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How to write an article for IEEE?

Eszter Lukács
Client Services Manager Europe
About the IEEE

- World’s largest technical membership association with more than 430,000 members in over 160 countries
- Not for profit organization “Advancing Technology For Humanity”
- Four Core areas of activity
  - Membership organization
  - Conferences organizer
  - Standards developer
  - Publisher of journals, conferences, standards, ebooks and elearning

IEEE Xplore by the numbers:
- Nearly 4 million total documents
- Over 3 million unique users
- More than 8 million downloads per month
- 15 year anniversary in 2015!
1884: The American Institute of Electrical Engineers is founded

A small group of individuals met in New York and founded the AIEE to advance the new field and represent the US at the 1884 International Electrical Exhibition in Philadelphia.

Norvin Green, President of Western Union Telegraph and first president of the AIEE

Program of the 1884 International Electrical Exhibition, Franklin Institute, Philadelphia

Thomas Edison, one of the founders of the AIEE
Radio, a new electrical technology, arose in the first decade of the twentieth century. With the new industry came a new society, IRE, modeled on the AIEE, but devoted to radio, and later increasingly to electronics.

1901: Guglielmo Marconi and George Kemp with equipment used in transatlantic wireless telegraphy

1912: Radio telegraph operators’ communications with the sinking Titanic demonstrated the power of radio

1912: The Institute of Radio Engineers is founded

1922: Triode vacuum tube inventor Lee de Forest with a radio
The idea that there should be one organization for all electrical engineers was an old one, and became more powerful as the profession expanded beyond its separate roots in power and radio. In 1962, the boards and memberships of the two institutes agreed to merge. On January 1, 1963, the Institute of Electrical and Electronic Engineers was born with 150,000 members.
Becas "Action for Industry" en la Región 8 (Europa, África y Oriente Medio)

Más información en http://www.ieee8.org/category/technical-activities/action-for-industry/

7th International Conference on Imaging for Crime Detection and Prevention (ICDP 2016)

This conference brings together researchers, industry, end-users, law-enforcing agencies and citizens groups to share experiences and explore areas where additional research, development and better working practices are needed, identify possible collaboration and consider the societal impact of such technologies.

Últimas eNotices

- Reunión del Capítulo durante el SAAE2016 en Elche
- Reunión del Capítulo Español de Sensores
- Conferencias Temáticas en las Jornadas de Automática
- Reunión Anual
- Capítulo Español IEEE PELS/IES: Concurso de Logotipos
- La edición de IEEE ISCAS 2020 se celebrará en Sevilla
- Iniciativa - IEEE R3 Action for Industry
- Laboratorio subvencionado por IEEE Spain Section
Anunciam les XIV Jornades de conferències de la IEEE Student Branch.
Podeu trobar tota la informació a: http://ieee.upc.edu/index.php...
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- Nearly four million full text documents
- 179 IEEE journals & magazines
- 1400+ annual IEEE conferences + 43 VDE conferences
- More than 2800 IEEE standards (active, archived, redlines) + IEEE Standard Dictionary
- 20 IET conferences, 26 IET journals & magazines
- Bell Labs Technical Journal (BLTJ) back to 1922
- Backfile to 1988, select legacy data back to 1872
- Inspec index records for all articles
IEEE quality makes an impact
Thomson Reuters Journal Citation Reports® by Impact Factor

IEEE publishes:

17 of the top 20 journals in Electrical and Electronic Engineering
17 of the top 20 journals in Telecommunications
7 of the top 10 journals in Computer Science, Hardware & Architecture
7 of the top 10 journals in Computer Science, Cybernetics
3 of the top 5 journals in Automation & Control Systems
3 of the top 5 journals in Artificial Intelligence
3 of the top 5 journals in Imaging Science & Photographic Technology
2 of the top 5 journals in Robotics

The Thomson Reuters Journal Citation Reports presents quantifiable statistical data that provides a systematic, objective way to evaluate the world’s leading journals.

Based on the 2014 study released June 2015
More info: www.ieee.org/citations
IEEE quality makes an impact
Thomson Reuters Journal Citation Reports® by Impact Factor

IEEE journals are:

# 1 in Automation and Control
# 1 in Artificial Intelligence
# 1 in Computer Hardware
# 1 in Cybernetics
# 1 in Electrical Engineering
# 1 in Information Systems
# 1 in Manufacturing Engineering
# 1 in Theory and Methods
# 1 in Telecommunications
# 2 in Aerospace Engineering
# 2 in Robotics

Based on the 2014 study released June 2015

The Thomson Reuters Journal Citation Reports presents quantifiable statistical data that provides a systematic, objective way to evaluate the world’s leading journals.
IEEE and Patents
IEEE research powers new patents

A study of the top 40 patenting organizations ranks IEEE #1 again

- Over three times more citations than any other publisher
- Patent referencing to IEEE increased 896% since 1997
- The importance of sci-tech literature in patents is rising
- IEEE research is increasingly valuable to innovators

1790 Analytics LLC performed an in-depth analysis of the science references from top patenting firms.

Source: 1790 Analytics LLC 2015
IEEE Leads US Patent Citations

Top 20 Publishers Referenced Most Frequently by Top 40 Patenting Organizations

IEEE is cited over 3x more often than any other publisher

Source: 1790 Analytics LLC 2015. Based on number of references to papers/standards/conferences from 1997-2014
IEEE Leads European Patent Citations

Top 20 Publishers Referenced Most Frequently by Top 25 Patenting Organizations

<table>
<thead>
<tr>
<th>Publisher</th>
<th>Citations</th>
<th>Percentage</th>
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<tr>
<td>IEEE</td>
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<td>Reed Elsevier Pergamon Academic Press Saunders</td>
<td>7,765</td>
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<td>John Wiley Sons Wiley-Verlag Wiley-Liss</td>
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<td>1,717</td>
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<td>3GPP Gen Partner Proj Stds Body</td>
<td>1,301</td>
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<tr>
<td>AVS AIP Am Inst Physics</td>
<td>1,128</td>
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<tr>
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<td>1,030</td>
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<td>Am Soc Biochemistry Molec Biology</td>
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<td>Natl Acad Sciences</td>
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<td>ACM Assoc Comput Mach</td>
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<td>Royal Soc Chem</td>
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<tr>
<td>IEICE Inst Elec Info Comm Eng</td>
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<tr>
<td>AAAS Am Assoc Advancement Sci</td>
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IEEE is the top cited publisher in patent references from the European Patent Office.

Technology areas where patents cite IEEE most

<table>
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<tr>
<th>Category</th>
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<tbody>
<tr>
<td>Battery</td>
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<tr>
<td>Computer hardware</td>
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<tr>
<td>Computer software</td>
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<tr>
<td>Information storage</td>
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<tr>
<td>Measuring, testing, and control</td>
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<tr>
<td>Medical devices</td>
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<tr>
<td>Nuclear and X-ray</td>
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<td>Optics</td>
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<td>Power systems</td>
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<td>Robotics</td>
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<td>Semiconductors</td>
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<td>Smart Grid</td>
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<tr>
<td>Solar/Photovoltaic</td>
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<tr>
<td>Telecommunications</td>
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<tr>
<td>Wind Energy</td>
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</table>

Source: 1790 Analytics LLC 2015
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Full text content from all 39 IEEE Societies

IEEE Aerospace and Electronic Systems Society
IEEE Antennas and Propagation Society
IEEE Broadcast Technology Society
IEEE Circuits and Systems Society
IEEE Communications Society
IEEE Components, Packaging, and Manufacturing Technology Society
IEEE Computational Intelligence Society
IEEE Computer Society
IEEE Consumer Electronics Society
IEEE Control Systems Society
IEEE Dielectrics and Electrical Insulation Society
IEEE Education Society
IEEE Electron Devices Society
IEEE Electromagnetic Compatibility Society
IEEE Engineering in Medicine and Biology Society
IEEE Geoscience and Remote Sensing Society
IEEE Industrial Electronics Society
IEEE Industry Applications Society
IEEE Information Theory Society
IEEE Instrumentation and Measurement Society
IEEE Intelligent Transportation Systems Society
IEEE Magnetics Society
IEEE Microwave Theory and Techniques Society
IEEE Nuclear and Plasma Sciences Society
IEEE Oceanic Engineering Society
IEEE Photonics Society
IEEE Power Electronics Society
IEEE Power & Energy Society
IEEE Product Safety Engineering Society
IEEE Professional Communications Society
IEEE Reliability Society
IEEE Robotics and Automation Society
IEEE Signal Processing Society
IEEE Society on Social Implications of Technology
IEEE Solid-State Circuits Society
IEEE Systems, Man, and Cybernetics Society
IEEE Technology and Engineering Management Society NEW in 2015
IEEE Ultrasonics, Ferroelectrics, and Frequency Control Society
IEEE Vehicular Technology Society
IEEE covers all areas of technology
More than just electrical engineering & computer science
Multidisciplinary Content on IEEE Xplore Digital Library
Life Sciences

- At least eight IEEE publications are dedicated in whole or in part to technology related to Life Sciences.

- Plus, there are more than 90 annual conferences, 20 periodicals and 20 IEEE standards that cover medical device communications.

- In IEEE Xplore, you’ll also find coverage of therapeutic devices used in rehabilitation processes, such as physical therapy and devices used to restore movement and function.

- Examples of IEEE publications:
  - IEEE Pulse
  - IEEE Trans. on Biomedical Engineering
  - IEEE Reviews on Biomedical Engineering
  - IEEE Trans. on Neural Systems and Rehabilitation Engineering
  - IEEE Trans. on Information Technology in Biomedicine
  - IEEE Trans. on Medical Imaging
  - IEEE/ACM Trans. on Computational Biology and Bioinformatics
  - IEEE Trans. on Biomedical Circuits and Systems
  - IEEE Trans. on NanoBioscience
  - IEEE Trans. on Autonomous Mental Development.
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- IEEE’s geoscience and remote sensing publications cover the fusion of engineering and geoscientific fields including geophysics, geology, hydrology, meteorology, etc.

- In IEEE Xplore, you’ll also find information relevant to natural resources engineering and mineral resources engineering, including extensive coverage of technologies related to oil and gas exploration, drilling operations, offshore oil rigs and mining.

Examples of IEEE publications:
- IEEE Trans. on Geoscience & Remote Sensing
- IEEE Geoscience & Remote Sensing Magazine
- IEEE Geoscience & Remote Sensing Letters
- IEEE International Symposium Geoscience and Remote Sensing (IGARSS)
- IEEE Petroleum and Chemical Industry Technical Conference (PCIC)
IEEE’s publications cover manufacturing practices and technologies, including the development of systems, processes, machines, and tools.

In IEEE Xplore, you’ll find information on virtual manufacturing, computer integrated manufacturing, agile manufacturing, quality control, robotics and automation, mechatronics, and much more.

Relevant IEEE publications include:

- IEEE/ASME Transactions on Mechatronics (#1 most cited journal in Engineering - Manufacturing)
- IEEE Transactions on Components, Packaging and Manufacturing Technology
- IEEE Transactions on Semiconductor Manufacturing
- IEEE Transactions on Automation Science and Engineering
- IEEE Robotics & Automation Magazine
- IEEE International Symposium on Assembly and Manufacturing
- International Conference on Digital Manufacturing and Automation
- e-Manufacturing & Design Collaboration Symposium Electronics Manufacturing Technology Symposium
- International Conference on System Science, Engineering Design and Manufacturing Informatization
IEEE Xplore covers the leading edge of computer graphics technology and its applications in everything from business to the arts.

Topics include computer graphics, design, animation, 3D, user interface, motion graphics, and more.

Examples of IEEE Xplore publications:
- IEEE Computer Graphics
- International Conference on Computer Graphics, Imaging & Visualization
- International Conference on Image & Graphics
Game Design

IEEE Xplore covers the design of **video games**, mathematical games, human-computer interactions in games, and games involving physical objects.

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Examples of IEEE Xplore publications:

- IEEE Trans. On Computational Intelligence and AI in Games
- Symposium on Computational Intelligence in Games
- International Conference on Computer Games
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Entertainment: computer graphics, animation, 3D, digital motion pictures, laser projectors, and more

Bringing Physical Characters to Life

Akhil J. Madhani
Walt Disney Imagineering R&D

Abstract
At Disney, we are striving to present these characters to our audience in a way that has never before been seen outside of the Disney theme parks. To achieve this, we have developed a novel rendering framework that aims to bring physical characters to life in a 3D virtual environment.

As examples of character development, I discuss two newer assets and show how the Disney theme parks use these characters in their attractions.

Ray Tracing for the Movie ‘Cars’

Per H. Christensen*, Julian Fong, David M. Laur, Dana Batati
Pixar Animation Studios

ABSTRACT
This paper describes how we extended Pixar’s RenderMan renderer with ray tracing abilities. In order to ray trace highly complex scenes we use multiresolution geometry and texture caching, and use ray differentials to determine the appropriate resolution. With this method we are able to efficiently ray trace scenes with much more geometry and texture data than there is main memory. Movie-quality rendering of scenes of such complexity had only previously been possible with pure scanline rendering algorithms. Adding ray tracing to RenderMan allows efficient rendering of complex scenes and high-quality shadows, reflections, and caustics.

textured cache keeps recently accessed texture tiles ready for fast access. This combination of ray differentials and caching makes ray tracing of very complex scenes feasible.

This paper first gives a more detailed motivation for the use of ray tracing in ‘Cars’, and lists the hard rendering requirements in the movie industry. It then gives an overview of how the REYES algorithm deals with complex scenes and goes on to explain our work on efficient ray tracing of equally complex scenes. An explanation of our hybrid rendering approach, combining REYES with ray tracing, follows. Finally, we measure the efficiency of our method on a...
New IEEE Journals Coming in 2016

In 2016, IEEE will introduce four new journals that will be available for subscription:

- IEEE Transactions on *Intelligent Vehicles*
- IEEE Journal on *Multiscale and Multiphysics Computational Techniques*
- IEEE *Robotics and Automation Letters*
- IEEE Transactions on *Sustainable Computing*

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New IEEE Journals from 2015

- IEEE Trans. on **Big Data**
- IEEE Trans. on **Transportation Electrification**
- IEEE Trans. on **Cognitive Communications and Networking**
- IEEE Trans. on **Computational Imaging**
- IEEE Trans. on **Molecular, Biological, and Multi-Scale Communications**
- IEEE Trans. on **Multi-Scale Computing Systems**
- IEEE Trans. on **Signal and Information Processing over Networks**
- **IEEE Systems, Man, and Cybernetics** Magazine

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A sampling of some of the new conferences added in 2015

- **Big Data Software Engineering (BIGDSE)**, 2015 IEEE/ACM 1st International Workshop on
- **Computational Electromagnetics (ICCEM)**, 2015 IEEE International Conference on
- **DC Microgrids (ICDCM)**, 2015 IEEE First International Conference on
- **Electromagnetic Compatibility and Signal Integrity**, 2015 IEEE Symposium on
- **Identity, Security and Behavior Analysis (ISBA)**, 2015 IEEE International Conference on
- **Industrial Engineering and Operations Management (IEOM)**, 2015 International Conference on
- **Microwaves for Intelligent Mobility (ICMIM)**, 2015 IEEE MTT-S International Conference on
- **Multimedia Big Data (BigMM)**, 2015 IEEE International Conference on
- **Networking Systems and Security (NSysS)**, 2015 International Conference on
- **Sampling Theory and Applications (SampTA)**, 2015 International Conference on
- **Signal Processing, Informatics, Communication and Energy Systems (SPICES)**, 2015 IEEE International Conference on
- **Smart Cities Conference (ISC2)**, 2015 IEEE First International
Popular IEEE Standards

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**IEEE 3000 Standards Collection™**—Formerly the IEEE Color Books®, this collection will reorganize the 13 Color Books into approximately 70 “dot” standards covering specific technical topics on all facets of industrial and commercial power systems.


**2012 National Electrical Safety Code® (NESC®)**—Sets the ground rules for practical safeguarding of persons during the installation, operation, or maintenance of electric supply and communications lines and associated equipment.

**IEEE 43™**—IEEE Recommended Practice for Testing Insulation Resistance of Electric Machinery

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  • Original research results presented
  • Clear conclusions are made and supported by the data

A conference article can be written while research is ongoing
  • Can present preliminary results or highlight recent work
  • Gain informal feedback to use in your research

Conference articles are typically shorter than journal articles, with less detail and fewer references
Publish

IEEE journal or IEEE conference?

**IEEE Journals**

- IEEE journals are cited 3 times more often in patent applications than other leading publisher’s journals

**IEEE Conferences**

- IEEE Conference proceedings are recognized worldwide as the most vital collection of consolidated published articles in EE, computer science, related fields

**PRO**

- A high percentage of articles submitted to any professional publication are rejected

**CON**

- Per IEEE Policy, if you do not present your article at a conference, it may be suppressed in IEEE Xplore and not indexed in other databases
Who We Are

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News and Announcements

Latest News
- Passing of Intel's Andy Grove Felt across IEEE EDS
- Upcoming Governance Meeting: May 28-29 in Grenoble, France
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- EDS Newsletter Available in a Flipbook Version—Mobile Compatible!
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Upcoming Deadlines
- 2016 IEEE Intl Conf on Electron Devices and Solid-State Circuits - Apr 15th
- 2016 IEEE Bipolar/BICMOS Circuits and Technology Mtg - Apr 17th
- 2016 IEEE Global Humanitarian Technology Conference - Apr 18th
- 2016 IEEE Compound Semiconductor IC Symp - Apr 22nd
- 2016 Lester Eastman Conference - May 1st
- 2016 IEEE International Integrated Reliability Workshop - Jul 11th
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Aims & Scope

The theory, design and application of Control Systems. It shall encompass components, and the integration of these components, as are necessary for the construction of such systems. The word ‘systems’ as used herein shall be interpreted to include physical, biological, organizational and other entities and combinations thereof, which can be represented through a mathematical symbolism. The Field of Interest: shall include scientific, technical, industrial or other activities that contribute to this field, or utilize the techniques or products of this field, subject, as the art develops, to additions, subtractions, or other modifications directed or approved by the IEEE Technical Activities Board.

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For complete information, see the Call for Papers for the conference in question.

Each IEEE sponsored conference has its own requirements for publishing.
## IEEE conferences and events

Your search returned 289 Conferences for comput% from 2016-04-10

<table>
<thead>
<tr>
<th>Conference Name</th>
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<tr>
<td><strong>2019 IEEE Symposium on Security and Privacy (SP)</strong></td>
<td>19 May - 23 May 2019</td>
<td>Hyatt Regency San Francisco 5 Embarcadero Center San Francisco, CA, USA</td>
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| Full Paper Submission deadline: 16 Nov 2018  
Final submission deadline: 31 Mar 2019  
Notification of acceptance date: 10 Feb 2019 | | |
| **2018 IEEE Frontiers in Education Conference (FIE)** | 03 Oct - 06 Oct 2018 | TBD  
TBD  
San Jose, CA, USA |
| Abstract submission deadline: 05 Feb 2018  
Full Paper Submission deadline: 23 Apr 2018  
Final submission deadline: 09 Jul 2018  
Notification of acceptance date: 21 May 2018 | | |
| **2018 IEEE World Congress on Computational Intelligence (WCCI)** | 08 Jul - 13 Jul 2018 | Windsor Barra Convention Centre  
Rua Martinho de Mesquita  
Barra da Tijuca  
Rio de Janeiro, Brazil |
| Full Paper Submission deadline: 01 Feb 2018  
Final submission deadline: 01 May 2018  
Notification of acceptance date: 01 Apr 2018 | | |
| **2018 IEEE International Symposium on Information Theory (ISIT)** | 17 Jun - 22 Jun 2018 | Vall Cascade  
1300 Westhaven Drive  
Vail, CO, USA |
| Abstract submission deadline: 07 Jan 2018  
Full Paper Submission deadline: 07 Jan 2018  
Final submission deadline: 22 Apr 2018  
Notification of acceptance date: 01 Apr 2018 | | |
| **2018 IEEE Symposium on Security and Privacy (SP)** | 20 May - 24 May 2018 | Hyatt Regency San Francisco 5 Embarcadero Center San Francisco, CA, USA |
| Full Paper Submission deadline: 16 Nov 2017  
Final submission deadline: 31 Mar 2018  
Notification of acceptance date: 11 Feb 2018 | | |
# Technical Conferences Calendars

Sort By: Date | Location | Title | Abstract Submission Date

<table>
<thead>
<tr>
<th>Conference</th>
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<tr>
<td>Taiwan</td>
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<tr>
<td>Number of Attendees: 300</td>
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<tr>
<td>(VLSI-TSA)</td>
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<td>Taiwan</td>
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<td>Number of Attendees: 400</td>
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<td>Hsinchu, Taiwan</td>
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<td>Number of Attendees: 300</td>
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<td>2016 16th International Workshop on Junction Technology (IWJT)</td>
<td>May 9, 2016 - May 10, 2016</td>
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<td>Shanghai, China</td>
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<td>Number of Attendees: 100</td>
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Structure
Paper Structure

Elements of a manuscript

- Title
- Abstract
- Keywords
- Introduction
- Methodology
- Results/Discussions/Findings
- Conclusion
- References
An effective title should...

- Answer the reader’s question: “Is this article relevant to me?”
- Grab the reader’s attention
- Describe the content of a paper using the fewest possible words
  - Is crisp, concise
  - Uses keywords
  - Avoids jargon
Paper Structure

Good vs. Bad Title

A Human Expert-based Approach to Electrical Peak Demand Management

VS

A better approach of managing environmental and energy sustainability via a study of different methods of electric load forecasting
Paper Structure

Abstract

A “stand alone” condensed version of the article
- No more than 250 words;
- Written in the past tense
- Uses keywords and index terms

Why they’re useful & important & move the field forward

Why you did

What you did

How the results were useful, important & move the field forward
The abstract must be a **concise yet comprehensive reflection of what is in your article**. In particular, the abstract must be as follows.

1) Self-contained, without abbreviations, footnotes, or references; it should be a **microcosm of the full article**

2) Between **150-250 words**. Be sure that you adhere to these limits; otherwise, you will need to edit your abstract accordingly.

3) Written as **one paragraph**, and should **not contain** displayed mathematical equations or tabular material.

4) Should include **three or four different keywords or phrases**, as this will help readers to find it. It is important to avoid over-repetition of such phrases as this can result in a page being rejected by search engines.

5) Ensure that your abstract **reads well and is grammatically correct**.
The objective of this paper was to propose a human expert-based approach to electrical peak demand management. The proposed approach helped to allocate demand curtailments (MW) among distribution substations (DS) or feeders in an electric utility service area based on requirements of the central load dispatch center. Demand curtailment allocation was quantified taking into account demand response (DR) potential and load curtailment priority of each DS, which can be determined using DS loading level, capacity of each DS, customer types (residential/commercial) and load categories (deployable, interruptible or critical). Analytic Hierarchy Process (AHP) was used to model a complex decision-making process according to both expert inputs and objective parameters. Simulation case studies were conducted to demonstrate how the proposed approach can be implemented to perform DR using real-world data from an electric utility. Simulation results demonstrated that the proposed approach is capable of achieving realistic demand curtailment allocations among different DSs to meet the peak load reduction requirements at the utility level.

This paper presents and assesses a framework for an engineering capstone design program. We explain how student preparation, project selection, and instructor mentorship are the three key elements that must be addressed before the capstone experience is ready for the students. Next, we describe a way to administer and execute the capstone design experience including design workshops and lead engineers. We describe the importance in assessing the capstone design experience and report recent assessment results of our framework. We comment specifically on what students thought were the most important aspects of their experience in engineering capstone design and provide quantitative insight into what parts of the framework are most important.
An **Improved** Control Technique of Switching-Frequency-Modulated **Power Factor Correctors** for Low THD and High Power Factor

This paper deals with **switching-frequency modulation (SFM)** for conducted **electromagnetic interference (EMI)** suppression in active **power factor correctors (PFCs)** operating in discontinuous conduction mode (DCM). The effect of SFM on different performance characteristics of DCM PFC is studied in details. It is shown that the use of SFM in PFC with conventional control approach leads to significant increase in total harmonic distortion (THD) and harmonic content of input current. Moreover, **SFM leads to noticeable increase in peak power components currents.** In order to use SFM for EMI reduction more effectively without significantly worsening THD, power factor, and harmonic content of DCM PFC, an improved control technique and a control circuit are proposed and verified by simulations and experimentally. The technique is based on the use of specific time delay injection to power MOSFET control signal. As show simulations and experiments, SFM PFC with the proposed delay technique in comparison to PFC without SFM has noticeably **lower conducted EMI and THD of input current,** at the cost of slightly decreased efficiency and **moderately increased peak currents.**

This paper appears in: **IEEE Transactions on Power Electronics**, Issue Date: **July 2016**, Written by: **IEEE**
Parallel Scalability and Efficiency of HEVC Parallelization Approaches

Unlike H.264/advanced video coding, where parallelism was an afterthought, High Efficiency Video Coding currently contains several proposals aimed at making it more parallel-friendly. A performance comparison of the different proposals, however, has not yet been performed. In this paper, we will fill this gap by presenting efficient implementations of the most promising parallelization proposals, namely tiles and wavefront parallel processing (WPP). In addition, we present a novel approach called overlapped wavefront (OWF), which achieves higher performance and efficiency than tiles and WPP. Experiments conducted on a 12-core system running at 3.33 GHz show that our implementations achieve average speedups, for 4k sequences, of 8.7, 9.3, and 10.7 for WPP, tiles, and OWF, respectively.


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**INSPEC: Controlled Indexing**

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12-core system, H.264-advanced video coding, HEVC parallelization approaches, OWF, WPP, frequency 3.33 GHz, high efficiency video coding, overlapped wavefront, parallel efficiency, parallel friendliness, parallel scalability, parallelization proposals, tiles, wavefront parallel processing
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- A description of the problem you researched
- It should move step by step through, should be written in present tense:

  - Generally known information about the topic
  - Prior studies’ historical context to your research
  - Your hypothesis and an overview of the results
  - How the article is organized

- The introduction should not be
  - Too broad or vague
  - More then 2 pages
Problem formulation and the processes used to solve the problem, prove or disprove the hypothesis.

Use illustrations to clarify ideas, support conclusions:

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- Present representative data or when exact values are important to show.

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\[ \text{HS}_{\text{recover}} = \left( 1 - \frac{E \left\{ x_{\text{HS}}^2 (n) \right\} - E \{ y^2 (n) \} }{E \left\{ x_{\text{HS}}^2 (n) \right\} } \right) \times 100\% \] (1)

\[ \text{NOISE}_{\text{reduction}} = \left( \frac{E \left\{ x_{\text{hs\_noi}}^2 (n) \right\} - E \{ y^2 (n) \} }{E \left\{ x_{\text{hs\_noi}}^2 (n) \right\} } \right) \times 100\% \] (2)
Demonstrate that you solved the problem or made significant advances.

Results: Summarized Data
- Should be clear and concise
- Use figures or tables with narrative to illustrate findings

Discussion: Interprets the Results
- Why your research offers a new solution
- Acknowledge any limitations
Paper Structure

Conclusion

- Explain what the research has achieved
  - As it relates to the problem stated in the Introduction
  - Revisit the key points in each section
  - Include a summary of the main findings, important conclusions and implications for the field
- Provide benefits and shortcomings of:
  - The solution presented
  - Your research and methodology
- Suggest future areas for research
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Paper Structure

References

We then have

\[ \left( p_{f,1}^* + p_{f,2}^* \right) \left( p_{f,1} + p_{f,2} \right) - \left( p_{f,1}^* + p_{f,2}^* \right) \left( p_{f,1} + p_{f,2}^* \right) + \left( p_{f,1} + p_{f,2}^* \right) \left( p_{f,1} + p_{f,2} \right) - \left( p_{f,1} + p_{f,2}^* \right) \left( p_{f,1} + p_{f,2}^* \right) \leq 0, \]

(32)

Since \( p_{f,1} > 0, p_{f,2} > 0, p_{f,1}^* > 0, p_{f,2}^* > 0, \) we have \( \left( p_{f,1} + p_{f,2}^* \right) > \left( p_{f,1} + p_{f,2} \right) \) and \( \left( p_{f,1} + p_{f,2} \right) > \left( p_{f,1} + p_{f,2}^* \right) \). Hence the operational cost is an increasing function of \( \left( p_{f,1} + p_{f,2}^* \right) \), i.e., we have

\[ \frac{\partial E_{op}}{\partial \left( p_{f,1} + p_{f,2}^* \right)} > 0. \]

(33)

Therefore the optimal pair \( \left( p_{f,1}^*, p_{f,2}^* \right) \) must satisfy that

\[ p_{f,1}^* > 0, p_{f,2}^* > 0. \]

\[ \text{REFERENCES} \]


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Ethics

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THANK YOU!

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