



## Important Dates

**March 15, 2017:** Full Paper Submission  
**May 19, 2017:** Notification of Acceptance  
**June 16, 2017:** Final Paper Submission  
**September 17-21, 2017:** Conference



## Conference Venue

The Westin Riverwalk, San Antonio, Texas, USA  
 Westin Riverwalk, San Antonio  
 Tel.: +1 210-224-6500  
 420 W Market Street San Antonio, Texas 78205  
<http://www.westinriverwalksanantonio.com>



## About ISAP

ISAP is an international organization and the result of the integration of International Conferences on Expert System Applications to Power System (ESAP) with the International Forum on Applications of Neural Networks to Power Systems (ANNPS).

Earlier, ESAP had four editions – Stockholm, Sweden and Helsinki, Finland (1987); Seattle, USA (1989); Yokohama, Japan (1991); and Melbourne, Australia (1993). The ANNPS conferences had two editions – Seattle, USA (1991); and Kobe, Japan (1993).

Here is the list of ISAP conferences held so far:

ISAP 1994 - Montpellier, France, (the first integrated conference)  
 ISAP 1996 - Orlando, Florida, USA  
 ISAP 1997 - Seoul, Korea  
 ISAP 1999 - Rio de Janeiro, Brazil  
 ISAP 2001 - Budapest, Hungary  
 ISAP 2003 - Lemnos, Greece  
 ISAP 2005 - Washington DC, USA  
 ISAP 2007 - Kaohsiung, Taiwan  
 ISAP 2009 - Curitiba, Brazil  
 ISAP 2011 - Crete, Greece  
 ISAP 2013 – Tokyo, Japan  
 ISAP 2015 – Porto, Portugal



## Official Language

The conference's working language will be English.

## Conference Chair

**Chair**  
 K. Butler-Purry (USA)  
**Co-chair**  
 C. Singh (USA)

## ISAP Board of Directors

**Chair**  
 K. Tomsovic (USA)  
**Members**  
 Y. Fukuyama (Japan)  
 G. Krost (Germany)  
 G. Lambert-Torres (Brazil)  
 K. Lee (USA)  
 C.-C. Liu (USA)  
 C. Lu (Taiwan)  
 V. Miranda (Portugal)  
 D. Niebur (USA)  
 K. Tomsovic (USA)  
 Z. Vale (Portugal)

## Technical Committee

**Chair**  
 L. Xie (USA)  
**Co-chair**  
 H. M. Chou (USA)  
**Members**  
 A. A. Silva (Brazil)  
 E. Asada (Brazil)  
 I. Erlich (Germany)  
 Y. Fukuyama (Japan)  
 T. Funabashi (Japan)  
 N. Hatziargyriou (Greece)  
 P. Kadar (Hungary)  
 G. Krost (Germany)  
 P. Kundur (Canada)  
 L. L. Lai (UK)  
 G. Lambert-Torres (Brazil)  
 K. Lee (USA)  
 P. S. J. Lee (Korea)  
 S. I. Lim (Korea)  
 C. C. Liu (USA)  
 C. Lu (Taiwan)  
 S. Meliopolis (USA)  
 V. Miranda (Portugal)  
 H. Mori (Japan)  
 K. Nara (Japan)  
 D. Niebur (USA)  
 A. Ozdemir (Turkey)  
 C. Singh (USA)  
 S. N. Singh (India)  
 K. Tomsovic (USA)  
 M. S. Tsai (Taiwan)  
 Z. Vale (Portugal)  
 K. P. Wong (HK)

## Local Organizing Committee Members

**Chair**  
 K. Butler-Purry (USA)  
**Co-chair**  
 C. Singh (USA)  
**Technical Committee Chair**  
 L. Xie (USA)  
**Technical Committee Co-chair**  
 H. M. Chou (USA)  
**Members**  
 R. Balog (USA)  
 M. Begovic (USA)  
 B. Dong (USA)  
 N. Gatsis (USA)  
 M. Ehsani (USA)  
 M. Kezunovic (USA)  
 M.J. Mousavi (USA)  
 B. D. Russell (USA)  
 NDR Sarma (USA)

# 19<sup>th</sup> International Conference on Intelligent Systems Applications to Power



September 17-21, 2017  
 San Antonio, Texas

Organized by Texas A&M University



## Invitation

On behalf of the local organizing committee we invite you to attend the 19th ISAP2017 conference. The Intelligent Systems Application to Power Systems Conference continues the tradition of preceding conferences on topics selected from current Power Systems problems and applications of intelligent systems.

ISAP is specifically dedicated to provide a forum for academics, industry, and students to discuss innovative intelligent systems applications in the area of operation, control, planning and maintenance of large interconnected and isolated or weakly interconnected power systems, and their particular components. ISAP 2017 focuses on power systems operation in competitive environment, renewable energy and distributed generation, and also other subjects of interest in modern power systems. Employment of novel software technologies and other are in the special scope of the conference, but also intelligent approaches achieved with conventional programming are sought for. Proposed subjects should be beyond the phase of declarations of interest or presentations of ideas; papers reporting practical realization and application will have priority.

The Conference will provide opportunities for tutorials and technical visits.

## Texas A&M University

Texas A&M University (TAMU) is a land-grant, sea-grant, and space-grant institution located in College Station, Texas. The Electrical and Computer Engineering department comprises over 70 tenured/tenure track faculty including 31 IEEE Fellows and four members of the National Academy of Engineering. The department includes 11 faculties in the power/energy program with expertise in the area of modeling, control, reliability, analysis, protection of power systems, smart grid, motor drives, renewable energy resources, electric and hybrid electric vehicles. The Electric Power and Power Electronics Institute has been a part of the Electrical and Computer Engineering Department since 1963-1964 when it was founded as the Electric Power Institute. Texas A&M is also home to the TAMU Smart Grid Center and Energy Institute.

## Conference Contact Information

[Http://www.isap-power.org](http://www.isap-power.org)

For any questions, please contact us at: [2017ISAPTAMU@gmail.com](mailto:2017ISAPTAMU@gmail.com)

## Preferential Subjects

The Conference welcomes papers on Intelligent Systems Techniques applied to Electric Power and Energy Systems (Generation, Transmission, Distribution, Markets, Operations, and Planning) with preference to:

- Loads and renewables forecasting and estimation
- Fault diagnosis and prognosis
- Condition monitoring and asset management
- Intelligent enterprise systems, e.g. intelligent outage management
- Wide area monitoring, protection, control, and management
- System reliability, security, and adequacy
- Big data, data analytics, and machine learning applications in power systems
- Innovative and/or emerging applications of intelligent systems in power systems, such as machine learning, deep learning, and autonomous power systems
- Special systems such as vessel systems, underwater systems, micro-grids, nano-grids, and autonomous power systems
- Social, legal, ethical, and business issues
- Intelligent estimation and classification techniques including neural nets, fuzzy systems, data mining, decision trees
- Data science, machine learning, and data analytics
- Knowledge-based systems including rule-based systems, expert systems, model-based reasoning
- Advanced optimization techniques including genetic algorithms, particle swarm optimization, ant colonies, immune systems, and bacterial foraging
- Multi-agent systems, evolutionary intelligent agents, adaptive distributed computing and control
- Hybrid intelligent systems
- Computational neuroscience
- Game Theory
- Molecular and quantum computing

## To the Authors

- The authors are invited to submit an electronic PDF file of the full paper in IEEE PES standard double column format not exceeding 6 pages.
- All papers must be submitted by March 15th, 2017 to the conference submission site.
- Authors will be advised via email of acceptance or rejection of the paper by May 19th, 2017.
- If revisions are required, authors will be notified prior to that date.

## Location

Texas is a huge energy market and is at the center of the energy revolution. It is responsible for 10 percent of the U.S.'s electricity consumption, making it the greatest electricity consuming state in the U.S. Several of its major cities are engaged in various stages of smart cities initiative, utilizing smart meters, demand response, PHEVs, clean/renewable energy, etc. Texas has the largest installed capacity (14,098 megawatts which is 21.4 percent of the nation's total) of wind energy in the U.S. and several solar farms are located in Texas, including a few near San Antonio.

Few destinations provide a sense of place like San Antonio, Texas. Here, the bell towers of Spanish colonial missions have greeted mornings for almost 300 years. Mexican, European and Western cultures blend into a unique personality, and in the heart of it all, you'll find a downtown core with a river running through it.

Much of the city's unforgettable landscape has grown along the banks of the River Walk where stone paths run aside the San Antonio River connecting hotels, restaurants, shops and the Henry B. Gonzalez Convention Center. San Antonio recently extended the River Walk to link even more attractions including museums, public art installations, Spanish colonial missions and the Pearl, a former brewery reborn into an eclectic mix of shops, restaurants and entertainment.

Famed for Tex-Mex, San Antonio is gaining attention as the nation's next big culinary destination. From notable restaurants to the new Culinary Institute of America, there's something to satiate every palate. San Antonio is the perfect place to start a Texas Hill Country adventure. With working ranches, trail rides, hiking, birding, river floats, the Texas Wine Trail and small, historic towns, the Hill Country provides a true Texas experience. Plus, over 50 golf courses and theme parks like SeaWorld San Antonio and Six Flags Fiesta Texas, make the city a wonderful place for families to tag along. There's much more to experience in San Antonio.

## Student Participation

Students working on research subjects consistent with the theme of the conference are highly encouraged to attend the ISAP and present their works. The organizers will be actively pursuing a program to provide partial financial assistance and a reduced rate to a number of students.