topics
  - Implement Assessment Plan

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IEEE / IBM Watson Student Showcase

- **Description:** Teams of 2-5 students will use IBM's Bluemix platform to develop apps and have a chance to win cash prizes
- **Impact:** Students will have an opportunity to work with Watson technology; to increase their awareness of the new era of cognitive computing and the role it will play in transforming industries and to gain critical teamwork and multi-disciplinary skill sets
- **Target Audience:** Undergraduate and graduate engineering, computing and technology students
- **Concept:** Students are given several weeks to examine and work with Watson Services for Bluemix to build apps. At the end of the exploration, students demonstrate their completed apps through the submission of a business description, a video demonstrating the app and the source code
- **Getting Involved:**
  - ***Undergraduate and Graduate Students are Eligible***
  - ***Showcase opens in May and Projects are due 1 Oct.***
  - ***For more information go to:*** http://bit.ly/1aKIrxE

IBM Watson

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Watson Student Showcase - Status and 2016 Plans

	*2015 (Pilot year)	
Number of Project Entries	**17**	
Number of Students Participating	**51**	
Number of Countries Represented	**7**	

*2015 represented a transition year for IEEE/IBM partnership programs as we moved from **Smarter Planet Challenge** to **Watson Student Showcase**

- **2016 Plans:**
  IEEE and IBM are conducting a participant survey to assess the impact of the showcase and to plan for 2016

Advanced Learning Workshop (ALW)

- **Description:** The ALW is 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
- **Objective(s):** With content focused on specific student learning needs, the ALW is designed to assist students in becoming more efficient and effective learners, address academic challenges and position them for successful academic and professional careers
- **Target Audience:** Undergraduate engineering, computing and technology students
- **Concept:** Online module library with scripts and "how-to" instructions. Eight modules are currently online.
- **Status and 2016 Plans:** Several modules have been used by IEEE-HKN Student Chapters and IEEE Student Branches. Plans in place with MGA to promote ALW to student branches in 2016
- For more information go to: http://bit.ly/1iJR9u9

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Global Accreditation Support Role

- **Support existing accreditation bodies with training, facilitation, and consultation:**
  - ABET (Formally, the Accreditation Board for Engineering and Technology)
  - CSAB (Computing Sciences Accreditation Board)
  - CACET (Caribbean Accreditation Council for Engineering and Technology)
  - ICACIT (The Institute of Quality and Accreditation of Engineering Career and Technology Education)
- **Assist members and stakeholders in starting new accrediting bodies and implementing program accreditation systems:**
  - CACET
  - Computer Society of South Africa
  - Institution of Engineers in Zambia (EIZ) – in work
  - Engineers Board of Kenya (EBK) – in work
- **IEEE Position Paper on Accreditation**

ttps://www.ieee.org/education_careers/education/eab/position_statements.html

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Global Accreditation - Achievements and Ongoing Activities

- **Region 9 Accreditation Body Summit:** Held in Lima, Peru on 1-2 Sept 2015. Organized by the IEEE EA/CGAA, in cooperation with ICACIT (Peruvian Accrediting Body) the summit's objective was to continue the work started the previous year to foster the development of Mutual Recognition Agreements in Latin America.
  - Representatives from seven accrediting agencies (representing the Caribbean, Central America, Peru, Chile, Mexico and Columbia) signed the **Lima Declaration,** which pledges support to the process for creating **The Lima Accord**, which will be an international accreditation agreement for professional engineering academic degrees, between the bodies responsible for accreditation in Latin America (IEEE Region 9)

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Global Accreditation - Achievements and Ongoing Activities (2)

- **IEEE-EIZ Engineering Education Programme Accreditation Workshop:** Held in Lusaka, Zambia on 1-2 June 2015. The workshop was jointly organized by IEEE Educational Activities, the IEEE African Ad-Hoc Committee and the Engineering Institution of Zambia (EIZ) with the developing a roadmap to assist Zambia in instituting a programme accreditation system.

- **IEEE Kenya University Education Workshop:** Held on 25 October 2014, at the Intercontinental Hotel Nairobi. The workshop, co-organized by the IEEE Kenya Section and IEEE Educational Activities/CGAA, was aimed at bringing together engineering education stakeholders in Kenya to help chart a future for the Kenyan university infrastructure.

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Additional Resources

- **University Education Website**
  http://www.ieee.org/education_careers/education/university_programs/index.html?WT.mc_id=lp_ec_upr
- **EAB Operations Manual – Including URC Charter**

  http://www.ieee.org/education_careers/education/eab/admin/eab_ops_manual_current.pdf
- **IEEE Constitution and Bylaws**

  http://www.ieee.org/documents/ieee_constitution_and_bylaws.pdf
- **March 2015 URC Mini-Series Agenda Tool** (A collection of resources and materials used during the meeting)

  https://tawapps.ieee.org/mpt/Agenda.aspx?eid=34
- **University Programs Facebook Page**

  https://www.facebook.com/IEEE-University-Programs-197337860338925/timeline/

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BUSINESS DEVELOPMENT

CES LINES OF BUSINESS

New CPE Growth Opportunities

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CES Offers

- Online learning course development opportunities
- Access to webinar delivery system with archiving
- Access to virtual platform capabilities
- Access to CES partners to expand your activities
- Ability to promote events to a wider audience
- Collaborative opportunities across EA, IEEE.tv, Societies and other IEEE OUs

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Leverage Your Content

Name	**CES Content Partnerships**
Description	CES works with external partners to acquire and/or distribute relevant content in IEEE's fields of interest within a revenue share model. This service allows content owners to promote and distribute their educational content through IEEE Educational Activities, and receive a revenue share for use of that content. IEEE Educational Activities may also distribute its own content through select educational providers in a similar revenue share model. These Educational Partners come from industry as well as academia.
Client Example	Some examples include: - NetCom Learning - Open Sesame - edX

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Reach your Audience

Name	**CES – Educational Marketing Channel**
Description	CES Educational Marketing Channel is a service that proactively uses the most cutting edge digital marketing strategies to gain audiences and markets for educational providers in IEEE's fields of interest. This service offers promotional reach and impact in social networks such as LinkedIn and Facebook. To use this service, we recommend that the educational provider look at their overall promotional strategy, not just current tactics. This service has great impact when educational providers can commit to promotional campaigns, not just single tactics.
Client Example	Teledyne Lecroy Inc.

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Offer IEEE CEU and PDH Certificates

Name	**IEEE Certificates Program – Bulk Rate**
Description	Through the Customized Education Solutions, the fee for IEEE's Certificates Administration Service can be negotiated to a bulk rate. Depending on the needs of the provider, rates are negotiated on a year or multi-year basis. The bulk rate is a discounted rate off of the normal external IEEE price.
Client Example	Power Monitors, Inc.

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Feature and Promote Your Content

Name	**CES Webinar Series**
Description	Another offering, made possible via our Virtual Education Platform, is the CES Webinar Series service. Many of our providers look to reach our IEEE community through education. This service allows them to do that, and also gives them the opportunity to showcase specific programs, faculty/presenters, and content relevant to the IEEE community. This service is offered to our academic and industry clients as well as internal IEEE organizational units.
Client Example	Stevens Institute of Technology

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Create a Virtual Presence

Name	**CES – Virtual Education Platform**
Description	A Virtual Education Platform is available through Customized Education Solutions. Education providers work with us to create virtual platforms for running live virtual events and creating communities around specific topic areas or themes. The platform is highly adaptable, and can represent many different settings such as geographic locations, buildings, conference environments, academic institutions, and more.
Client Example	Cloud Computing in Emerging Markets

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CONTINUING AND PROFESSIONAL EDUCATION

IEEE eLearning Library

- http://ieeexplore.ieee.org/courses/home
- Over 400 online tutorials in key technology areas
  - Tutorials range from 1 to 2.5 hours
- As of Q3 2015, all content is delivered via *IEEE Xplore*
- Developed, peer-reviewed, and updated by subject matter experts
- Participants earn IEEE certificates for Continuing Education Units/Professional Development Hours
- Includes extended series on certain topics
- Introductory, intermediate, and advanced level courses

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IEEE English for Engineering

- http://ieeexplore.ieee.org/courses/category/17
- For Engineers and technical professionals who speak English as a second language
- Over 45 hours of online learning content
  - Listening, speaking, reading, writing
- Introductory, Intermediate, and Advanced levels
- Printable individual certificates upon the successful completion of each module
- Live instructional materials included for in-classroom activities
- Free placement test available to assess and guide level selection
- Available for both subscription and individual purchase

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IEEEx

- www.ieeex.org
- Partnership began in October 2014 between IEEE and edX
- edX is a premier massive open online course (MOOC) provider founded by Harvard and MIT
- More than 85,000 students enrolled in seven IEEE courses in first year
- Revenue opportunities: certificates and pay-per-course models
- Impact: worldwide reach--course participants from over 187 countries in 2015

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IEEE Certificates Program

- http://www.ieee.org/education_careers/education/ceus/index.html
- Certificate administration service
- Available to external customers for a fee and to internal OUs free of charge
- Provide certificates to customers of approved partners' educational events
  - Continuing Education Units (CEUs)
  - Professional Development Hours (PDHs)
  - Certificates of Completion
  - Custom Certificates (ex: IEEE-HKN induction certificates)

Questions about CPE?

- If have questions or need further information about CPE, contact: m.e.fitzgerald@ieee.org

PRE-UNIVERSITY EDUCATION ACTIVITIES – APPENDIX

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TEACHER IN-SERVICE PROGRAM

TISP Training Workshops: 2005-Present

37 Workshops - 3094 Participants (2564 volunteers)

Region 1-6 - USA (490)

- Boston, Massachusetts
- Baltimore, Maryland
- Pittsburgh, Pennsylvania
- Atlanta, Georgia (2)
- Indianapolis, Indiana
- Dallas, Texas
- Manhattan Beach, California
- San Francisco, California
- Detroit, Michigan

Region 7 - Canada (214)

- Montreal, Quebec
- Mississauga, Ontario
- Vancouver, British Columbia

Region 8 – Europe, Middle East, Africa (777)

- Dubai, UAE
- Cape Town, South Africa
- Lusaka, Zambia
- Porto, Portugal
- Stirling, Scotland
- Al Khobar, Saudi Arabia
- Madrid, Spain
- Nairobi, Kenya
- Athens, Greece

152 Sections have participated in TISP training

Region 9 – Latin America (1158)

- Rio de Janeiro, Brazil
- Piura, Peru
- Cordoba, Argentina
- Guayaquil, Ecuador
- Port of Spain, Trinidad
- Montevideo, Uruguay
- Tegucigalpa, Honduras
- Puebla, Mexico
- Bogotá, Colombia

Region 10 – Asia & Pacific (454)

- Kuala Lumpur, Malaysia
- Shenzhen, China
- Hyderabad, India
- Queensland, Australia
- New South Wales, Australia
- Bangkok, Thailand

www.ieee.org/education_careers/education/preuniversity/tispt/tispworkshops.html

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Teacher In-Service Program Presentations

- Over **252** TISP presentations have been reported by IEEE volunteers



- TISP presentations have reached **over 6,150** pre-university educators
  - This reach represents more than **669,265 students** in at least **19** countries **each year**

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How to get involved

- Identify sections/regions interested in hosting a train the trainer workshop
- Communicate with PECC for guidance, information exchange, and funding
- Encourage active TISP volunteers to report metrics to PECC

Staff contact: Lynn Bowlby l.bowlby@ieee.org
or pre-university@ieee.org

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IEEE Online Pre-University Education Resources

IEEE TryComputing.org

TryEngineering

IEEE Spark

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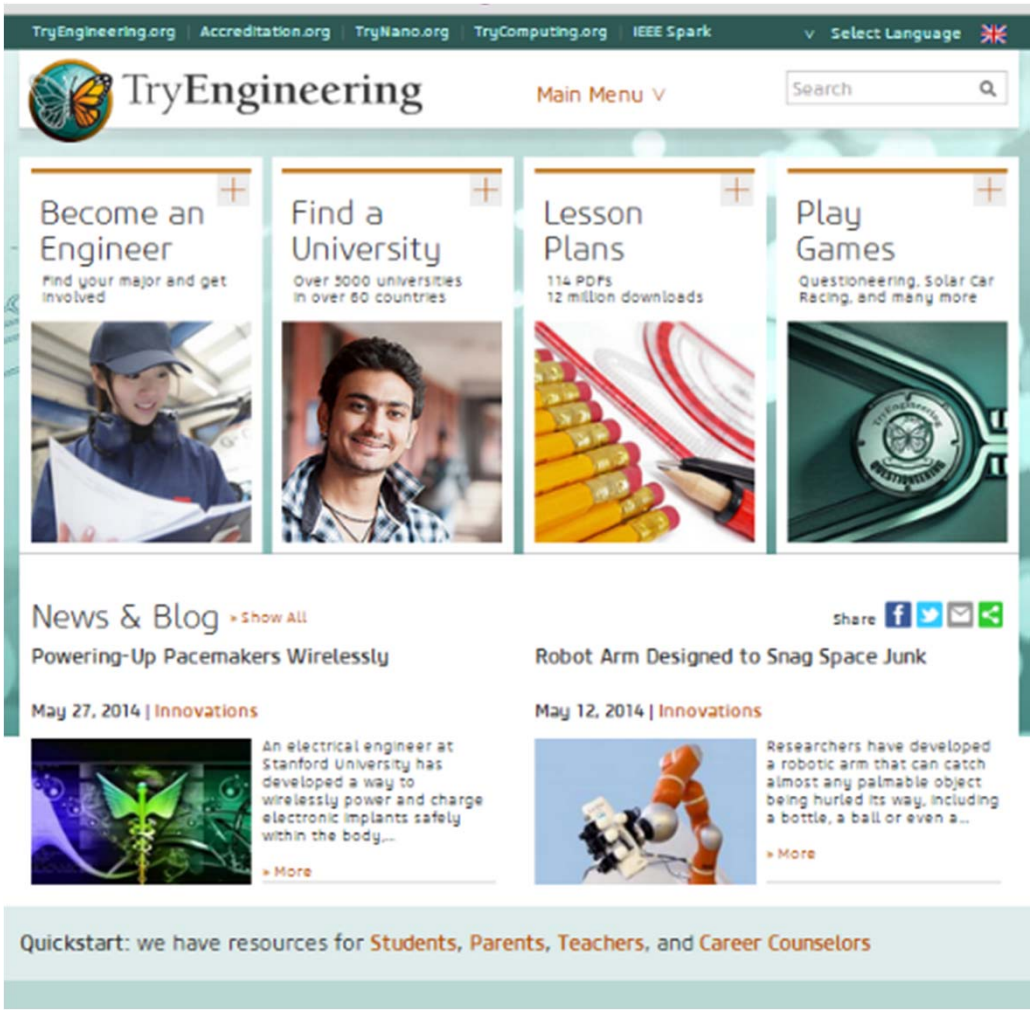
TryEngineering.org

Become an Engineer
Learn about engineering disciplines, career preparation, and profiles of engineers/ students

Get Involved
Find information about engineering camps, scholarships, and research programs

University Finder
Find accredited engineering programs 3,500+ institutions in 70+ countries



Lesson Plans
Download 125+ fun hands-on engineering activities

Insights from Experts
Browse questions answered by engineers or undergraduates

Play Games
Play virtual games

On mobile devices!

In 9 Languages!

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IEEE TryComputing.org

Discover
Explore computing careers using the visual cloud tool.

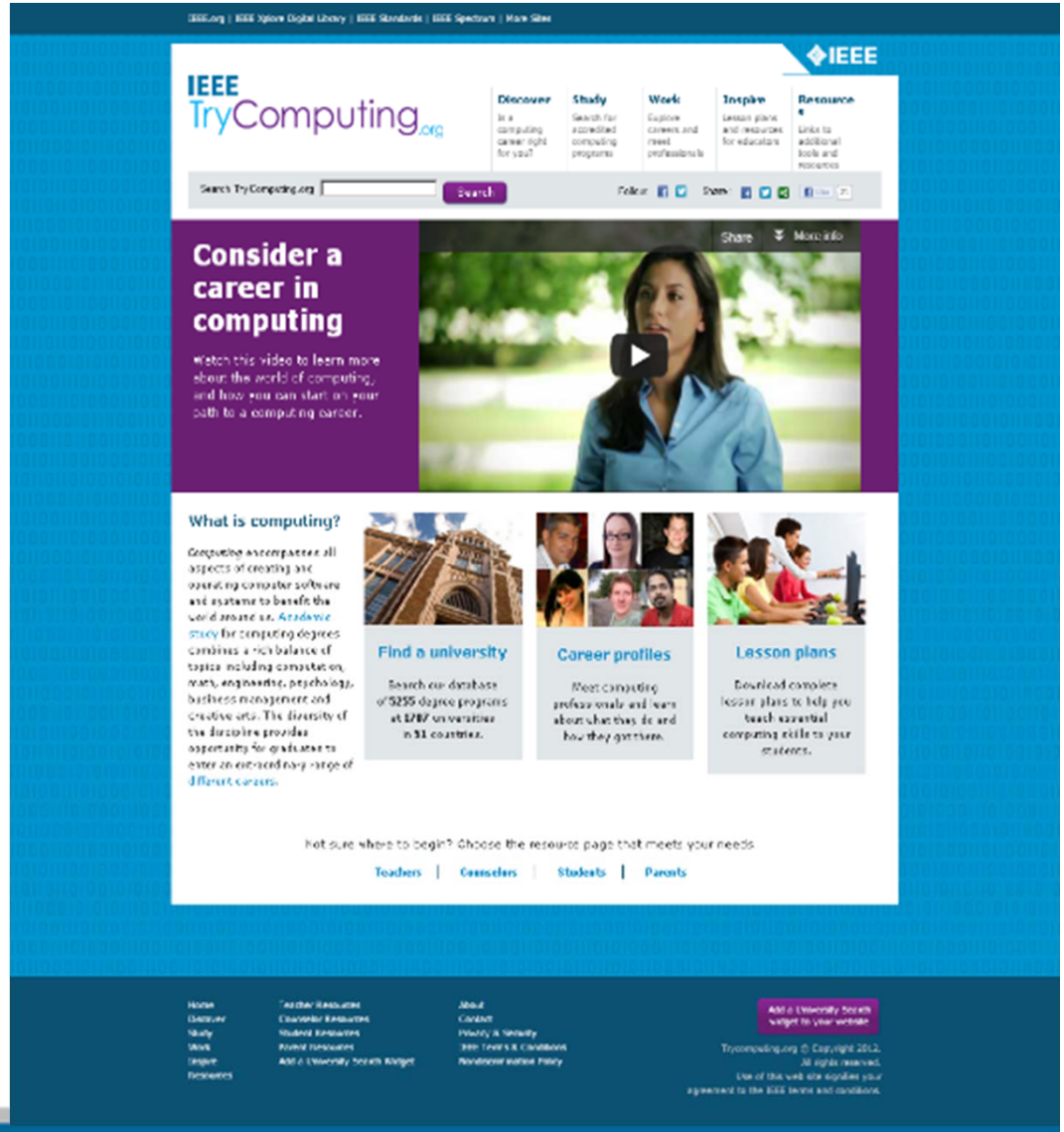
Study
Explore computing majors and search for accredited computing degree programs around the world

Work
Browse computing professional career profiles & computing hero profiles

Inspire
Free educator lesson plans and student opportunities

Resources
Discover external computing resources

Brought to you by the IEEE Computer Society and IEEE EAB



IEEE Spark

Online magazine for students ages 14-18

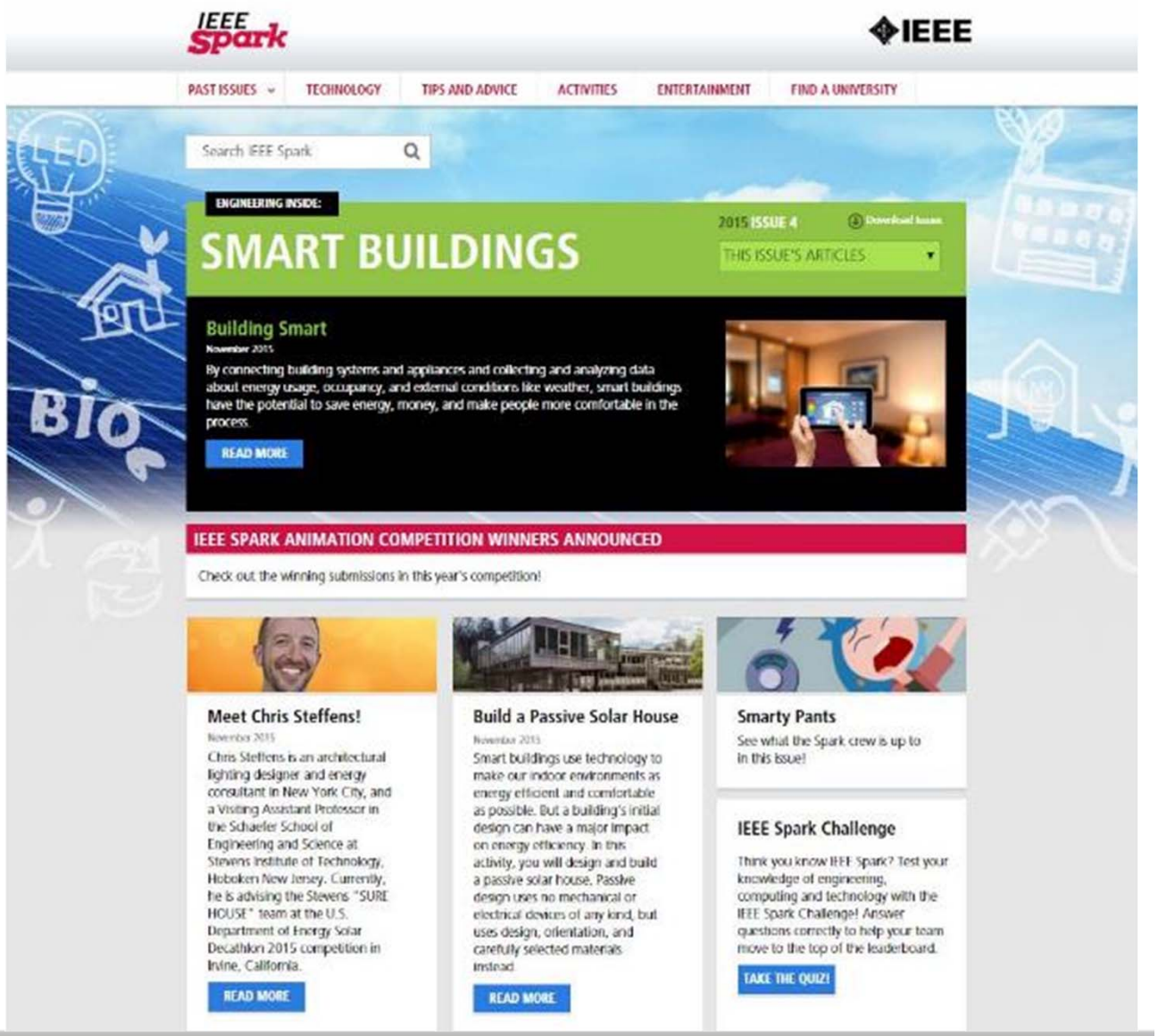
4 themed issues per year!

Technology
Read articles on innovation in engineering, technology and computing and professional career profiles

Tips and Advice
Find university preparation tips

Activities
Learn about IEEE activities and activities you can do at-home

Entertainment
Explore comics, videos & more!



Lesson Plan Example: Working with Wind

- Learning Objectives
  - Learn about wind energy conversion
  - Design a wind turbine
  - Construct the wind turbine
  - Test the wind turbine
  - Evaluate Performance

- Learner Outcomes
  - wind energy
  - interaction of technology and societal issues
  - engineering design
  - teamwork

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Alignment to Curriculum Framework

- Lesson plans are aligned to one or more of the following sets of standards:
  - U.S. Science Education Standards
  - U.S. Next Generation Science Standards
  - International Technology Education Association's Standards for Technological Literacy
  - U.S. National Council of Teachers of Mathematics' Principles and Standards for School Mathematics
  - U.S. Common Core State Standards for Mathematics
  - Computer Science Teachers Association K-12 Computer Science Standards

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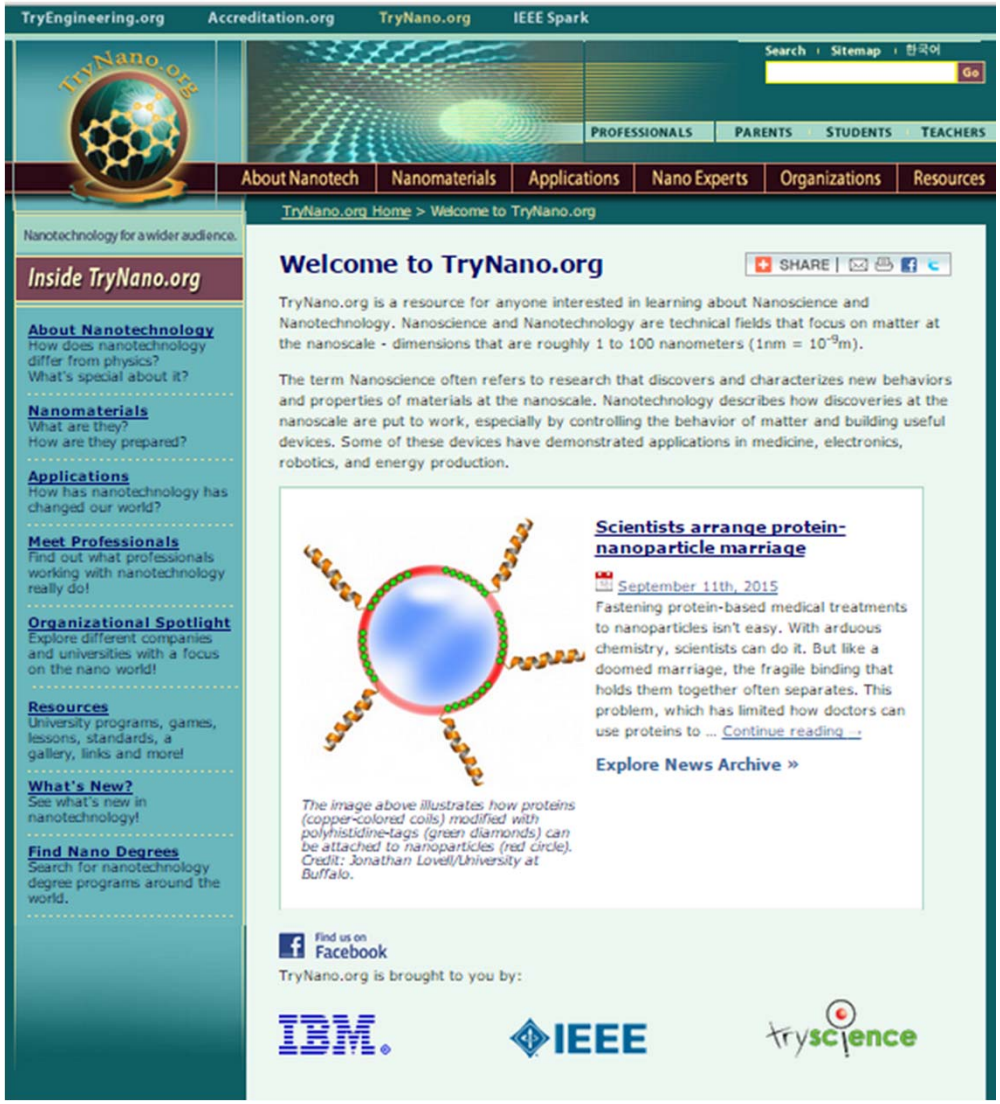
TryNano.org



What is nanotechnology?

What are nanomaterials?

How is nanotechnology applied?

Meet Professionals

Spotlight on nano organizations

Resources (university search, lesson plans, glossary, games, standards, links)

What's new in the world of nano?

In English and Korean

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How to Get Involved

- Submit your career or student profile to be featured on one of our sites
- Share an idea for an engineering or computing lesson plan
- Suggest a pre-university student opportunity or online resource to be included in our listings

Staff Contact: Liz Kurzawa e.kurzawa@ieee.org

Engineering Projects in Community Service

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Access & Abilities

- "**Access and Abilities**" projects with EPICS in IEEE work towards adaptive services, clinics for those in need (such as children with disabilities), programs for adults, and assistive technologies.

Access & Abilities: Example

- **“Virtual Reality Vision Therapy”** (New Jersey Institute of Technology- New Jersey, USA)
  - Problem Statement: To develop a home based system that can help improve vision function for children with binocular dysfunction.
  - Project: University students from NJIT are producing a 3D virtual reality vision therapy game that is fun and cost effective while still being therapeutically effective.

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Human Services

- With EPICS in IEEE projects that address "**Human Services**," students find connections between engineering and any limitless number of community, or humanitarian, needs. This includes homelessness prevention, affordable housing, family and children agencies, neighborhood revitalization, and local government.

Human Services: Example

- **Light in a Bottle**(*University of Johannesburg, South Africa*)
  - Problem Statement: Alleviate the number of fires in Kathrada Park Johannesburg by introducing light that did not require a candle.
  - Project: Engineering students from the University of Johannesburg implemented the Litre of Light Day and Night Solution. The students conducted workshops to train the local people of Kathrada Park to be able to design and develop Litre-of-Light solar glass bottle bulbs.

Environment

- EPICS in IEEE "**Environment**" projects focus on the environmental issues that impact everyday life and communities in every region.
  - Young students learn about the importance of environmental issues and how engineering can be a part of the solution.

Environment: Example

- **“Design and Development of a Photovoltaic System for Public Services at Public High School”** (*Universidad Surcolombiana, Colombia*)
  - Problem Statement: Promote clean energy solution in a community where little is known about this technology.
  - Project: University and high school students set out to design, build and install an environmentally friendly photovoltaic system for a local high school. The students are experiencing the hands-on process of developing and deploying the system.

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Education and Outreach

- EPICS in IEEE "**Education and Outreach**" projects focus on increasing engineering awareness, enable further education, expand facilities, and encourage young students to pursue careers in engineering.

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Education & Outreach: Example

- **“Build a Lego EV3 Snake”** (*Arizona State University, USA*)
  - Problem Statement: Develop a program for high school students to gain a solid understanding of engineering methodologies and design.
  - Project: University students developed a workshop using Lego EV3 Snakes for high school students to learn/reinforce mathematical concepts that students learn in traditional classes. The Lego EV3 snake was used to showcase robotic prototypes and to promote the engineering field among young high school students.

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How to get involved.

- Sections can work with student members to submit proposals for funding, indicating
- Section members can serve as mentors on approved projects
- Publicize the impact of the projects on the local communities in local news channels (i.e. newsletters/newspapers, social media etc.)

http://epics.ieee.org

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Informal Education

IEEE Exhibits

- Cooperative agreements
  - B.M. Birla Science Center, Hyderabad, India
  - Espacio Ciencia in Montevideo, Uruguay
  - Sci-Enza at the University of Pretoria in South Africa
  - Nehru Science Centre in Mumbai, India
  - National Science Centre and Museum, New Delhi, India
  - Cochin University of Science and Technology(C-SiS) in Kochi, Kerala
  - Kenyatta University Center in Nairobi, Kenya
  - National Science Centre(NIHERST) in Trinidad
  - Shanghai International Sci-Tech Exchange Center in China
  - Universidad Nacional Autónoma de México (UNAM)

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IEEE Exhibits Status

- Two approaches have been developed:
  - Low cost exhibits
  - eScientia
- Each year, more than 200,000 people interact with IEEE developed exhibits in museums in seven countries

China, Shanghai	**South Africa,** Pretoria
India, Hyderabad, Kerala and Mumbai	**Trinidad,** Port of Spain
Kenya, Nairobi	**Uruguay,** Montevideo
Mexico, Mexico City	

IEEE Exhibits locations

IEEE Developed Exhibits

Biometric and DNA Identification	Learn a Language Using Computer
Boolean Adder - How Computers Compute	Light – Refraction and Total Internal Reflection
Eddy Current Effects	Pick-and-Place Robot
Electrical Resonance	Raman Effect
Electromagnetic Induction	Text-to-Speech
Fibre Optic Communications	Virtual Physics Lab
Fleming's Left-Hand Thumb Rule	eScientia
Green Energy	
J.C. Bose Milestone Exhibit	

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Promotion, Content Support and Development

Promotion, Content Support & Development

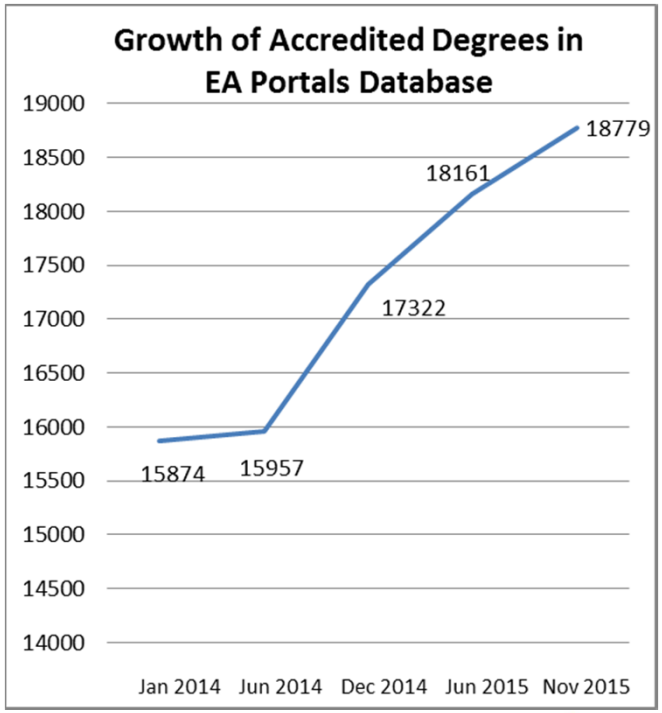
2015 Accredited Program Growth

Over the past several years EA has experienced a large growth in the number of countries, universities, and programs managed and searchable via our EA portals: Accreditation.org, TryEngineering.org, TryNano.org, and TryComputing.org.

Number of Countries Represented:
TryEngineering.org/Accreditation.org:77
TryComputing.org: 67
TryNano.org: 33

Number of Universities:
TryEngineering.org/Accreditation.org: 3598
TryComputing.org: 2073
TryNano.org: 262

Number of Programs:
TryEngineering.org/Accreditation.org:
18779 Nov 2015
18161 Jun 2015
17322 Dec 2014
15957 Jun 2014
15874 Jan 2014



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Promotion, Content Support & Development

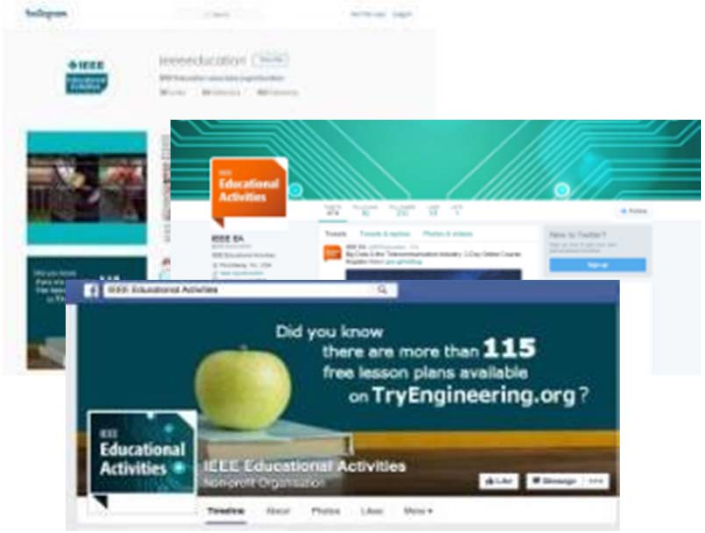
2015 Program Accreditation Database Streamlining

- During 2015, a program was developed and completed to reduce the number of databases required to update accredited engineering and computing programs that are fed to TryEngineering.org, Accreditation.org, and TryComputing.org from two to one.
- This project was completed concurrently with continued increases in the number of countries, universities, and programs tracked through EA portals, and was also documented as a case study by the ECTPSC.

Promotion, Content Support & Development

2015 EA Social Media Highlights

- EA has continued to expand leverage of social media across the department.
- Overarching Facebook Twitter & Instagram accounts are managed by PCSD, others managed by respective EA professional staff.



The following chart shows growth of EA social media vehicles over time:

	EA FB	EA TW	EA INST	CE FB	CE TW	TE FB	TE TW	IEEE-HKN FB	IEEE-HKN TW	EPICS FB	EPICS TW	Univ Prog FB
2014	17281	141	NA	195745	2899	2658	1569	2380	277	4310	8	1900
2015	18697	232	76	260100	3323	2823	1870	4417	344	4370	11	2858

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Promotion, Content Support & Development

EA Promotional Highlights 2015

- Educational Activities-related stories have been featured in 19 media placements in internal IEEE publications including The Institute Online, The Institute Print, and InsideIEEE.
- Through partnerships with MGA, TAB, and BDRS, new opportunities to promote EA's programs, products, and services have been utilized, including digital web and display ads.
- As part of the revitalization of EPICS in IEEE in 2015, a new logo was developed along with a full promotional and awareness campaign.

EPICS IN IEEE
Engineering Projects In Community Service

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Portals, Promotion and Social Media

EA Insight

- Three issues of EA Insight, EA's newsletter were produced and distributed in 2015.
- The length of each issue has continued to grow: February included 12 pages, June included 21 pages and the most recent November issue offered 31 pages of EA news and highlights.
- An online system to add subscribers was established at https://fs30.formsite.com/IEEEeducation/EAInsight/index.html
- Links to current and prior issues at tinyurl.com/EAinsight


EA INSIGHT

The Newsletter of IEEE Educational Activities

Volume 2 Issue 2 2015

Mid-Year Checkpoint

As we approach the halfway point of 2015, it is worth noting some highlights and progress including:

- The second EAB Mini-Series was held in March and was attended by more than 75 volunteers and professional staff
- Our third Massive Open On-line Course (MOOC), Introduction to Cloud Computing, launched on 3 June
- IEEE-HKN held its annual Student Leadership Conference with nearly 200 students from 61 chapters registered to attend
- Transitioning the IEEE eLearning Library to Xplore was completed at the end of May
- A program accreditation workshop was held in Lusaka, Zambia on 1-2 June and included observers from Zimbabwe and Kenya
- An EPICS in IEEE workshop was held in April in Coimbatore, India, featuring 50 invited attendees from 20+ universities

This issue of EA Insight recaps the 2015 EAB Mini-Series and highlights many of our products and services in Pre-University Education, University Education, Standards Education, IEEE-HKN and Continuing Education. It includes volunteers in the news and a professional staff spotlight.

We would like to thank our many IEEE volunteers and the professional staff for their continued contributions to the growth and success of Educational Activities. Please let us know of events, announcements, awards, presentations or any news you would like to share in an upcoming issue. We think you will enjoy this issue of EA Insight. Please send your stories and photos to EAinsight@ieee.org.

Dr. Saurabh Sinha
2015 IEEE Vice President, Educational Activities

Dr. Douglas Gorham
Managing Director, IEEE Educational Activities

Issue Editors:
- Tracy Parker
- Joanne Van Voorhis

In This Issue

EAB Core Purpose:

"To be a leader in science, engineering, and technology education, to be a difference-maker in career-long learning for practitioners, to be a global catalyst for innovation, and to foster public understanding and appreciation of technology."

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Common Acronyms

	Meaning
ABET	(formally) Accreditation Board for Engineering and Technology
ALW	Advanced Learning Workshop
ARC	Awards & Recognition Committee
ASEE	American Society for Engineering Education
BD	Business Development
CAC	Content Acquisitions Committee
CACET	Caribbean Accreditation Council for Engineering and Technology
CCCBPC	Certificates, Certification & Credit-bearing Programs Committee
CEAA	Committee on Engineering Accreditation Activities
CEC	Continuing Education Committee
CETAA	Committee on Engineering Technology Accreditation Activities
CGA	Committee on Global Accreditation Activities
CIEC	Conference for Industry and Education Collaboration
CPC	Curricula and Pedagogy Committee

	Meaning
CPE	Continuing and Professional Education
CSAB	Computing Sciences Accreditation Board
EAB	Educational Activities Board
EBK	Engineers Board of Kenya
ECEDHA	Electrical and Computer Engineering Department Heads Association
ECFD	Early Career Faculty Development
ECT	Engineering, Computing and Technology
EIZ	Engineering Institution of Zambia
EPEB	Educational Products Editorial Board
EPICS	Engineering Projects in Community Service
ETCPSC	Engineering, Technology and Computing Portals Strategy Committee
FDC	Faculty and Departments Committee
ICACIT	The Institute of Quality and Accreditation of Engineering Career and Technology Education

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Common Acronyms (2)

	Meaning
IEEE-HKN	IEEE Eta Kappa Nu
IEEEx	IEEE Collaboration with edX
MGA	Member and Geographic Activities
MOOC	Massive Open Online Course
N&A	Nominations & Appointments Committee
PECC	Pre-University Education Coordinating Committee
PEV	Program Evaluator
PSC	Products & Services Committee
RWEP	Real World Engineering Projects
SEOC	Section Educational Outreach Committee
SERC	Student Educational Resources Committee
SLC	Student Leadership Conference
TAB	Technical Activities Board
TISP	Teacher In-Service Program
URC	University Resources Committee

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