IEEE PES Mission Statement

To be the leading provider of scientific and engineering information on electric power and energy for the betterment of society and the preferred professional development source for our members

www.ieee-pes.org
PES Pipeline Efforts

- College Students
- K-12 Outreach
- Traditional PES Members
- Mid-Career, New to P&E
- Senior P&E Management
- Retention
- WIE
- Mid-Career, P&E Background
- Senior Technical Leadership
PES Governing Board – Volunteer Leaders
Among PES Governing Board Goals

1. Enhance, Document and Extend PES Level Strategies and Partnerships
2. Expand quantity and diversity of PES Membership
3. Increase member involvement and knowledge of membership benefits

PES Elected Officers 2014

Noel Schulz  
Past President

Damir Novosei  
President-Elect

Miroslav Begovic  
President

Chris Root  
Treasurer

Lina Bertling Tjernberg  
Secretary

IEEE PES Executive Office Staff

Pat Ryan, Executive Director

http://www.ieee-pes.org/about-pes/pes-staff
PES Membership

- 32,000+ members
- Third largest IEEE Society
- Rapid membership growth

Henry Louie
Educational Needs and Workforce Demographics

Average Age: 46

<table>
<thead>
<tr>
<th>Age Category</th>
<th>Number of Employees</th>
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<tr>
<td>20-24</td>
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COLLEGE PROFESSIONAL EDUCATION

CONTINUING PROFESSIONAL EDUCATION

EDUCATORS/MENTORS?
Education

- **Resources**
  - Tutorials
  - E-Learning Module (New Smart Grid units)
  - Plain Talk Courses for Non-Engineering Professionals
  - Videos

- **Students**
  - Student Programs
    - Expanding to Regions 8, 9 and 10

- **PES - Careers**
  - PES Scholarship Plus

Pete Sauer
PES Members by IEEE Region

- Region 1-6
- Region 7
- Region 8
- Region 9
- Region 10
IEEE PES – Resources for Today and Tomorrow

MEMBERSHIP HAS ITS PRIVILEGES!

New Welcome Video for Members
http://www.youtube.com/watch?v=fFWewsHtGM8&feature=youtu.be
Technical Activities

19 Technical Committees and 4 Coordinating Committees Including Intelligent Grid Coordinating Committee

- Reviews for Transactions and GM/T&D Conference Papers
- Panels, Sessions, Subcommittees, Working Groups, Task Forces
- Standards
Standards Developing Technical Committees

- Electric Machinery
- Energy Development & Power Generation
- Hydroelectric Power Subcommittee (EDPG)
- International Practices Subcommittee (EDPG)
- Insulated Conductors
- Nuclear Power Engineering
- Power System Analysis, Computing and Economics
- Computing and Analytical Methods Subcommittee (PSACE)
- Distribution System Analysis Subcommittee (PSACE)
- Intelligent Systems Subcommittee (PSACE)
- Reliability, Risk and Probability Applications Subcommittee (PSACE)
- System Economics Subcommittee (PSACE)
- Power System Communications
- Power System Instrumentation and Measurements
- Power System Relaying
- Stationary Battery
- Substations
- Surge Protective Devices
- Switchgear
- Transformers
- Transmission & Distribution
- Capacitor Subcommittee (T&D)
- Distribution Subcommittee (T&D)

Coordinating Committees

- Emerging Technologies
- Intelligent Grid
- Marine Systems
- Wind and Solar Power
Many Standards and Guides Urgently Needed

- Interoperability among recognized Smart Grid standards
  - E.g. systems that include the use of both IEEE 1815 (DNP3) and IEC 61850 devices / subsystems – huge investments had been made in DNP3 systems and will be made in both DNP3 and 61850 systems in the future
  - Harmonization of IEEE C37.118 and IEC 61850
- Development of new standards / guides
  - Major investment in synchrophasor projects, while standards are still in the development
- Need for guidelines & methodology for AMI meter conformance testing and Cyber security assessment
- Electric vehicles: Assess usage patterns and grid infrastructure impact/needs

Ted Burse
MAL - Standards
Members-At-Large

Erich Gunther
Smart Grid Tutorials

Ted Burse
Standards

1.1 Project Number: P1860
1.2 Type of Document: Standard
1.3 Life Cycle: Full Use

2.1 Title: Standard for Voltage and Reactive Power in 1000kV or Greater (Ultra High Voltage) AC Systems

Members-At-Large

IEEE PES Store
http://www.pes-store.org/

Nando Ochoa
PES Resource Center

Jay Giri
Industrial Leadership
Smart Grid Web Portal

http://smartgrid.ieee.org/

A gateway to IEEE Smart Grid information

A few of the features:

- Connections to social media groups
- Smart Grid Videos
- Top articles and auto-import of IEEE IP
- Q&A With Experts
- Content from IEEE Xplore
- Smart Grid “News” and event calendar
- Monthly newsletter

Launched in Jan 2011

Massoud Amin
Smart Grid
PES Publications

Taking a Global Look at Energy Choices

One Year Later: Japan's Nuclear Disaster
Saving History: Edison Dynamo No. 16

Mariesa Crow
PES Conferences and Meetings

- Financially Sponsored Conferences around the world
- Partnering for Technically co-sponsored conferences
- International and Regional Scopes
- Emerging Topics

Tommy Mayne
Chapters

Frank Lambert
VP Chapters

Regional Representatives

• Grassroot Interactions of Power & Energy Community
• Over 230 and Growing
• Distinguished Lecturer Program

Mazana Armstrong
Region 1-7

Costas Vournas
Region 8

Nelson Segoshi
Region 9

Lalit Goel
Region 10

Strategic Activities Worldwide

EEA – Electricity Engineers’ Association, New Zealand
CSEE – Chinese Society of Electrical Engineers
CIGRE – Conseil International des Grands Reseaux Electriques
SAIEE – South Africa Institute of Electrical Engineers
IEEE PES Scholarship Plus Initiative™

- Started in 2011 with 93 Scholars
- **Funding**
  - PES provided $1M seed funding in 2010
  - Seeking $10M in philanthropic donations over 3 years
  - Leadership gifts from S&C Electric and Schweitzer Engineering Labs of $1M each
- **Offering**
  - Scholarship: $2000, $2000 and $3000 in year 1, 2 and 3
  - Career experiences
  - Mentors
- **Working to expand beyond Regions 1-7**

Apply online:
- [www.ee-scholarship.org](http://www.ee-scholarship.org)
- Applications were due by June 30, 2012
- Awardees notified in September, 2012
Baseline in EAP: Despite impressive economic growth, 170 million people lack access to electricity and every second household in the Asia Pacific region still depending on solid fuels for cooking.

The Goal of Universal Access to Modern Energy by 2030 is affordable – but policies need re-focusing and significant financial support to low income countries will be required.

On the electricity path both grid and off-grid programs need appropriate policies and technical innovations to reduce costs, improve reliability, and provide timely service to all households.

The World Bank will focus on those likely to be left behind … poor and remote people should not have to wait until all others are served to enjoy the health benefits and improved quality of life derived from modern energy.

Source: D. Ostojic, World Bank
Access to Electricity

Three countries categories of electricity access: low, medium and high. Access rates are not always correlated to poverty levels, e.g. Lao PDR.

Source: D. Ostojic, World Bank
A Vast Urban-Rural Divide in Energy Access

Figure 1.6 Rural-Urban Divide in Electricity Access in EAP Countries, 2008

Population without access to electricity, 2008 (%)

Sources: IEA 2009; authors' calculations.

Source: D. Ostojic, World Bank
New Initiatives and Outreach

Robin Podmore

**Community Solutions Initiative**

http://communitysolutionsinitiative.org/

Low cost, local efforts for electrification in developing countries
IEEE Initiatives & PES

- Smart Grid
- Electric Transportation
- Cloud Computing
- Open Access Pub. Opportunities
- Outreach Opportunities
2014 PES Fellows

- Bjarne Andersen
- William Bartley
- Carl Benner
- Kent Brown
- Ambrish Chandra
- Kwok Cheung
- Peter Donalek
- Mahmud Fotuhi-Firuzabad
- Bjorn Gustavsen
- Chris Horwill
- Solveig Ward
  - Cursino Jacobina (PEL)
  - Muhammed Rahman (IA)
- Roger King
- Benjamin Kroposki
- Thomas Mc Dermott
- Andrew Ott
- Bradford Roberts (deceased 10/15/13)
- Kiruba Sivasubramaniam
- Dejan Sobajic
- Hisao Taoka
- Germano Torres
- Hao Huang (IA)
- Babu Chalamala (NANO)
http://electricvehicle.ieee.org/

http://cloudcomputing.ieee.org/
Extending activities for Women in Engineering (WIE) and Young Professionals (formerly known as GOLD) at PES sponsored conferences and chapters worldwide
Summary of 2014 Projects and Plans

We will continue to build upon the success of our 2013 programs, we will be focusing on several key projects in 2014, including:

• **IEEE Smart Grid** Initiative Transition- looking to continue the collaborative community and take it to new heights
• Expand the successful **Scholarship Plus** program to more regions of the world
• Promote **IEEE Electrification** magazine to better serve our community's interest and society's needs
• Launch **IEEE Power & Energy Technology Systems Journal** for industry's applications and best practices;
• Support the expansion of the **Community Solutions Initiative** to bring electricity to global communities that have none with sustainable renewable energy solutions;
• Increase the global reach of and participation in **IEEE Power and Energy Standards** by meeting the unmet needs of different regions;
• Enhance our **PES Education** offerings in webinars, tutorials, and possible certification programs
IEEE and PES built to last by members and volunteers
Be Part of the PES Social Media Conversation

@ieee_pes
@ieeessmartgrid

facebook.com/ieeePES

IEEE Power & Energy Society (PES) Group
IEEE Smart Grid Group
Thank You