

# Techniques for effective searching with IEEE Xplore

Eszter Lukács

Client Services Manager Europe

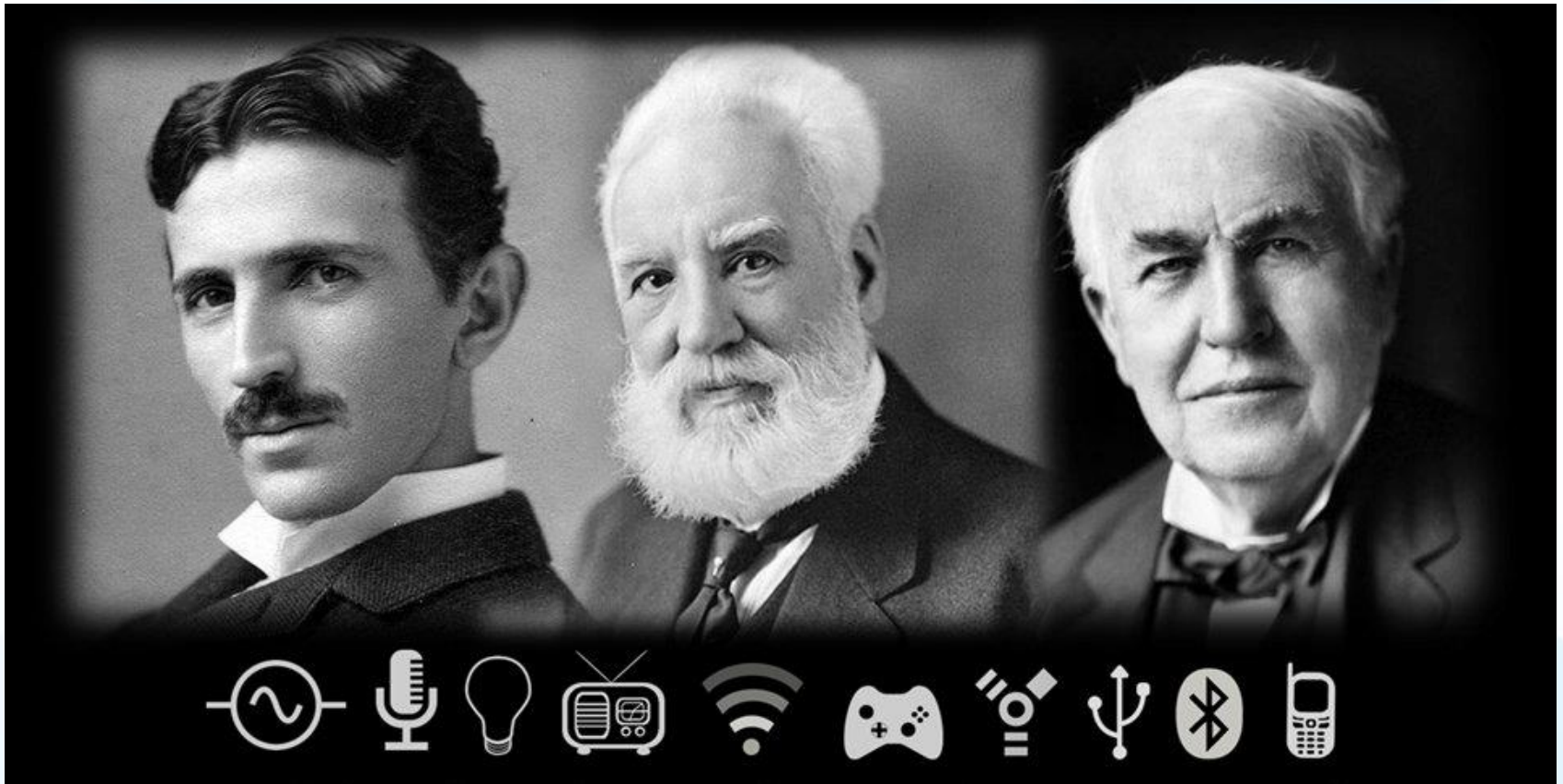
**IEEE Xplore**<sup>®</sup>  
*Digital Library*



NATIONAL RESEARCH  
Tomsk  
State  
University



# 1884: Where we came from



# About the IEEE

- World's largest technical membership association with more than 430,000 members



Mumbai



- 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!



IEEE Day Contest Winner, Colombia



# IEEE R8 Russia Siberia Section

[Home](#)[Officer Roster](#)[Other Units](#)[Links](#)

IEEE R8 RSS

## Welcome

Institute of Electrical and Electronics Engineers (IEEE) Russia Siberia Section has been established on 13 February 2003. Section has the strong potential for membership growth through its big cities at Ural (in the order of population decreasing: Yekaterinburg, Chelyabinsk, Tyumen, etc.), Siberia (Novosibirsk, Omsk, Krasnoyarsk, Irkutsk, Barnaul, Novokuznetsk, Kemerovo, Tomsk, Ulan-Ude, Chita, etc.) and the Far-East (Vladivostok, Khabarovsk, etc.) Federal Districts of Russia.

IEEE R8 Russia Siberia Section in social media:



[vk.com/ieeesiberia](http://vk.com/ieeesiberia)



[linkedin.com/groups/8451907](http://linkedin.com/groups/8451907)

## Announcements

- **2017 Siberian Symposium on Data Science and Engineering (SSDSE)**

**12-13 Apr 2017 Technopark of Novosibirsk Akademgorodok, Russia**

Please see the following for more info: <http://ssdse.ieeesiberia.org>

### Topics

- Data Science • Data Engineering • Stream Data Analytics & the Internet of Things • Internet Traffic Classification • Machine Learning
- Artificial Intelligence • General Artificial Intelligence • Kernel functions
- Q-learning • NLP with Deep Neural Networks • Object Tracking •
- Face Recognition • Demand Forecasting • Mobile Deep Neural Networks •
- Semantic Programming • Feature Engineering

Институт инженеров по электротехнике и радиоэлектронике (IEEE)

[История создания IEEE](#)

[Как вступить в IEEE](#)

[Сферы деятельности обществ IEEE](#)

[Степени и звания в IEEE](#)

[Общество связи IEEE по-русски](#)

[Томская группа IEEE](#)

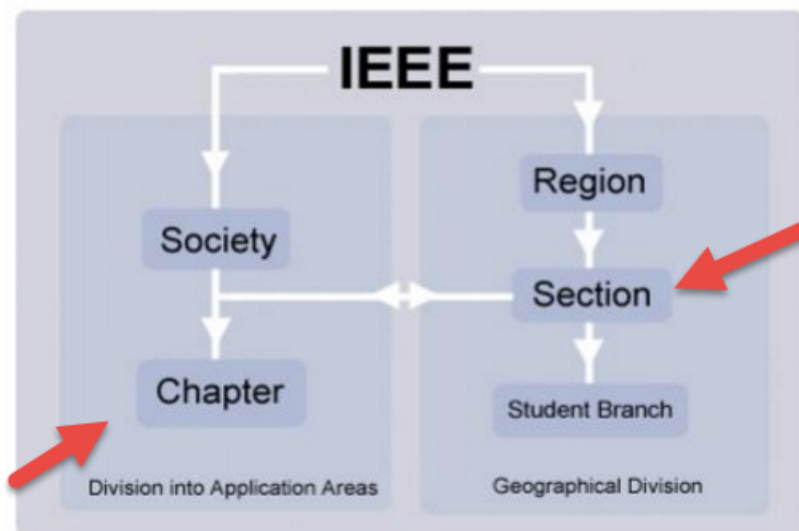
[Томское студенческое отделение IEEE](#)

[Группа молодых инженеров Сибирской секции IEEE](#)

[Сибирская секция IEEE](#)

### Институт инженеров по электротехнике и радиоэлектронике (IEEE)

Основанный в 1884 году в США, Институт IEEE объединяет специалистов в области радиоэлектроники и смежных областей, являясь общественной профессиональной организацией. IEEE имеет всемирный статус, а членство в IEEE территориально не ограничивается. В настоящее время в IEEE состоит более 410 000 человек из 150 стран – это самое большое всемирное техническое профессиональное общество учёных и исследователей.



- 🚩 Секции (не менее чем 4 групп)
- 🚩 Регионы (более чем 4 секции)

Главная цель IEEE – информационная и материальная поддержка специалистов для организации и развития научной деятельности в электротехнике, электронике, компьютерной технике и информатике, применение их результатов для пользы общества, а также профессиональный рост членов IEEE. Получение бесценной информации о новейших исследованиях и разработках в радиоэлектронике и электротехнике возможно только благодаря IEEE.

IEEE организационно содержит две структуры – географическую и техническую. Географически IEEE подразделяется на:

- 🚩 Научные группы (не менее чем 12 членов)

# Career Development Resources and Opportunities for student members

## IEEE Job Sites and Career Alerts

- ❑ Locate career opportunities easily and confidentially
- ❑ Weekly email newsletter containing career advice

## IEEE Xplore

- ❑ Learn to use IEEE Xplore for company, career, and job related searches

## Awards, Fellowships & Scholarships

- ❑ Recognizes the accomplishments of IEEE members
- ❑ Enhance your resume with an IEEE award

## Conferences

- ❑ Networking and Presenting Opportunities
- ❑ Student Paper Contests

Education Partners Program (EPP-IEEE)



**IEEE Job Site**  
**FEATURED JOBS**

**Senior Research**  
Athlone, Ireland  
Ericsson Ireland

**Electrical Engineer**  
Palmetto, FL  
ITW GSE Group - Triletron

**Electromagnetic Research Scientist**  
Champaign, IL  
SAIC

**Automation/Controls Engineer (Robotics)**  
Carlsbad, CA 92008  
Callaway Golf Company

**Aerospace Engineer**  
Hampton, VA  
SAIC

**Cost Engineer/Cost Manager**  
Washington, DC  
20560-0908  
Smithsonian Institution

**Staff Equipment Engineer**  
Santa Clara, CA  
95128  
Affymetrix, Inc.

---

# Why you should rely on IEEE information

---

# 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

**14 of the top 15** journals in Telecommunications

**3 of the top 5** journals in Computer Science, Hardware & Architecture

**3 of the top 5** journals in Computer Science, Cybernetics

**3 of the top 5** journals in Automation & Control Systems

**3 of the top 5** journals in Artificial Intelligence

**2 of the top 5** journals in Imaging Science & Photographic Technology

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 2015 study released June 2016

More info: [www.ieee.org/citations](http://www.ieee.org/citations)



# IEEE/IET Electronic Library (IEL)

Your single source of more than 30% of the world's current literature in electrical engineering, electronics, and computer science.



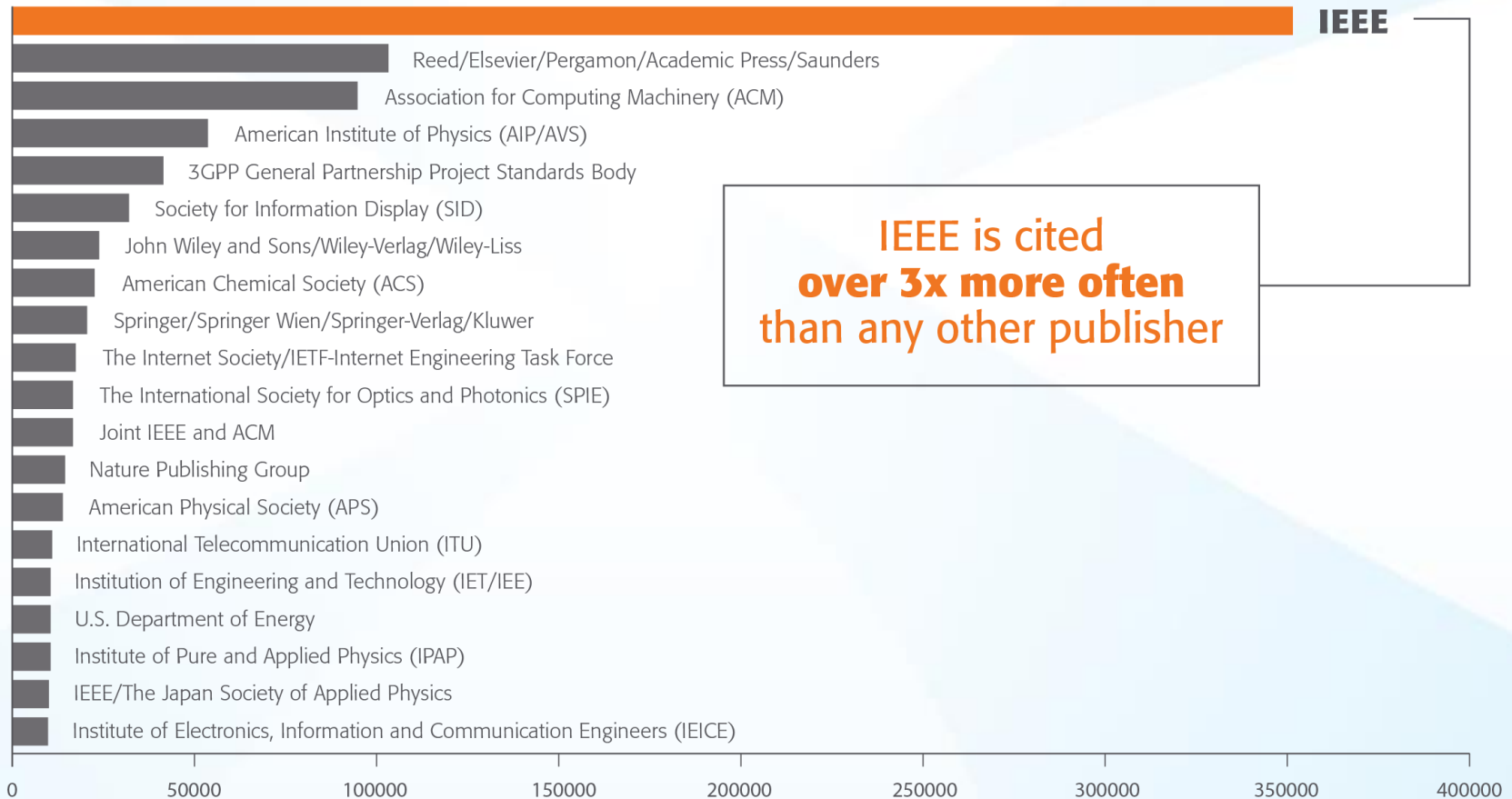
# Full text access to IEEE/IET Electronic Library (IEL)

- 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 and Patents

# IEEE Leads US Patent Citations

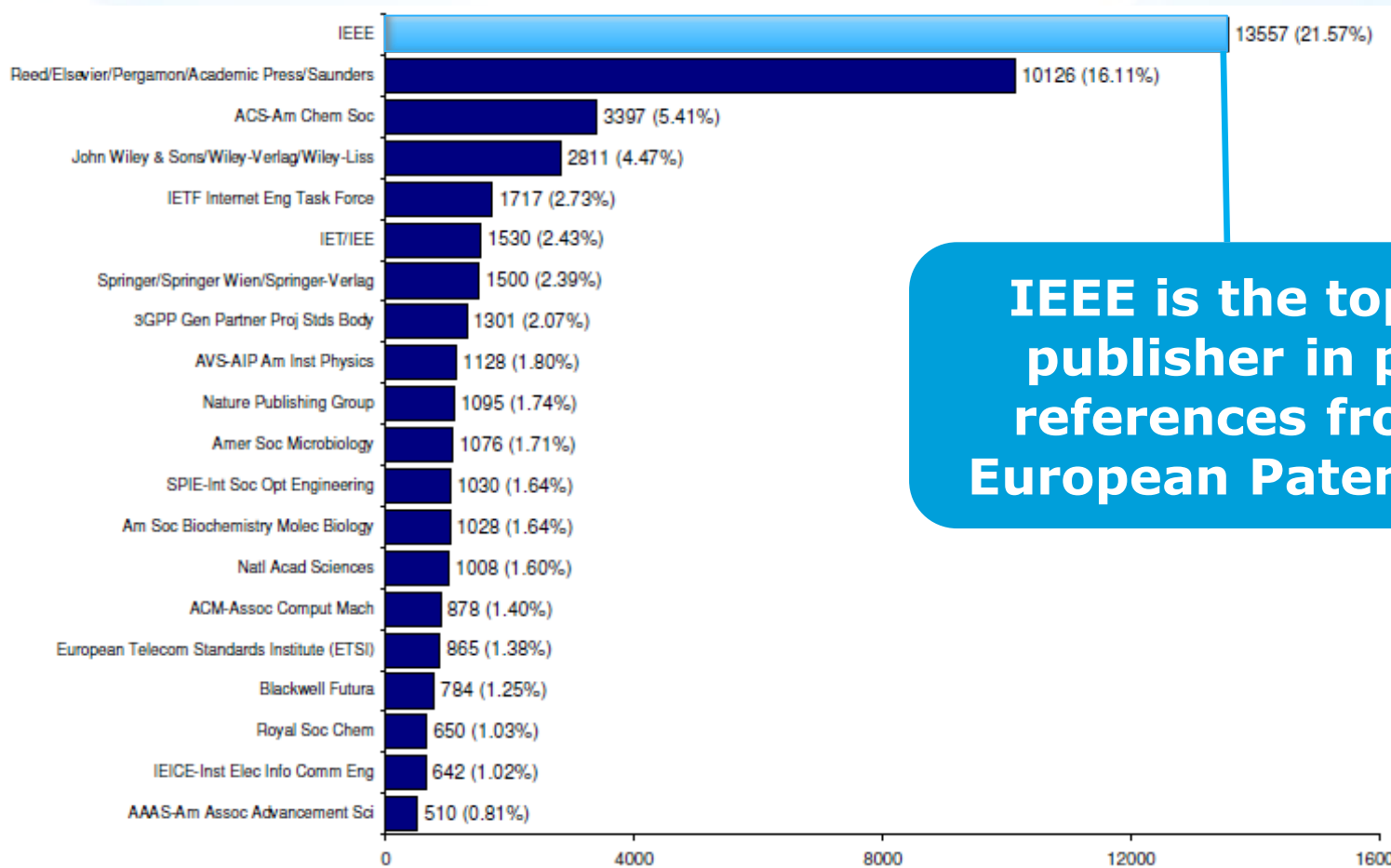
## Top 20 Publishers Referenced Most Frequently by Top 40 Patenting Organizations



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

# IEEE Leads European Patent Citations

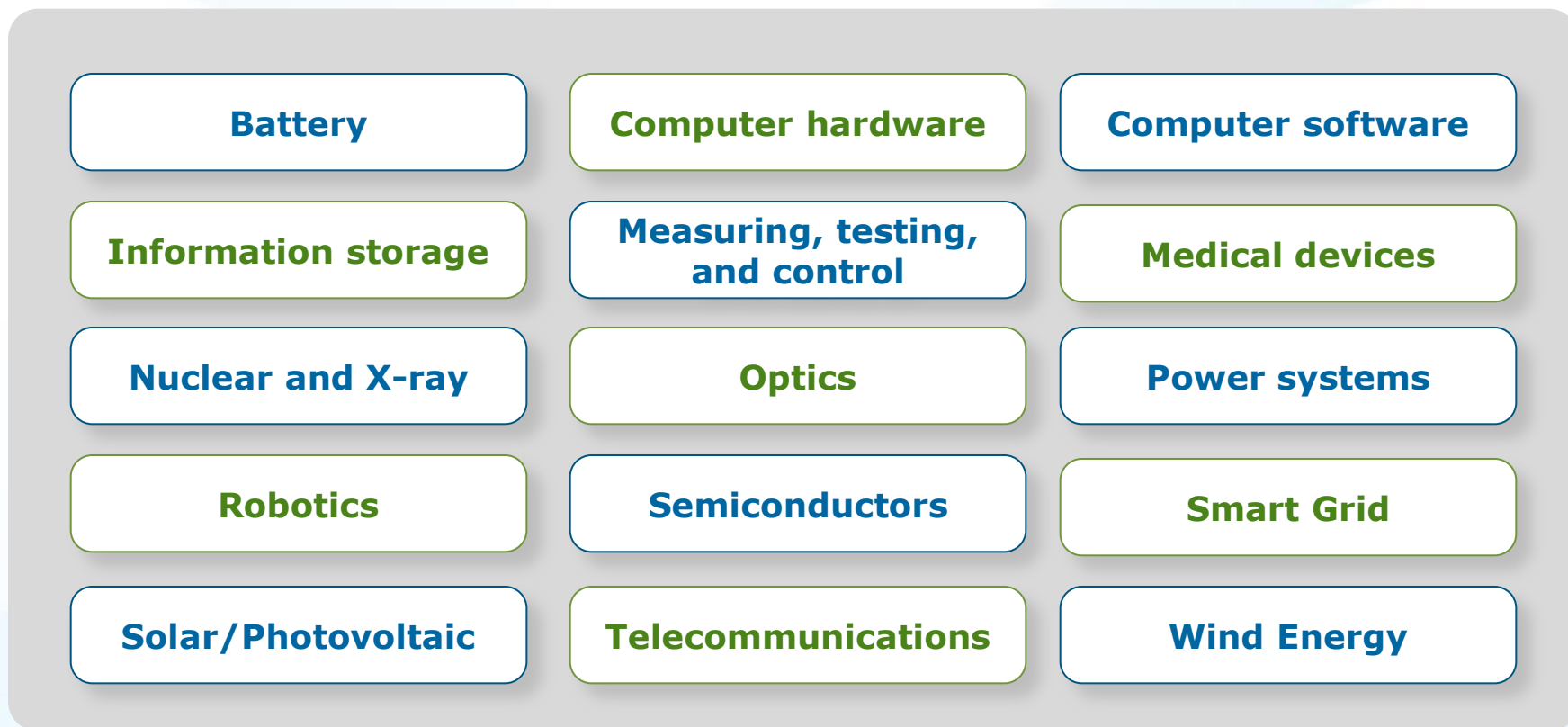
## Top 20 Publishers Referenced Most Frequently by Top 25 Patenting Organizations



**IEEE is the top cited publisher in patent references from the European Patent Office**

Source: 1790 Analytics LLC 2012, , Science References from 1997-2011

# Technology areas where patents cite IEEE most



Source: 1790 Analytics LLC 2015

---

# Content on IEEE Xplore Digital Library

---

# 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

MACHINE LEARNING **BIG DATA**

**OPTICS** RENEWABLE ENERGY

SEMICONDUCTORS **SMART GRID**

**IMAGING** NANOTECHNOLOGY

SIGNAL PROCESSING **AEROSPACE**

**COMMUNICATIONS** HUMAN-CENTERED INFORMATICS

BIOMEDICAL ENGINEERING **ELECTRONICS**

**NEXT GEN WIRELESS** CIRCUITS

**CLOUD COMPUTING**

**CYBER SECURITY** ELECTROMAGNETICS  **IEEE**

---

# Multidisciplinary Content on IEEE Xplore Digital Library

---

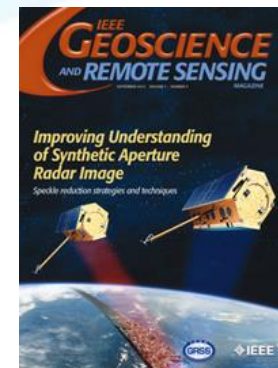
# Life Sciences

- 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.**



# Geoscience and related fields

- 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)**



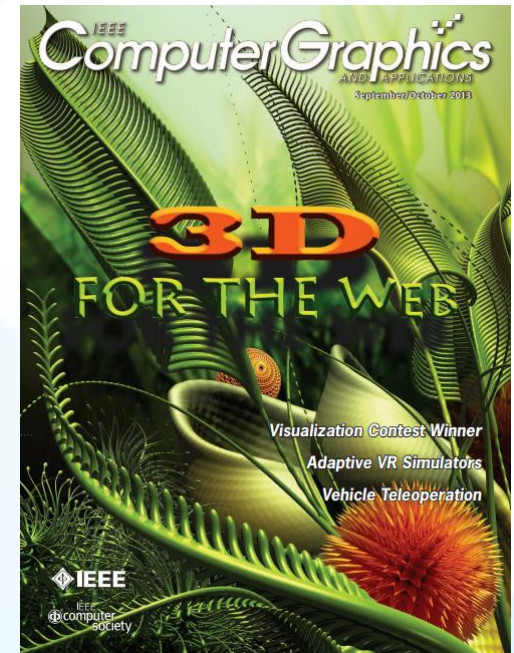
# Manufacturing Engineering

- 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



# Digital Art & Technology

- 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
  - IEEE Trans. On Visualization & Computer Graphics
  - International Conference on Computer-Aided Design & 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.**
- Topics include **game production, computational intelligence, artificial intelligence, simulations,** and more
- 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
  - International Workshop on Digital Game and Intelligent Toy Enhanced Learning
  - International Symposium on Haptic, Audio, Visual Environments and Games

Computational Intelligence in Games 2014  
August 26 – 29, Park Inn Hotel, Dortmund, Germany

www.cig2014.de April 1, 2014 IEEE Explore

Mark Riefl, Georgia Institute of Technology  
Jochen Pökelz, Blue Byte Games  
Rilla Khaleel, University of Malta  
Thorsten Quandt, Westfälische Wilhelms-Universität Münster

Computational & artificial intelligence in:  
• Video games  
• Board and card games  
• Economic or mathematical games  
• Serious games  
• Augmented and mixed-reality games  
• Games for mobile platforms

Calls for Special Sessions (March 1) and Tutorials (April 1) OPEN!

Learning in games  
• Procedural content generation  
• Player/opponent modeling in games  
• Player affective modeling  
• Player satisfaction and experience in games  
• Computational and artificial intelligence based game design  
• Intelligent interactive narrative  
• Theoretical or experimental analysis of AI techniques for games  
• Non-player characters in games  
• Comparative studies and game-based benchmarking  
• Applications of game theory

ERCIS

General Chairs: Günter Rudolph, TU Dortmund, Germany  
Mike Preuss, WWU Münster, Germany  
Program Chairs: Majum Eladhari, University of Malta  
Moshe Sipper, Ben-Gurion University of the Negev, Israel  
Tutorials/Special Sessions Chair: Philip Hingston, Edith Cowan University, Perth, Australia  
Competition Chair: Simon Lucas, University of Essex, UK  
Keynote Chair: Gillian Smith, Northeastern University, Boston, USA  
Proceedings Chair: Paolo Burelli, Aalborg University, Copenhagen, Denmark

IEEE IEEE Computational Intelligence Society

# With IEEE *Xplore*, learn how technology impacts fields such as...

**Healthcare:** telemedicine, electronic medical records, patient-specific healthcare, cloud computing in the medical field, patient monitoring systems, informatics, and more

## Emerging Technologies for Patient-Specific Healthcare

### I. INTRODUCTION

**P**ATIENT-SPECIFIC healthcare is a research field that has recently garnered much more attention due to the benefits of better services provided to patients and a reduction of healthcare costs. A series of emerging technologies [1] aim to emphasize the provision of personalized healthcare services to patients [2]–[5]. These include the following.

- 1) Pattern recognition methods for signal pattern classification toward the prediction and diagnosis of diseases.
- 2) Body sensor networks.
- 3) Algorithms for the analysis of patient-specific physiological signals.
- 4) Ontologies and context-based electronic health records (EHRs).
- 5) Methodologies for the integration of clinical journals and

intranuclear spike activity recorded from Parkinson's disease patients.

A new Neural Sensing Healthcare System for 3D Vision Technology, NeuroGlasses, is presented in [7]. NeuroGlasses is a noninvasive, wearable physiological signal monitoring system to facilitate health analysis and diagnosis of 3-D video watchers. The NeuroGlasses system acquires health-related signals by physiological sensors and provides feedback of health-related features. The system employs signal-specific reconstruction and features extraction to compensate the distortion of signals caused by the variation of sensor placement. Through an on-campus pilot study, the experimental results show that NeuroGlasses system can effectively provide physiological information.

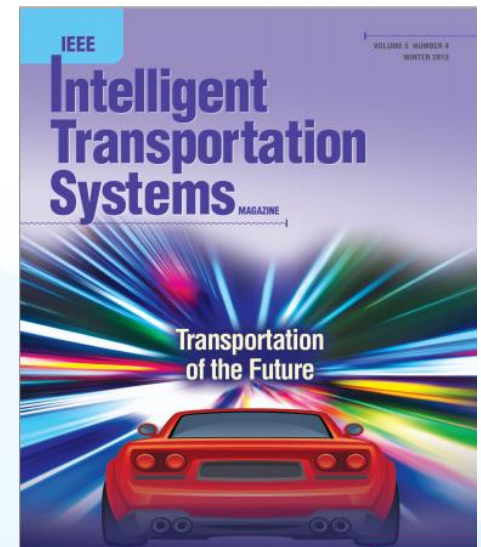
In [8], the authors explore how the rhythmogram can be used



# With IEEE *Xplore*, learn how technology impacts fields such as...

**Transportation:** intelligent transportation systems, logistics, supply chain management, and more

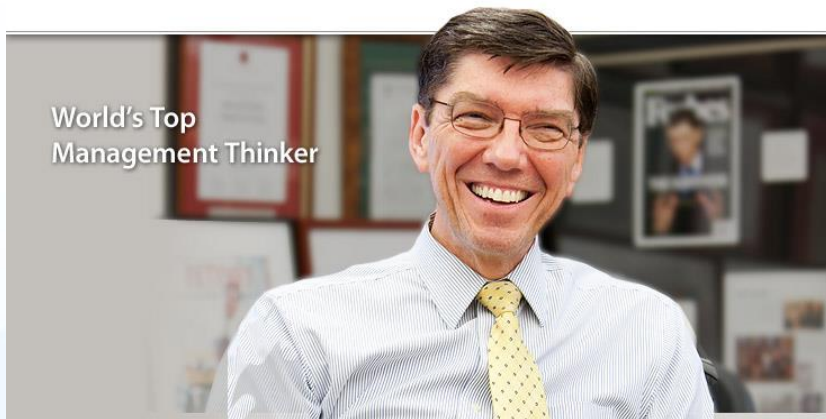
- Related IEEE Journals & Conferences:
  - IEEE Trans. on Intelligent Transportation Systems
  - IEEE Intelligent Transportation Systems Magazine
  - IEEE Trans. on Automation Science and Engineering
  - IEEE International Conference on Automation and Logistics



# With IEEE Xplore, learn how technology impacts fields such as...

**Business & Finance:** information systems, project management, risk management, business informatics, R&D project selection and evaluation, IT investment justification, innovation, and more

Read articles by leaders in the field:



**Prof. Clayton Christensen**  
*Harvard Business School*

“Innovator’s Dilemma”

<http://www.claytonchristensen.com/>

## Optimal Detection of Sparse Mixtures against a Given Null Distribution

T. Tony Cai and Yihong Wu, *Member, IEEE*.

**Abstract**—Detection of sparse signals arises in a wide range of modern scientific studies. The focus so far has been mainly on Gaussian mixture models. In this paper, we consider the detection problem under a general sparse mixture model and obtain explicit expressions for the detection boundary under mild regularity conditions. Moreover, for Gaussian null hypothesis, we establish the adaptive optimality of the higher criticism procedure for all sparse mixtures satisfying the same conditions. In particular, the general results obtained in this paper recover and extend in a unified manner the previously known results on sparse detection far beyond the conventional Gaussian model and other exponential families.

**Index Terms**—Hypothesis testing, high-dimensional statistics, sparse mixture, higher criticism, adaptive tests, total variation, Hellinger distance.

### I. INTRODUCTION

Detection of sparse mixtures is an important problem that

according to Ray( $\alpha_i$ ), representing the random voltages observed on the  $n$  channels. In the absence of noise,  $\alpha_i$ 's are all equal to one, the nominal value; while in the presence of signal, exactly one of the  $\alpha_i$ 's becomes a known value  $\alpha > 1$ . Denoting the uniform distribution on  $[n]$  by  $U_n$ , the goal is to test the following competing hypotheses:

$$H_0^{(\alpha)} : \alpha_i = 1, i \in [n]. \quad (1)$$

$$\text{v.s. } H_1^{(\alpha)} : \alpha_i = 1 + (\alpha - 1)\mathbf{1}_{\{i=J\}}, J \sim U_n.$$

Since the signal only appears once out of the  $n$  samples, in order for the signal to be distinguishable from noise, it is necessary for the amplitude  $\alpha$  to grow with the sample size  $n$  (in fact, at least logarithmically). By proving that the log-likelihood ratio converges to a stable distribution in the large- $n$  limit, Dobrushin [1] obtained sharp asymptotics of the smallest  $\alpha$  in order to achieve the desired false alarm and miss detection

**Prof. Tony Cai**  
*The Wharton School of the University of Pennsylvania*

# With IEEE *Xplore*, learn how technology impacts fields such as...

**Liberal Arts:** digital humanities, use of image processing in art conservation, music classification, and more

2012 6th IEEE International Conference on Digital Ecosystems and Technologies (DEST)

## TRACK E: DIGITAL HUMANITIES

### Track co-Chairs

- **Tobias Blanke**, *Kings College, UK*
- **Stuart Dunn**, *King's College London, UK*

The digital humanities form a bridge between the traditional practices of scholarship and the opportunities afforded by advances in technology, enabling researchers to reconsider old problems in new ways, and providing the methods, tools and frameworks to support them in developing new modes of enquiry. On the one hand, the humanities are faced with ever greater volumes of complex data and digital resources, for example from the increasing mass digitisation of historical records.

On the other hand, research in the humanities is moving away from the model of individual scholars to one in which international and inter-disciplinary teams of researchers collaborate actively within a diverse ecosystem of digital resources, tools, and services, not forgetting of course the users themselves – the rapid evolution of Web technologies continues to privilege the human as a key agent, both as provider and consumer of content, and this in turn is investing humanities scholarship

increasing awareness of new audiences

# With IEEE *Xplore*, learn how technology impacts fields such as...

**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

### Ray Tracing for the Movie 'Cars'

Per H. Christensen\*    Julian Fong    David M. Laur    Dana Batali

Pixar Animation Studios



#### Abstract

At Disney, we are s  
to present these ch  
entertainment robot  
Disney in attraction

In this talk, I hope  
Disney. In particul  
distilled from Disne

As examples of cha  
I discuss two newer  
the Disney theme  
developed in conj  
and has made app

#### 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 caches, 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

texture 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.

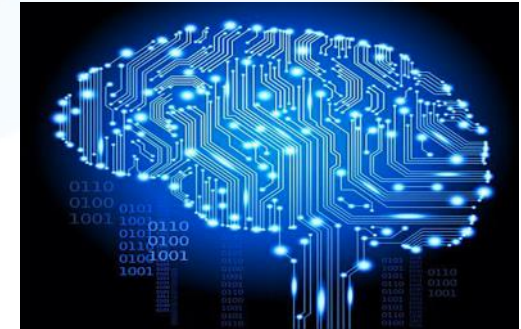
This paper first gives a more detailed motivation for the use of ray tracing in 'Cars', and lists the harsh rendering requirements in the movie industry. It then gives an overview of how the REYES algorithm deals with complex scenes and goes on to explain our work on efficient ray tracing of equally 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 Planned for 2017

In 2017, IEEE will introduce six new journals that will be available for subscription:

- *IEEE **Communications Standards Magazine***
- *IEEE Journal of **Electromagnetics, RF and Microwaves in Medicine and Biology***
- *IEEE Transactions on **Emerging Topics in Computational Intelligence***
- *IEEE Transactions on **Green Communications and Networking***
- *IEEE Transactions on **Radiation and Plasma Medical Sciences***
- *IEEE Journal of **Radio Frequency Identification***



– All Included in an IEL Subscription

For a complete title listing, to go: <http://ieeexplore.ieee.org/xpl/opacjrn.jsp>

# 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***



All included in an IEL subscription

For a complete title listing, to go: <http://ieeexplore.ieee.org/xpl/opacjrn.jsp>

# A sampling of some of the new conferences added in 2016

- **Cloud Computing and Big Data Analysis** (ICCCBDA), 2016 IEEE International Conference on
- **Computer Communication and the Internet** (ICCCI), 2016 First IEEE International Conference on
- **Connected Health: Applications, Systems and Engineering Technologies** (CHASE), 2016 IEEE First International Conference on
- **Control, Measurement and Instrumentation** (CMI), 2016 IEEE First International Conference on
- **Electrical Systems for Aircraft, Railway, Ship Propulsion and Road Vehicles & International Transportation Electrification** Conference (ESARS-ITEC), 2016 International Conference on
- **Intelligent Systems Engineering** (ICISE), 2016 International Conference on
- **Intelligent Transportation Engineering** (ICITE), 2016 IEEE International Conference on
- **Mechatronics, Adaptive and Intelligent Systems (MAIS)**, 2016 IEEE Conference on
- **Power Electronics, Intelligent Control and Energy Systems** (ICPEICES), 2016 IEEE 1st International Conference on
- **The Science of Electrical Engineering** (ICSEE), 2016 IEEE International Conference on

# Popular IEEE Standards

**IEEE 802 Series**—IEEE Standard for Ethernet

**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.

**IEEE 81-2012™**—IEEE Guide for Measuring Earth Resistivity, Ground Impedance, and Earth Surface Potentials of a Grounding System

**2017 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

**IEEE 80™**—IEEE Guide for Safety in AC Substation Grounding

**IEEE 81™**—IEEE Guide for Measuring Earth Resistivity, Ground Impedance, and Earth Surface Potentials of a Grounding System



---

# Setting up Rooming Mobile Access

---

Off-campus/Remote Access for laptop, tablet,  
phone

# Roaming Mobile Access

- Allows for access to IEEE *Xplore* content when users are off-campus
- Can be set-up for multiple devices – laptop, tablet, phone
- Available for 90 days
- To initiate:
  - Login to IEEE *Xplore* from within your institution's IP range
  - Sign In with a personal IEEE Account
  - Select My Settings > Remote Access

Libraries can have this feature enabled by contacting Online Support ([onlinesupport@ieee.org](mailto:onlinesupport@ieee.org)) **IT IS ENABLED for Cons. MEMBERS in RUSSIA**

# Roaming Mobile Access - How Roaming Access setup appears on IEEE Xplore:

IEEE.org | IEEE Xplore Digital Library | IEEE Standards | IEEE Spectrum | More Sites Cart (0) | Create Account | Personal Sign In

**IEEE Xplore<sup>®</sup>**  
Digital Library

Access provided by:  
**Tom Institution**  
» Sign Out

**IEEE**

**BROWSE** ▾ **MY SETTINGS** ▾ **GET HELP** ▾ **WHAT CAN I ACCESS?**

Content Alerts  
My Projects  
**Remote Access**  
Search Alerts  
Preferences  
Purchase History  
Search History  
What can I access?

Search 3,588,599 items

Enter Search Term

Basic Search | Author Search | Advanced Search | Other Search Options ▾

**Explore New Technologies:  
Graphene content in IEEE  
Xplore**

Graphene is a relatively new material with unique properties that holds promise for electronic applications.

» **"Graphene Transistors: Status, Prospects, and Problems"**  
» Browse other graphene-related articles

IEEE

qa.ieee.org/servlet/roaming.jsp

# Roaming Mobile Access - User prompted to create/sign in with personal IEEE account:

IEEE.org | IEEE Xplore Digital Library | IEEE Standards | IEEE Spectrum | More Sites Cart (0) | Create Account | Personal Sign In

**IEEE Xplore<sup>®</sup>**  
Digital Library

Access provided by:  
Tom Institution  
» Sign Out

**IEEE**

**BROWSE** ▾ | **MY SETTINGS** ▾ | **GET HELP** ▾ | **WHAT CAN I ACCESS?**

Enter Search Term **Search**

**Basic Search** | **Author Search** | **Publication Search** | **Advanced Search** | **Other Search Options** ▾

## Remote Access

**Institutional Authentication**  
Personal Sign In is required to establish roaming access. [Personal Sign In](#)

**ESTABLISH REMOTE ACCESS**

# Roaming Mobile Access – Select Establish Remote Access to pair mobile device:

IEEE Xplore®  
Digital Library

Access provided by:  
Tom Institution  
» Sign Out



BROWSE ▾

MY SETTINGS ▾

GET HELP ▾

WHAT CAN I ACCESS?

Enter Search Term

Search

Basic Search

Author Search

Publication Search

Advanced Search

Other Search Options

## Remote Access

IEEE has registered your device and mapped to your ID, you now have roaming access for the next 90 days. "you can now use your device off campus"

### Institutional Authentication

You must be authenticated within your institution's IP range to establish remote access. This feature allows you to access full-text on a mobile device for up to 90 days. Note: To connect remotely, you must use the same device and browser used to establish access.

ESTABLISH REMOTE ACCESS



# Roaming Mobile Access – Every 90 days refresh remote access:

IEEE.org | IEEE Xplore Digital Library | IEEE Standards | IEEE Spectrum | More Sites

Welcome Tbruno@atypon.com | Cart (0)

IEEE Xplore®  
Digital Library

Access provided by:  
Tom Institution  
Sign Out

IEEE

BROWSE ▾ MY SETTINGS ▾ GET HELP ▾ WHAT CAN I ACCESS?

Enter Search Term

Basic Search Author Search Publication Search Advanced Search Other Search Options ▾

## Remote Access

### Your Remote Status is Active - Expires on May 04, 2015

You must be authenticated within your Institution's IP range to refresh remote access. This feature allows you to access full-text on a mobile device for up to 90 days. Note: To connect remotely, you must use the same device and browser used to refresh access.

REFRESH REMOTE ACCESS

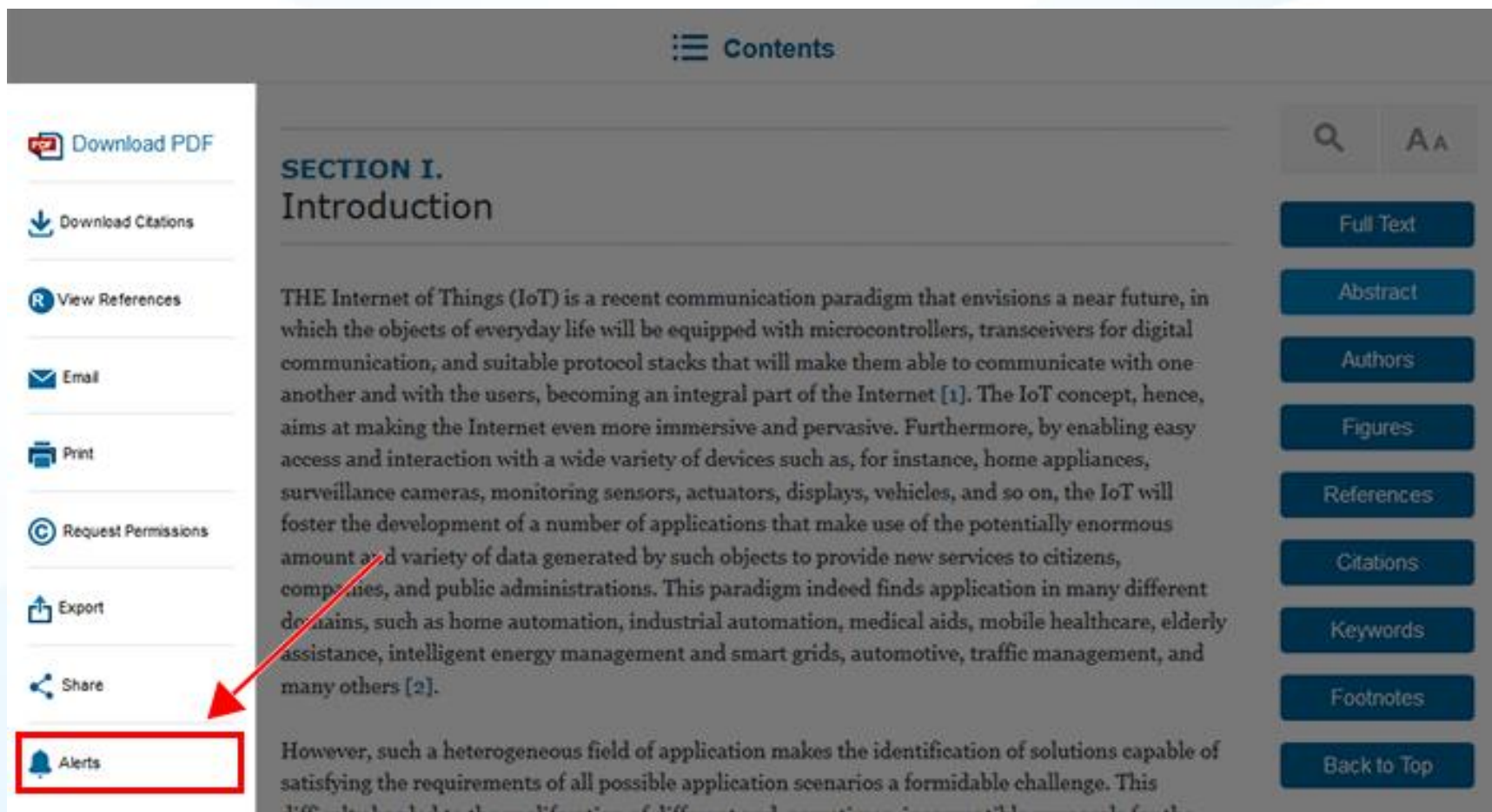
---

# **NEW Features on IEEE Xplore**

---

# Citation alert

to receive an alert when the document is cited



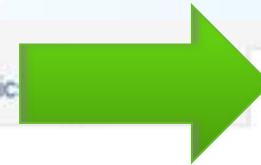
The image shows a screenshot of a document page. On the left, there is a sidebar menu with several options: Download PDF, Download Citations, View References, Email, Print, Request Permissions, Export, Share, and Alerts. The Alerts option is highlighted with a red box and a red arrow. At the top right of the page, there is a 'Contents' menu icon. Below it, there is a search bar and a font size selector. On the right side of the page, there is a vertical navigation panel with buttons for Full Text, Abstract, Authors, Figures, References, Citations, Keywords, Footnotes, and Back to Top. The main content area is titled 'SECTION I. Introduction' and contains text about the Internet of Things (IoT). The text describes IoT as a recent communication paradigm that envisions a near future where everyday objects are equipped with microcontrollers and transceivers for digital communication. It mentions that IoT aims to make the Internet more immersive and pervasive by enabling easy access and interaction with a wide variety of devices such as home appliances, surveillance cameras, monitoring sensors, actuators, displays, vehicles, and so on. It also states that IoT will foster the development of a number of applications that make use of the potentially enormous amount and variety of data generated by such objects to provide new services to citizens, companies, and public administrations. The text concludes that this paradigm indeed finds application in many different domains, such as home automation, industrial automation, medical aids, mobile healthcare, elderly assistance, intelligent energy management and smart grids, automotive, traffic management, and many others [2].

However, such a heterogeneous field of application makes the identification of solutions capable of satisfying the requirements of all possible application scenarios a formidable challenge. This difficulty has led to the proliferation of different and, sometimes, incompatible proposals for the



# Algorithms in IEEE Xplore

Abstract Authors Figures References Citations Keywords Metrics **Algorithms**



This article contains an algorithm made available via IEEE's partnership with Code Ocean, a cloud service that allows users to view, run, modify, and download algorithms in IEEE Xplore articles. Click the algorithm name below to access it on the Code Ocean website.

Name: [Multi-Scale Patch-Based Image Restoration - Super Resolution](#)

Programming Language: 

You must register for a free account to start using Code Ocean

The screenshot displays the Code Ocean web interface. At the top, there are navigation tabs: Dashboard, Explore, and Learn. The main header shows the article title "Multi-Scale Patch-Based Image ..." and tabs for Details, Code, and Interface. The "Code" tab is active, showing a MATLAB script named "demo\_sr.m".

```
1 clear;
2 clc;
3 pkg load image
4 % make sure you are in the MultiScaleEPLL dire
5 addpath(genpath(pwd));
6
7 % params
8 patchSize = 8;
9 psf = fspecial('gaussian',7,1.6);
10 scale = 3;
11 noiseSD = 5/255;
12 betas = [1 2 4 8 16 32 64 128];
13 lambda = patchSize^2/noiseSD^2;
14
15 % models
16 load './input/GSModel_8x8_200_2M_noDC_zeromec
17 models = {GS,GS};
18
```

On the left, a file explorer shows "Source Files" with folders like "utilities\_image\_degra..." and "demo\_sr.m". Below it, "Input Files" lists "SR\_test\_images" (1.98 MB), "GMM\_high.mat" (5.69 MB), and "GSModel\_8x8\_20.." (9.77 MB). On the right, the "Results" panel shows a search bar, a "Run" button, and a table of output files:

File Name	Size
image.png	42.64 KB
Output	1.14 KB
SRimage.png	113.39 KB

# Redesign of Full-Text HTML Articles

- More prominent
  - article metrics
  - related articles
  - featured media
- Author's ORCID identifier & bio
- Metrics gallery
- Multimedia gallery

The screenshot displays the IEEE Xplore Digital Library interface for an article. The page is titled "Article Title: Lorem Ipsum Dolor Sit Amet Sed Faucibus Augue Metus et Tempor Purus...". The redesign features several new elements highlighted with orange arrows:

- Search Bar:** A prominent search bar at the top with a "Search" button and options for "Basic Search", "Author Search", "Publication Search", "Advanced Search", and "Other Search Options".
- Metrics Gallery:** A row of three blue boxes showing "5 Cited in Papers", "4 Cited in Patents", and "9 Full Text Views".
- Related Articles:** A section titled "Related Articles" with three article thumbnails and a "View All" button.
- Author Metrics:** A row of author names with their respective metrics: "7 Authors", "5 Cited in Papers", and "5 Cited in Patents".
- Media Gallery:** A section titled "Media Title / Information" with a large image of a play button on a globe and a "View All" button.

The page also includes a navigation bar with "BROWSE", "MY SETTINGS", "GET HELP", "WHAT CAN I ACCESS?", and "SUBSCRIBE". The article content is organized into sections: "Abstract", "Authors", "Figures", "References", "Citations", "Keywords", "Metrics", "Media", and "Datasets". The "Abstract" section contains placeholder text: "This space is reserved for impact message. In viverra tellus eu tellus congue molestie. Suspendisse porttitor dapibus consequat. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nullam dictum, tortor vel fringilla scelerisque, odio erat iaculis eros, quis ornare urna dui vel nisi. Suspendisse sollicitudin eros sed pharetra vestibulum. Fusce maximus ullamcorper orci, accumsan pulvinar dui tempor non. Quisque faucibus lectus eget enim sagittis, in auctor arcu viverra. Quisque molestie lacus eget sapien egestas, vitae efficitur turpis ullamcorper. Cras sit amet euismod mi. Scope In viverra tellus eu tellus congue molestie. Suspendisse porttitor dapibus consequat. Nulla facilisi. In feugiat, neque nec egestas porttitor, nibh lorem elementum metus, sed dictum magna ante eu turpis. Aliquam rhoncus dolor vel eros porttitor, eu consectetur ante porta. Mauris ac malesuada lectus, sit amet volutpat ipsum. Cras dui ex, sagittis nec maximus ac, placerat ac lectus. Nulla mollis dolor eu enim convallis, id laoreet metus ullamcorper. Purpose In viverra tellus eu tellus congue molestie. Suspendisse porttitor dapibus consequat. Nulla facilisi. In feugiat, neque nec egestas porttitor, nibh

# Secondary Author Affiliation

- Secondary author affiliations are now available on the new blended full text HTML/abstract page. Users will also be able to search for secondary authors based on their affiliation (like you would for a primary author).

Browse Journals & Magazines > IEEE Robotics and Automation ... > Volume: 2 Issue: 1 ?

## A Reactive Walking Pattern Generator Based on Nonlinear Model Predictive Control

[Purchase or Sign In to View Full Text](#)

6 Author(s) ▼ M. Naveau ; ▼ M. Kudruss ; ▼ O. Stasse ; ▼ C. Kirches ; ▼ K. Mombaur ; ▼ P. Souères

Abstract Authors Figures

**M. Naveau**  
CNRS, LAAS, University of Toulouse,  
Toulouse, France

**M. Kudruss**  
Interdisciplinary Center for Scientific  
Computing, Heidelberg University,  
Heidelberg, Germany

Interdisciplinary Center for Scientific Computing,  
Heidelberg University, Heidelberg, Germany

◀ • • ▶ [View All](#)



---

# Why Publish with the IEEE?

---

- B. M. Kovalchuk (34)
- N. A. Torkhov (34)
- E. M. Oks (33)
- Victor F. Tarasenko (32)
- A. I. Klimov (30)
- V. G. Spitsyn (30)
- I. V. Pegel (29)
- S. A. Popov (28)
- R. B. Baksht (27)
- Vladislav V. Rostov (26)
- Efim M. Oks (24)
- V. I. Oreshkin (22)
- N. N. Koval (22)
- G. I. Ayzenshtat (18)
- V. A. Kokshenev (17)
- A. V. Shishlov (16)

Author Affiliations":tomsk) x and refined by

Per Page 25 | v

Sort By Relevance | v

Full on Page | Download Citations v | Export to IEEE Collabratec v | Set Search Alerts v

**are-software complex for undertaking the thermo physical  
gation of material and products**



vetlakov; V. L. Savchuk

dition of the Conversion Research Results for International Cooperation,  
SIBCONVERS '99. The Third International Symposium

999, Volume: 1

125 - 127, DOI: 10.1109/SIBCON.1999.771775

**onference Publications**

ract  (223 Kb) 

**onal designing automation of controllable mechanical systems**



mitriev; T. N. Zaichenko

dition of the Conversion Research Results for International Cooperation,  
SIBCONVERS '99. The Third International Symposium

999, Volume: 1

208 - 210, DOI: 10.1109/SIBCON.1999.771793

**onference Publications**

ract  (285 Kb) 

**tic field with different frequencies of spatial components for flaw  
ion**



- O. P. Tolbanov (14)
- V. I. Suslyayev (14)
- O. V. Stoukatch (14)
- I. M. Dobush (13)
- A. V. Tyazhev (12)
- V. A. Svetlichnyi (12)
- V. P. Yakubov (11)
- G. G. Goshin (10)
- V. G. Bozhkov (10)
- A. G. Loschilov (10)
- N. A. Torkhov (10)
- Natalia Kushik (10)
- Vladimir G. Guba (10)
- Yu. M. Andreev (10)

Author Affiliations":tomsk) AND "Author Affiliations":state) x and refined by



Page 25 | v

Sort By Relevance | v

Page Download Citations v | Export to IEEE Collabratec v | Set Search Alerts v | S

**Software complex for undertaking the thermo physical  
analysis of material and products**



...ov; V. L. Savchuk  
... of the Conversion Research Results for International Cooperation,  
...NVERS '99. The Third International Symposium  
... Volume: 1  
... 127, DOI: 10.1109/SIBCON.1999.771775

**Reference Publications**

(223 Kb)

**Designing automation of controllable mechanical systems**



...v; T. N. Zaichenko  
... of the Conversion Research Results for International Cooperation,  
...NVERS '99. The Third International Symposium  
... Volume: 1  
... 210, DOI: 10.1109/SIBCON.1999.771793

**Reference Publications**

(285 Kb)

**Calculations in prediction of natural frequencies and modal densities**



# What else increases an IEEE author's visibility?

IEEE's relationships with indexing and abstracting providers



THOMSON REUTERS



ELSEVIER





Publish

# IEEE journal or IEEE conference?

- A **journal article** is a fully developed presentation of your work and its final findings
  - 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



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

## IEEE Conferences

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



Search IEEE Electron Devices Society



SEARCH

Share:

- [Home](#)
- [About](#)
- [Awards](#)
- [Chapters](#)
- [Conferences](#)
- [Education](#)
- [Governance](#)
- [Lectures](#)
- [Membership](#)
- [Mission Fund](#)
- [Publications](#)

## Who We Are



- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8



EDS is proud to have over 145 chapters on six continents. Chapters are the local focus point of a truly global organization.

## News and Announcements

### Latest News

- [Passing of Intel's Andy Grove Felt across IEEE EDS](#)
- [Upcoming Governance Meeting: May 28-29 in Grenoble, France](#)
- [Volunteer to host an EDS-ETC event at your local school!](#)
- [EDS Newsletter Available in a Flipbook Version— Mobile Compatible!](#)
- [Support EDS's Educational Efforts: Donate to the EDS Mission Fund Today!](#)

### 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](#)

# Duplicate Publication

- IEEE's policy on duplicate publication states
  - *"authors should only submit original work that has neither appeared elsewhere for publication, nor which is under review for another refereed publication. If authors have used their own previously published work(s) as a basis for a new submission, they are required to cite the previous work(s) and very briefly indicate how the new submission offers substantively novel contributions beyond those of the previously published work(s)."*

Choose

# Find periodicals in IEEE Xplore®

Browse by **Title** or **Topic** to find the periodical that's right for your research

## Browse Journals & Magazines

By Title | By Topic | Virtual Journals

**BROWSE TITLES**

A B C D E F G H I J K L M N O

OTHER

**SEARCH BY KEYWORDS**

Enter keywords or a unique phrase to find titles.

automatic control

SEARCH

# Automatic Control, IEEE Transactions on



Popular

Early Access

Current Issue

Past Issues

About Journal

Submit Your Manuscript

## About this Journal

- [Aims & Scope](#)

## Editorial Board

- [IEEE Transactions on Automatic Control publication information](#)

## Content Announcements

- [Innovative phased array antennas based on non-regular lattices and overlapped subarrays \[call for papers\]](#)
- [Special Issue on Manipulation, Manufacturing and Measurement on the Nanoscale](#)

2.718

Impact  
Factor

0.04492

Eigenfactor

1.538

Article  
Influence  
Score

## 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.

**Persistent Link:** <http://ieeexplore.ieee.org/servlet/opac?punumber=9> [More »](#)

# Submit

# Journal paper submission is easy through *IEEE Xplore*®

Click "Submit a Manuscript"

Browse Journals & Magazines > Power Electronics, IEEE Transa ...

Power Electronics, IEEE Transactions on



Submit Your Manuscript

IEEE Transactions on Power Electronics covers fundamental technologies used in the control and conversion of electric power.  
[Aims & Scope >](#)

4.08

Impact Factor

0.0264

Eigenfactor

0.961

Article Influence Score

Log In | Create Account | [Get Help Now](#)

IEEE Transactions on Power Electronics

SCHOLARONE™ Manuscripts

Login

Log In

Welcome to the *IEEE Transactions on Power Electronics*. Please enter your User ID and Password into the boxes below. If you do not have an account, or have forgotten your password, click on the "Password Help" section below. If you have any questions, please contact your librarian.

Log In here if you are already a registered user.

User ID:

Password:  [Log In](#)

**IEEE POWER ELECTRONICS SOCIETY**  
Powering a Sustainable Future

**Password Help.** Enter your e-mail address to receive an e-mail with your account information.

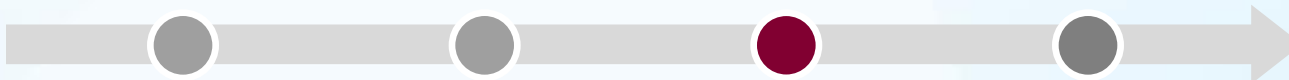
E-Mail Address:  [Go](#)

**New User?**  
[Register here](#)

**Resources**

- [Instructions & Forms](#)
- [User Tutorials](#)
- [System Requirements](#)
- [Home Page](#)

Follow the prompts to set up an account



Submit

# Use conference site (not IEEE Xplore) to submit to a conference

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

Each IEEE sponsored conference has its own requirements for publishing.

Home > Conferences & Events > Conference Details

## 2012 IEEE Vehicle Power and Propulsion Conference (VPPC)

**Sponsored by:**

- Power Electronics Society - PEL
- Vehicular Technology Society - VT

Topic 1: HEV, BEV, FCEV and Plug-In EV System Design. Topic 2: Automotive Actuator and Electric Machinery Topic 3: Power Converter for Automotive Applications Topic 4: Motor Drives for Vehicle Applications Topic 5: Energy and Power Management Topic 6: Power Electronics and Power Converters Topic 7: Smart Grid and Electrical Infrastructure Topic 8: Power Electronics and Power Converters (included V2V) Topic 9: Telematics (included V2I) Topic 10: Power Electronics and Power Converters

**Call for Papers for Conference Authors**  
Find details for paper and abstract submission.  
[Search for call for papers on conference site](#)

**Conference Details**

<b>Dates</b>	09 Oct - 12 Oct 2012
<b>Location</b>	Seoul Olympic Parktel Seoul, Korea (South)
<b>Web site</b>	<a href="http://www.vppc2012.org">www.vppc2012.org</a>
<b>Contact</b>	Min Jung Kim Room 901, Science & Technology Building, 635-4, Yucksam-Dong, Kangnam-Ku Korea (South) Seoul 135-703 +82 70 8222 3371 +82 10 9156 3571 +82 2 3412 8723 (fax) secretariat@vppc2012.org
<b>Conference #</b>	20159
<b>Attendance</b>	450

Please see the [conference Web site](#) for full details.

**Call for Papers for Conference Authors**  
Find details for paper and abstract submission.  
[Search for call for papers on conference site](#)

**Conference Focus**

- Application
- Science

**Features**

- Exhibits
- Tutorials

[Back to search results](#)



# IEEE conferences and events

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

Conference Name ▲ ▼	Conference Date ▲ ▼	Location ▲ ▼
<a href="#">2019 IEEE Symposium on Security and Privacy (SP)</a> Full Paper Submission deadline: 16 Nov 2018 Final submission deadline: 31 Mar 2019 Notification of acceptance date: 10 Feb 2019	19 May - 23 May 2019	Hyatt Regency San Francisco 5 Embarcadero Center San Francisco, CA, USA
<a href="#">2018 IEEE Frontiers in Education Conference (FIE)</a> 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	03 Oct - 06 Oct 2018	TBD TBD San Jose, CA, USA
<a href="#">2018 IEEE World Congress on Computational Intelligence (WCCI)</a> Full Paper Submission deadline: 01 Feb 2018 Final submission deadline: 01 May 2018 Notification of acceptance date: 01 Apr 2018	08 Jul - 13 Jul 2018	Windsor Barra Convention Centre Rua Martinho de Mesquita Barra da Tijuca Rio de Janeiro, Brazil
<a href="#">2018 IEEE International Symposium on Information Theory (ISIT)</a> 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	17 Jun - 22 Jun 2018	Vail Cascade 1300 Westhaven Drive Vail, CO, USA
<a href="#">2018 IEEE Symposium on Security and Privacy (SP)</a> Full Paper Submission deadline: 16 Nov 2017 Final submission deadline: 31 Mar 2018 Notification of acceptance date: 11 Feb 2018	20 May - 24 May 2018	Hyatt Regency San Francisco 5 Embarcadero Center San Francisco, CA, USA

# Structure

# Paper Structure

## Elements of a manuscript

Title

Abstract

Keywords

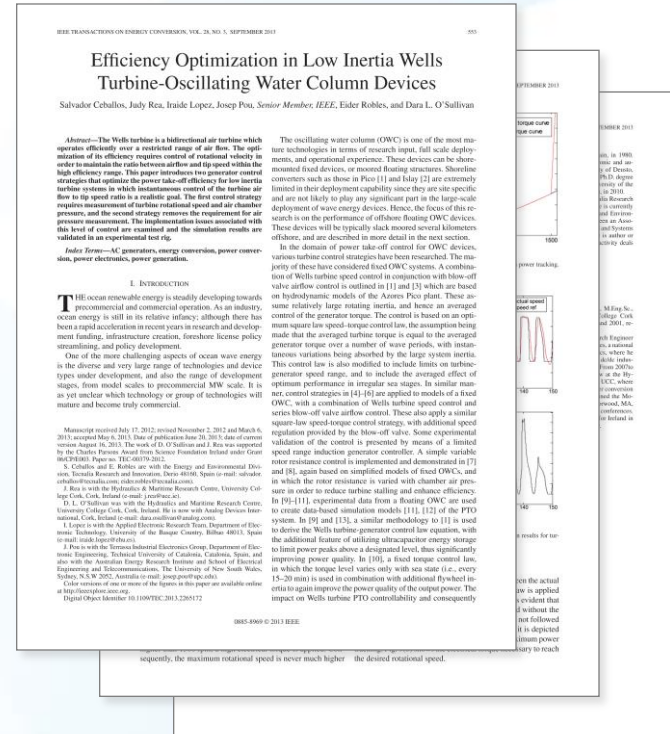
Introduction

Methodology

Results/Discussions/Findings

Conclusion

References



# Paper Structure

## Title

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

Good  
Title

VS.

Bad  
Title

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

# Good vs. Better Title

An Investigation into the Effects of Residential Air-Conditioning Maintenance in Reducing the Demand for Electrical Energy

**VS**

*"Role of Air-Conditioning Maintenance on Electric Power Demand"*

# 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

**What you did**

**Why you did**

**Why they're useful & important & move the field forward**

**How the results were useful, important & move the field forward**

# Abstract: #

[http://eds.ieee.org/images/files/Publications/ted\\_info\\_for\\_authors.pdf](http://eds.ieee.org/images/files/Publications/ted_info_for_authors.pdf)

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**.



# Good vs. Bad Abstract

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.

## Vs

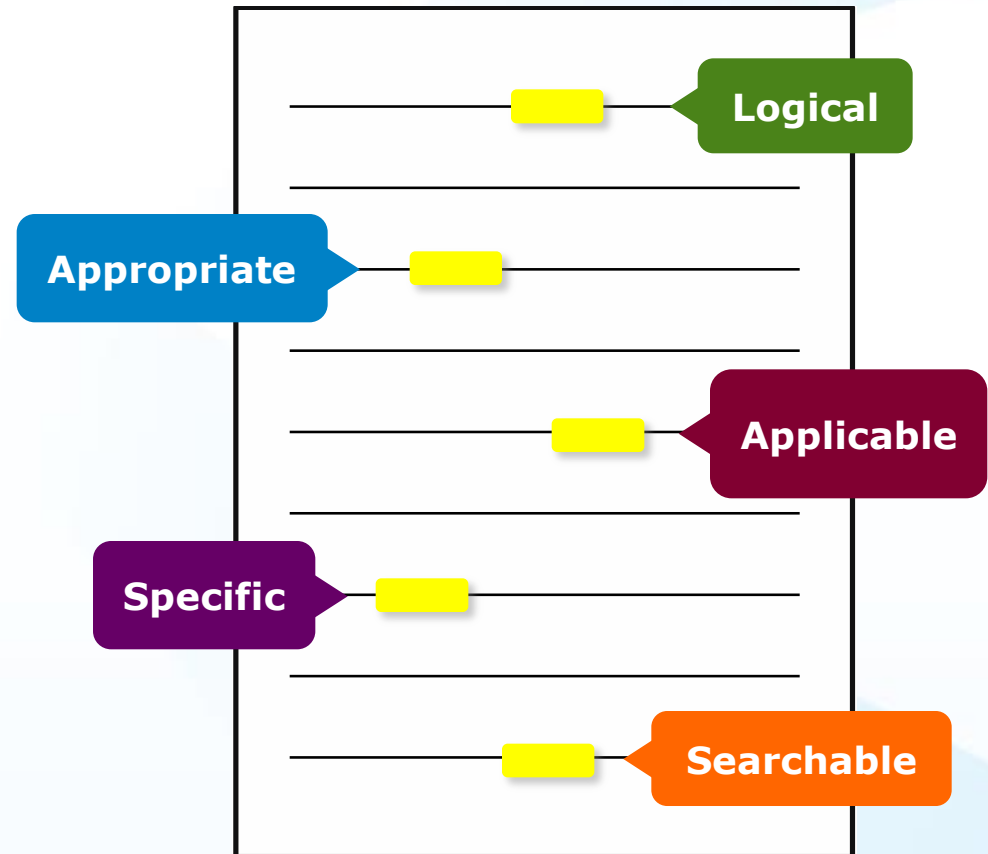
This paper presents and assesses a framework for an engineering capstone design program. **We explain** how student preparation, project selection, and instructor mentorship are the three key elements that must be addressed before the capstone experience is ready for the students. **Next, we describe** 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.

*First person, present tense*

*No actual results, only describes the organization of the paper*

# Paper Structure Keywords

Use in the Title and  
Abstract for enhanced  
Search Engine Optimization



## IEEE Keywords

Bit rate, Decoding, Encoding, Parallel processing, Video coding

## Authors Keywords

High Efficiency Video Coding (HEVC), parallel programming, video coding

---

### **INSPEC: Controlled Indexing**

parallel processing, video coding

---

### **INSPEC: Non-Controlled Indexing**

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

# Keywords link to potential reviewers

Keywords should be taken from the [taxonomy](#) provided in ScholarOne Manuscripts. Using the keywords from the keyword list is essential to the review process because ScholarOne Manuscripts links them to names of potential reviewers who are associated with that area of expertise, thereby expediting the review process. We encourage all users to include keywords as part of their account information. If you currently do not have keywords included as part of your account information, you may add them by clicking the "edit your information" button on the main menu. Scroll down the page until you reach the "keywords" box. You may then select the keywords that apply to you from the list provided.

<https://www.computer.org/web/peer-review/journals#Length of Review Process>

# Paper Structure

## Introduction

- 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 than 2 pages

# Paper Structure

## Methodology

- Problem formulation and the processes used to solve the problem, prove or disprove the hypothesis
- Use illustrations to clarify ideas, support conclusions:

### Tables

Present representative data or when exact values are important to show



### Figures

Quickly show ideas/conclusions that would require detailed explanations



### Graphs

Show relationships between data points or trends in data



# View Figures

Abstract

Aut



Figures

References

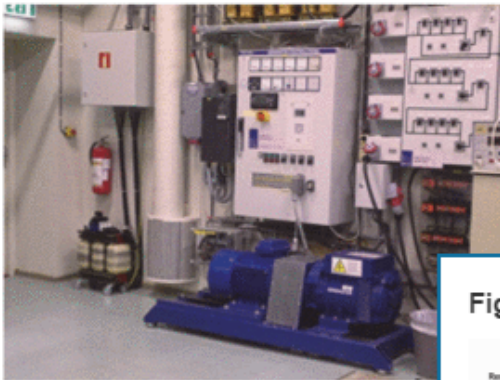
Citations

Keywords

Metrics

Media

Fig.1.



Distributed generation system emulator set with control system in the laboratory

Fig. 2.

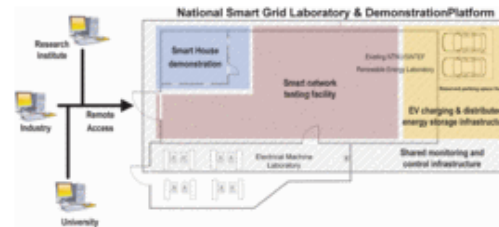
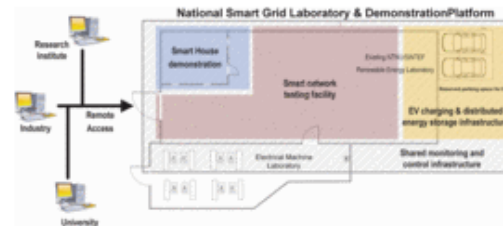


Fig. 2.



» View in Context

» View Full Size Image

Fig. 3.



Facilities of the demo norge distributed across



View All

# Equations: Copy Source Code

## The Test Case Prioritization Problem.

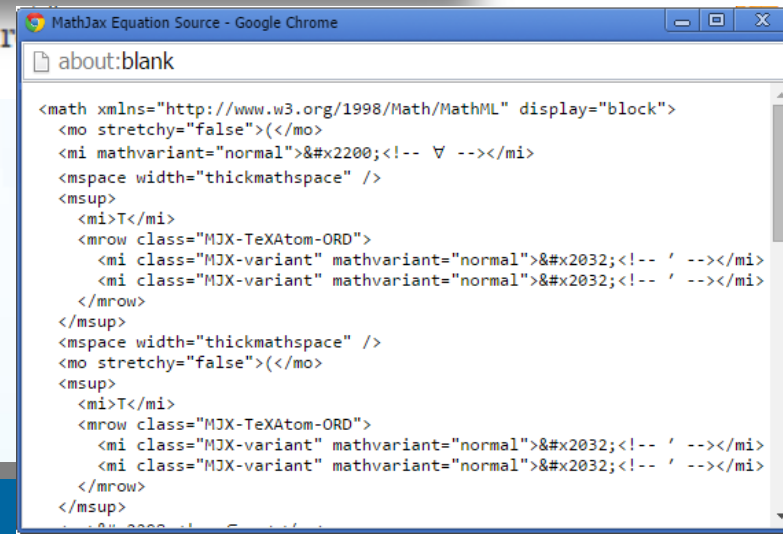
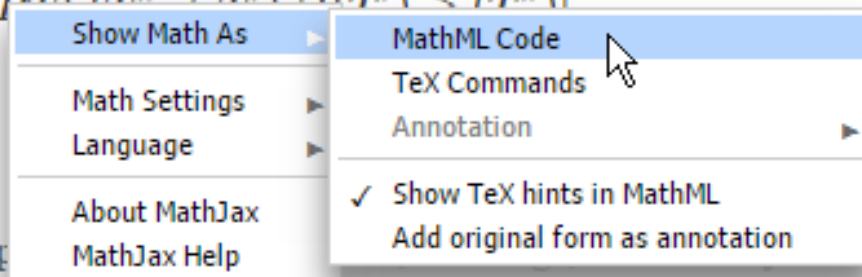
Given:  $T$ , a test suite;  $PT$ , the set of permutations of  $T$ ;  $f$ , a function from  $PT$  to the real numbers.

Problem: Find  $T' \in PT$  such that

$$(\forall T'' (T'' \in PT) (f(T'') > f(T') \rightarrow (T'' > T')))$$

▶ View Source ?

Here,  $PT$  represents the set of all permutations of  $T$ . The function  $f$ , when applied to any such ordering, yields an award score.





# Equations: Zoom Function

## The Test Case Prioritization Problem.

Given:  $T$ , a test suite;  $PT$ , the set of permutations of  $T$ ;  $f$ , a function from  $PT$  to the real numbers.

Problem: Find  $T' \in PT$  such that

$$(\forall T'' (T'' \in PT) (T'' \neq T') [f(T') \geq (T'')]).$$

[View Source](#)

Here,  $PT$  represents the set of all possible prioritizations (orderings) of  $T$  and  $f$  is a function that, applied to any such ordering, yields an award value for that ordering.

A screenshot of a context menu for a MathJax equation. The menu is open, showing options for 'Show Math As', 'Math Settings', 'Language', 'About MathJax', and 'MathJax Help'. The 'Math Settings' submenu is expanded, showing 'Zoom Trigger', 'Zoom Factor', 'Math Renderer', and 'Scale All Math ...'. The 'Zoom Trigger' submenu is also expanded, showing 'Hover', 'Click', 'Double-Click', and 'No Zoom'. The 'Click' option is highlighted by the mouse cursor. Below the 'Click' option, there is a section titled 'Trigger Requires:' with sub-options for 'Alt', 'Control', and 'Shift'.

## The Test Case Prioritization Problem.

Given:  $T$ , a test suite;  $PT$ , the set of permutations of  $T$ ;  $f$ , a function from  $PT$  to the real numbers.

Problem: Find  $T' \in PT$  such that

$$(\forall T'' (T'' \in PT) (T'' \neq T') [f(T') \geq (T'')]).$$

[View Source](#)

Here,  $PT$  represents the set of all possible prioritizations (orderings) of  $T$  and  $f$  is a function that, applied to any such ordering, yields an award value for that ordering.

# Paper Structure

# Results/discussion

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

## Discussion

## Results

the SC algorithm over the whole range of  $w$  values increase to 3–4 K, except for the TIGR<sub>1+11</sub> database, with an RMSE of 2 K. This last result is explained by the  $w$  distribution, which is biased toward low values of  $w$  in this database. When only atmospheric profiles with  $w$  values lower than  $3 \text{ g} \cdot \text{cm}^{-2}$  are selected, the SC algorithm provides RMSEs around 1.5 K, with almost equal values of bias and standard deviation, around 1 K in both cases (with a negative bias, thus the SC underestimates the LST). In contrast, when only  $w$  values higher than  $3 \text{ g} \cdot \text{cm}^{-2}$  are considered, the SC algorithm provides RMSEs higher than 5 K. In these cases, it is preferable to calculate the atmospheric functions of the SC algorithm directly from (3) rather than approximating them by a polynomial fit approach as given by (4).

### V. DISCUSSION AND CONCLUSION

The two Landsat-8 TIR bands allow the intercomparison of two LST retrieval methods based on different physical assumptions, such as the SC (only one TIR band required) algorithms (two TIR bands required). Direct inversion of the transfer equation, which can be considered the ground truth, is assumed to be a “ground-truth” condition that the information about the  $r$  and  $L_s$  is accurate enough. The SC algorithm in this letter is a combination of the previous SC algorithm developed for Landsat-4 and Landsat-5 TM sensors, and the ETM+ sensor on board the Landsat-7 platform [9], and it could be used to generate consistent LST products from the historical Landsat data using a single algorithm. An advantage of the SC algorithm is that, apart from surface emissivity, only water vapor content is required as input. However, it is expected that errors on LST become unacceptable for high water vapor contents (e.g.,  $> 3 \text{ g} \cdot \text{cm}^{-2}$ ). This problem can be partly solved by computing the atmospheric functions directly from  $r$ ,  $L_s$ , and  $L_T$  values (see [5]), or also by including air temperature as input [15]. A main advantage of the SW algorithm is that it performs well over global conditions and, thus, a wide range of water vapor values; and that it only requires water vapor as input (apart from surface emissivity at the two TIR bands). However, the SW algorithm can be only applied to the new Landsat-8 TIRS data, since previous TM/ETM sensors only had one TIR band.

The LST algorithms presented in this letter were tested with simulated data sets obtained for a variety of global atmospheric conditions and surface emissivities. The results showed RMSE values of typically less than 1.5 K, although for the SC algorithm, this accuracy is only achieved for  $w$  values below  $3 \text{ g} \cdot \text{cm}^{-2}$ . Algorithm testing also showed that the SW errors are lower than the SC errors for increasing water vapor, and vice versa, as demonstrated in the simulation study presented in Sobrino and Jimenez-Munoz [18]. Although an extensive validation exercise from *in situ* measurements is required to assess the performance of the two LST algorithms, the results obtained for the simulated data, the sensitivity analysis, as well as the previous findings for algorithms with the same mathematical structure give confidence in the algorithm accuracies estimated here.

### REFERENCES

- [1] J. R. Jonas, J. L. Dwyer, and J. A. Roth, “The next Landsat satellite,” *IEEE Geosci. Remote Sens. Lett.*, vol. 12, no. 12, pp. 2497–2500, Dec 2015.
- [2] W. Kanas and M. Anderson, “Advances in thermal infrared remote sensing for land surface modeling,” *Agric. Forest Meteorol.*, vol. 149, no. 12, pp. 2073–2084, Dec 2009.
- [3] M.-L. Li, R.-M. Tang, H. Wu, H. Ren, G. Yan, Z. Wan, J. F. Tripa, and J. A. Sobrino, “Satellite-derived land surface temperatures: Current status and perspectives,” *Remote Sens. Environ.*, vol. 151, pp. 14–37, Apr 2015.
- [4] M.-L. Li, H. Wu, S. Wang, S. Qiu, J. A. Sobrino, Z. Wan, R.-M. Tang, and G. Yan, “Land surface emissivity retrieval from satellite data,” *Int. J. Remote Sens.*, vol. 34, no. 9, pp. 2084–2107, 2013.
- [5] A. M. Mielnicz, “Three decades of Landsat instruments,” *Photogramm. Eng. Remote Sens.*, vol. 62, no. 7, pp. 629–650, Jul 1997.
- [6] J. A. Roth, J. R. Sobrino, D. Padouard, D. L. Haldie, S. J. Hook, R. L. Matlock, G. Chandler, and K. M. O’Donnell, “Landsat TM and ETM+ thermal band calibration,” *Can. J. Remote Sens.*, vol. 29, no. 2, pp. 141–153, 2003.
- [7] J. C. Jimenez-Munoz, J. Cristofari, J. A. Sobrino, G. Shua, M. Niyerwala, and X. Pons, “Revision of the single-channel algorithm for land surface temperature retrieval from Landsat thermal-infrared data,” *IEEE Trans. Geosci. Remote Sens.*, vol. 47, no. 1, pp. 236–249, Jan 2009.
- [8] L. M. Moshir, “Estimation of sea surface temperatures from two infrared window measurements with different absorption,” *J. Geophys. Res.*, vol. 90, no. 24, pp. 5113–5117, 1974.
- [9] J. A. Sobrino, L.-L. Li, M. P. Soto, and F. Becker, “Multi-channel and multi-angle algorithm for estimating sea and land surface temperature with ASTER data,” *Int. J. Remote Sens.*, vol. 17, no. 11, pp. 2089–2114, 1996.
- [10] J. C. Jimenez-Munoz and J. A. Sobrino, “Split-window coefficients for land surface temperature retrieval from low-resolution thermal infrared sensors,” *IEEE Geosci. Remote Sens. Lett.*, vol. 5, no. 4, pp. 505–508, Oct 2008.
- [11] A. Beck, G. P. Anderson, R. K. Ashury, J. H. Chappin, L. S. Ramoani, E. F. Garcia, M. W. Matthews, and S. M. Adler-Golden, MODIS/AMR User’s Manual. Houston, TX, USA: Air Force Res. Lab., 1999.
- [12] A. M. Kallmeyer, S. J. Hook, C. I. Good, and G. Rivera, “The ASTER spectral library version 2.0,” *Remote Sens. Environ.*, vol. 115, no. 4, pp. 711–715, Apr 2009.
- [13] J. Cristofari, J. C. Jimenez-Munoz, J. A. Sobrino, M. Niyerwala, and X. Pons, “Improvements in land surface temperature retrieval from the Landsat series thermal band using water vapor and air temperature,” *J. Geophys. Res.*, vol. 114, no. D6, p. D06107, 2009.
- [14] T. F. Chai, K. M. Uppala, A. J. Simmons, P. Berrisford, P. Poli, S. Kobayashi, U. Andea, M. A. Knutti, G. Daloz, P. Abastin, R. Roca, R. M. Fernandez, A. C. M. Sefiani, L. Van de Kamp, J. Bidlot, M. Konnert, C. Daloz, R. Gergaud, M. Pasras, A. J. Gas, L. Hurrell, S. R. Hird, H. Held, R. V. Mittle, E. Andros, P. Kallberg, M. Kobler, M. Montzard, A. R. McNally, E. M. Mingone-Sanz, J.-F. Morcrette, R.-X. Park, C. Peubey, R. de Rosnay, C. Tarnat, I.-M. Tsigaris, and F. Vitart, “The ERA-Interim reanalysis: Configuration and performance of the data assimilation system,” *Q. J. R. Meteorol. Soc.*, vol. 137, no. 804, pp. 529–572, 2011.
- [15] C. Mätzler, C. Durillo-Alarcón, J. C. Jimenez-Munoz, and J. A. Sobrino, “Global Atmospheric Profiles from Reanalysis Information (GAPRI): A new dataset for forward simulations in the thermal infrared region,” *IEEE Trans. Geosci. Remote Sens.*, 2014, submitted for publication.
- [16] J. A. Sobrino and J. C. Jimenez-Munoz, “Land surface temperature retrieval from thermal infrared data: An assessment in the context of the surface processes and accuracy requirements of the remote sensing (SPECTRA) mission,” *J. Geophys. Res.*, vol. 116, no. D16, p. D16102, 2011.

# 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



# Paper Structure

# References

- Support and validate the hypothesis your research proves, disproves or resolves
- There is no limit to the number of references
  - But use only those that directly support our work
- Ensure proper author attribution
  - Author name, article title, publication name, publisher, year published, volume, chapter and page number
  - IEEE journals generally follow a citation numbering system

Properly cited material

We then have

$$\begin{aligned} (P_1^{h+} + P_1^{h-})^2 &= (P_1^{h+} - P_1^{h-})^2 + 4P_1^{h+}P_1^{h-} \\ &< (P_1^{h+} - P_1^{h-})^2 + 4\hat{P}_1^{h+}\hat{P}_1^{h-} \\ &= (P_1^{h+} + \hat{P}_1^{h-})^2. \end{aligned} \quad (32)$$

Since  $P_1^{h+} - P_1^{h-} = \hat{P}_1^{h+} - \hat{P}_1^{h-}$ , we then have  $P_1^{h+} < P_1^{h+}$ , and  $P_1^{h-} < P_1^{h-}$ . Because the operational cost is an increasing function of  $\{P_1^{h+}, P_1^{h-}\}$ , we obtain that

$$c_{\text{opt}}(\{P_1^{h+}, P_1^{h-}\}) < c_{\text{opt}}(\{\hat{P}_1^{h+}, \hat{P}_1^{h-}\}). \quad (33)$$

Therefore the optimal pair  $\{P_1^{h+}, P_1^{h-}\}$  must satisfy that  $P_1^{h+}P_1^{h-} = 0$ , i.e., only one of  $P_1^{h+}, P_1^{h-}$  can be non-zero. ■

## REFERENCES

- [1] "Renewable Energy You can Count on," Tech. Rep. Union of Concerned Scientists, 2011.
- [2] S. Collier, "Ten steps to a smarter grid," *IEEE Ind. Appl. Mag.*, vol. 16, no. 2, pp. 62-68, 2010.
- [3] J. A. Turner, "A realizable renewable energy future," *Sci.*, vol. 283, no. 5428, pp. 687-689, 1999.
- [4] "Exploration of High-Penetration Renewable Electricity Futures," Tech. Rep. National Renewable Energy Lab., 2012.
- [5] T. Wiedmann and J. Minx, *A Definition of Carbon Footprint*. Harpenden, NY, USA: Nova Science, 2008.
- [6] J. Carrasco, L. Franquelino, J. Hualdebeitz, E. Galvira, E. Grijaldo, M. Pinar, J. Latorre, and M. Murolo-Alfonso, "Power-electronic systems for the grid integration of renewable energy sources: A survey," *IEEE Trans. Ind. Electron.*, vol. 53, no. 4, pp. 1002-1016, 2006.
- [7] H. Ibrahim, A. Ilinca, and J. Perron, "Energy storage systems - characterization and comparison," *Renewable Sustainable Energy Rev.*, vol. 12, no. 3, pp. 1221-1250, 2008.
- [8] J. Garcia-Gonzalez, R. de la Muela, I. Sanja, and A. Gonzalez, "Stochastic joint optimization of wind generation and pumped-storage units in an electricity market," *IEEE Trans. Power Syst.*, vol. 23, no. 2, pp. 460-468, 2008.
- [9] T. D. Nguyen, K.-J. Tang, S. Zhang, and T. D. Nguyen, "On the modeling and control of a novel hybrid energy storage system," in *Proc. IEEE*, 2010, pp. 1395-1401.
- [10] C. Xia, Y. Huanchunqin, D. Tian, T. Siew, and A. Kharadkone, "Energy storage systems in microgrid applications," *IEEE Trans. Electron.*, vol. 26, no. 3, pp. 923-930, 2011.
- [11] J. P. Miller, "Key challenges and recent progress in fuel cells, fuel cells, and hydrogen storage for clean energy systems," *Power Sources*, vol. 159, no. 1, pp. 73-80, 2006.
- [12] C. Abbey and G. Joos, "Supercapacitor energy storage for wind energy applications," *IEEE Trans. Energy Conversion*, vol. 19, no. 2, pp. 441-448, 2004.
- [13] K. G. Vohra, "Compressed air energy storage," *J. Energy*, vol. 2, no. 2, pp. 106-112, 1978.
- [14] C. Abbey and G. Joos, "Supercapacitor energy storage for wind energy applications," *IEEE Trans. Ind. Appl.*, vol. 43, no. 3, pp. 709-716, 2007.
- [15] P. Brown, J. P. Lopes, and M. Marnett, "Optimization of pumped storage capacity in an island power system with large renewable penetration," *IEEE Trans. Power Syst.*, vol. 23, no. 2, pp. 523-531, 2008.
- [16] C. Abbey and G. Joos, "A stochastic optimization approach to rating of energy storage systems in wind-diesel isolated grids," *IEEE Trans. Power Syst.*, vol. 24, no. 1, pp. 418-426, 2009.
- [17] Y. Zhang, M. Gatsis, and G. Giannakis, "Robust energy management for microgrids with high-penetration renewables," *IEEE Trans. Sustainable Energy*, vol. PP, no. 99, pp. 1-10, 2013.

- [18] S. Boyd, N. Parikh, B. Chu, B. Peleato, and J. Eckstein, "Distributed optimization and statistical learning via the alternating direction method of multipliers," *Foundations Trends Mach. Learn.*, vol. 3, no. 1, pp. 1-122, 2010.
- [19] G. Calaforo and M. Campi, "The scenario approach to robust control design," *IEEE Trans. Automat. Contr.*, vol. 51, no. 5, pp. 742-753, 2006.
- [20] A. Shapiro, D. Dentcheva, and A. Ruszczyński, *Lectures on Stochastic Programming: Modeling and Theory*. Philadelphia, NJ, USA: SIAM, 2009.
- [21] Y. Zhang, N. Gatsis, and G. Giannakis, "Risk-constrained energy management with multiple wind farms," in *Proc. IEEE PES Smart Grid*, Feb. 2013, pp. 1-6.
- [22] Y. Zhang, N. Gatsis, V. Kekatos, and G. Giannakis, "Risk-aware management of distributed energy resources," in *Proc. Int. Conf. Digital Signal Process.*, Jul. 2013, pp. 1-5.
- [23] P. Yang and A. Nehorai, "Hybrid energy storage and generation planning with large renewable penetration," in *IEEE Int. Workshop Computat. Adv. Multi-Sensor Adaptive Process.*, Dec. 2013, pp. 1-4.
- [24] EPRI, "Electricity Energy Storage Technology Option: A White Paper Primer on Applications, Costs, and Benefits," Tech. Rep. EPRI, Palo Alto, CA, USA, 2010.
- [25] National Solar Radiation Data Base, [Online]. Available: [http://rtdc.nrel.gov/solar/old\\_data.html](http://rtdc.nrel.gov/solar/old_data.html)
- [26] S. Wilcox, *National Solar Radiation Database 1991 - 2010 Update: User's Manual*, 2012.
- [27] EPRI, "Renewable Energy Technical Assessment Guide - TAG-RE-2008," Tech. Rep. EPRI, Palo Alto, CA, USA, 2007.
- [28] *NERC Hourly Load Data Archive* [Online]. Available: [http://www.nerc.com/gridinfo/loadload\\_hist/](http://www.nerc.com/gridinfo/loadload_hist/)
- [29] M. Gnat and S. Boyd, *CVX: Matlab Software for Disciplined Convex Programming*, Version 2.0 Beta 2012 [Online]. Available: <http://cvxr.com/cvx/>
- [30] "MISO Daily Report," 2011, Electric Power Market: Midwest (MISO), FERC [Online]. Available: <http://www.ferc.gov/markets-overnight/mid-electric/midwest-miso-archives.asp>
- [31] "CAISO Daily Report," 2011, Electric Power Market: California (CAISO), FERC [Online]. Available: <http://www.ferc.gov/markets-overnight/mid-electric/california-caiso-archives.asp>

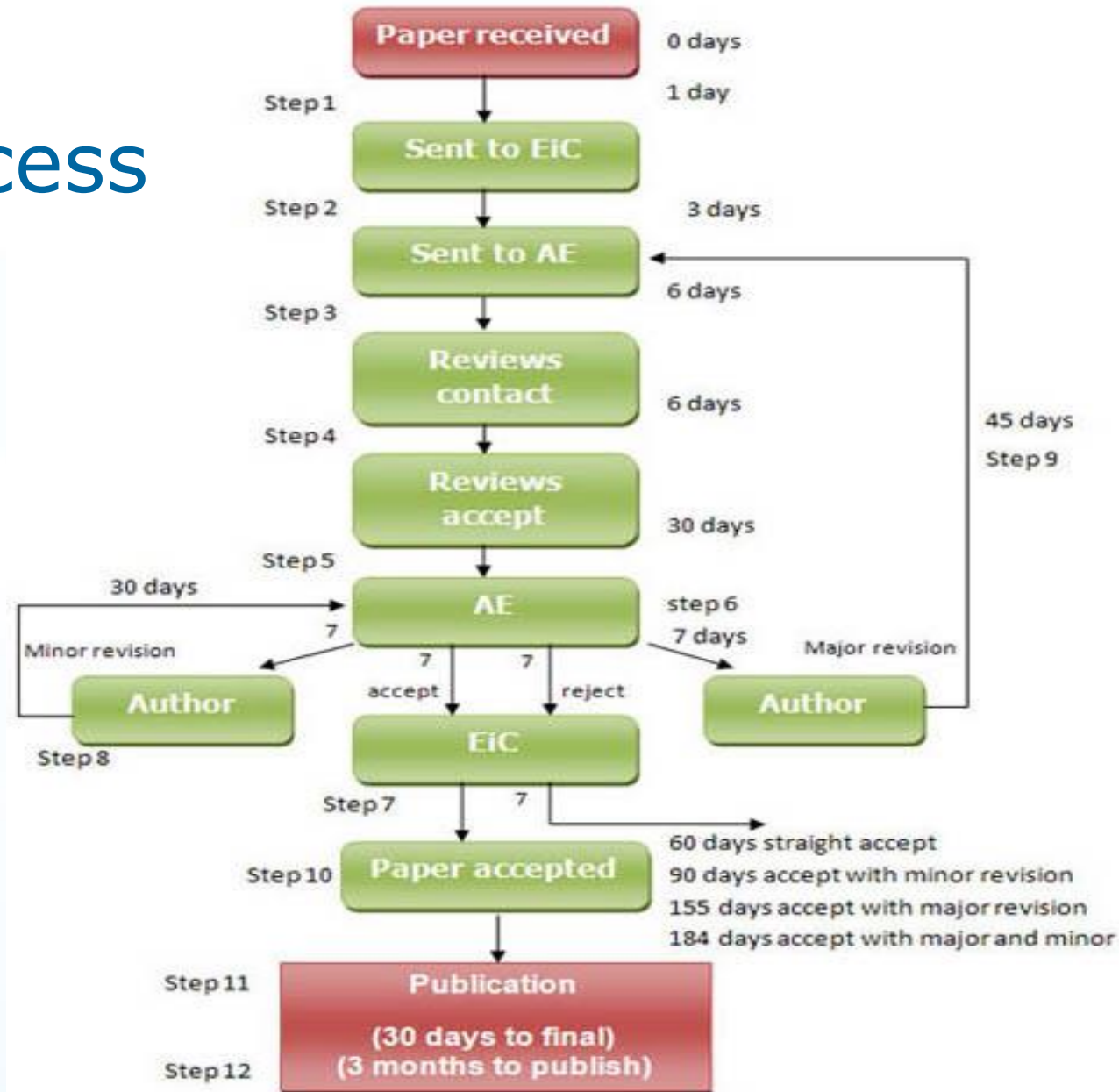


Peng Yang (S'11) received the B.Sc. degree in electrical engineering from University of Science and Technology, Anhui, China in 2009, and the M.Sc. and Ph.D. degrees in electrical engineering from Washington University in St. Louis, St. Louis, MO, USA, in 2011 and 2014, respectively. His Ph.D. advisor is Dr. Arya Nehorai. His research interests include statistical signal processing, optimization, machine learning, and compressive sensing, with applications to smart grids.



Arya Nehorai (S'70-M'83-SM'90-F'94) received the B.Sc. and M.Sc. degrees from the Technion, Haifa, Israel, and the Ph.D. degree from Stanford University, Stanford, CA, USA. He is the Eugene and Martha Lohman Professor and Chair of the Preston M. Green Department of Electrical and Systems Engineering (ESE) at Washington University in St. Louis (WUSTL), St. Louis, MO, USA. Earlier, he was a faculty member at Yale University and the University of Illinois at Chicago. Dr. Nehorai served as Editor-in-Chief of *IEEE Transactions on Signal Processing* from 2000 to 2002. From 2003 to 2005 he was the Vice President of the IEEE Signal Processing Society (SPS), the Chair of the Publications Board, and a member of the Executive Committee of this Society. He was the founding Editor of the special columns on Leadership Reflections in *IEEE Signal Processing Magazine* from 2003 to 2006. He has been a Fellow of the IEEE since 1994, the Royal Statistical Society since 1996, and the AAAS since 2012.

# Review Review Process



e.g. IEEE  
Transactions on  
Information  
Technology in  
Biomedicine

## Audience

# Why IEEE editors and reviewers reject papers

- The content is **not a good fit for the publication**
- There are serious scientific flaws:
  - Inconclusive results or incorrect interpretation
  - Fraudulent research
- It is poorly written
- It does **not address a big enough problem** or advance the scientific field
- The work **was previously published**
- The **quality is not good enough for the journal**
- **Reviewers have misunderstood the article**

# Open Access Publications

# Types

- **Traditional Journals** –  
Users/Libraries pay for access
- **Open Access Journals** –  
Author pays article costs, free download
- **Hybrid Journals** –  
Most articles are traditional, some are open access (author preference)



<http://open.ieee.org/>

**IEEE OPEN**

search



# The Author's Choice for Open Access Publishing



View Infographic

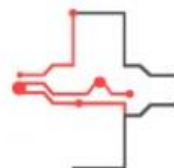


# First Fully Open Access Topical Journals



IEEE Journal of  
Electron Devices  
Society

**Photonics** Journal  
An IEEE Photonics Society Publication



IEEE Journal of Translational  
Engineering in  
Health and Medicine

## Editors in Chief



Fabrizio Lombardi, *IEEE Transactions on Emerging Topics in Computing*



Carmen S. Menoni, *IEEE Photonics Journal*



Renuka P. Jindal, *IEEE Journal of Electron Devices Society*



Clifford Dacso, *IEEE Journal of Translational Engineering in Health & Medicine*



Atam P. Dhawan, *IEEE Journal of Translational Engineering in Health and Medicine*

# Since 2014/15 – Four New OA Topical Journals

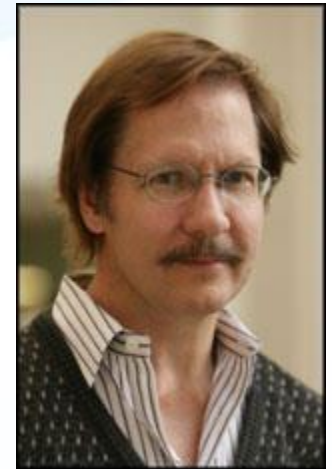
- **IEEE Exploratory Solid-State Computational Devices and Circuits**
  - Multi-disciplinary research in solid-state circuits
- **IEEE Life Sciences Letters**
  - Articles that apply methods of quantitative analysis to biological problems at the molecular, cellular, organ, human and population levels
- **IEEE Nanotechnology Express**
  - Novel and important results on engineering at the nanoscale
- **IEEE Power and Energy Technology System Journal**
  - Practice-oriented articles focusing on the development, planning, design, construction, maintenance, installation and operation of equipment, structures, materials and power systems

Since 2013:

# IEEE Access

practical innovations : open solutions

- A broad-scope “**Megajournal**” to cover **multi-disciplinary topics** that don’t naturally fit into one of IEEE’s existing primary transactions or journals
- Online-only archival publication: **no page limits**; supporting data and videos encouraged
- **Applications-oriented articles** such as interesting solutions to engineering or information system design challenges, practical experimental techniques, manufacturing methods, etc.
- **Rapid, yet thorough, binary peer-review** and publication process with submissions judged on technical substance and presentation quality
- Readers will **evaluate work through comments** and usage metrics, which are updated frequently and displayed with the abstract of each paper published



*Dr. Michael Pecht,  
Editor in Chief*

**More information: [www.ieee.org/ieee-access](http://www.ieee.org/ieee-access)**



# Self-Archiving policy

- IEEE allows authors to deposit **the *accepted* (not final) version of their paper** (available through the Author Gateway) to their institutional or funding repository, or to post it on their personal websites.
- Our full deposition policy can be found here: [http://www.ieee.org/publications\\_standards/publications/rights/paperversionpolicy.html](http://www.ieee.org/publications_standards/publications/rights/paperversionpolicy.html)

# IEEE Author Tools

# Locate and Use IEEE Author Tools

[http://www.ieee.org/publications\\_standards/publications/authors/authors\\_journals.html](http://www.ieee.org/publications_standards/publications/authors/authors_journals.html)



IEEE offers a suite of tools to help authors prepare their manuscript and find the right publication outlet.

Our package of tools is unique among scholarly publishers.



# Professional Editing Service



[SERVICES](#) [PRICES](#) [ABOUT US](#) [FREE RESOURCES](#)



Greetings, **IEEE** colleague! Thank you for choosing American Journal Experts, the most trusted name in Proofreading.

SELECT SERVICES

UPLOAD FILES

PAY & CONFIRM



How can we help you?

I'd like help with my

manuscript



Language

It is in English



Word Count

It has 3501 - 6000 words



MY ORDER

Words: 3501 - 6000

Language: English

USD \$

EUR €



# Author Tool: Article Templates

> REPLACE THIS LINE WITH YOUR PAPER IDENTIFICATION NUMBER (DOUBLE-CLICK HERE TO EDIT) < 1

## Preparation of Papers for IEEE TRANSACTIONS and JOURNALS (December 2013)

First A. Author, *Fellow, IEEE*, Second B. Author, and Third C. Author, Jr., *Member, IEEE*

**Abstract**—These instructions give you guidelines for preparing papers for IEEE Transactions and Journals. Use this document as a template if you are using Microsoft Word 6.0 or later. Otherwise, use this document as an instruction set. The electronic file of your paper will be formatted further at IEEE. Paper titles should be written in uppercase and lowercase letters, not all uppercase. Avoid writing long formulas with subscripts in the title; short formulas that identify the elements are fine (e.g., "NA-FE-B"). Do not write "(Invited)" in the title. Full names of authors are preferred in the author field, but are not required. Put a space between authors' initials. Define all symbols used in the abstract. Do not cite references in the abstract. Do not delete the blank line immediately above the abstract; it sets the footnote at the bottom of this column.

**Index Terms**—Enter key words or phrases in alphabetical order, separated by commas. For a list of suggested keywords, send a blank e-mail to [keywords@ieee.org](mailto:keywords@ieee.org) or visit [http://www.ieee.org/organizations/pubs/ami\\_prod/keyword98.txt](http://www.ieee.org/organizations/pubs/ami_prod/keyword98.txt)

### I. INTRODUCTION

THIS document is a template for Microsoft Word versions 6.0 or later. If you are reading a paper or PDF version of this document, please download the electronic file, TRANS-JOUR.DOC, from the IEEE Web site at <http://www.ieee.org/web/publications/authors/transjnl/index.html>. So you can use it to prepare your manuscript. If you would prefer to use LATEX, download IEEE's LATEX style and sample files from the same Web page. Use these LATEX files for formatting, but please follow the instructions in TRANS-JOUR.DOC or TRANS-JOUR.PDF.

If your paper is intended for a conference, please contact your conference editor concerning acceptable word processor formats for your particular conference.

This paragraph of the first footnote will contain the date on which you submitted your paper for review. It will also contain support information, including sponsor and financial support acknowledgment. For example, "This work was supported in part by the U.S. Department of Commerce under Grant BS123456".

The next few paragraphs should contain the authors' current affiliations, including current address and e-mail. For example, F. A. Author is with the National Institute of Standards and Technology, Boulder, CO 80505 USA (e-mail: [author@boulder.nist.gov](mailto:author@boulder.nist.gov)).

S. B. Author, Jr. was with Rice University, Houston, TX 77005 USA. He is now with the Department of Physics, Colorado State University, Fort Collins, CO 80523 USA (e-mail: [author@lamar.colorado.edu](mailto:author@lamar.colorado.edu)).

T. C. Author is with the Electrical Engineering Department, University of Colorado, Boulder, CO 80509 USA, on leave from the National Research Institute for Metals, Tsukuba, Japan (e-mail: [author@nrim.go.jp](mailto:author@nrim.go.jp)).

### II. GUIDELINES FOR MANUSCRIPT PREPARATION

When you open TRANS-JOUR.DOC, select "Page Layout" from the "View" menu in the menu bar (View | Page Layout), (these instructions assume MS 6.0. Some versions may have alternate ways to access the same functionalities noted here). Then, type over sections of TRANS-JOUR.DOC or cut and paste from another document and use markup styles. The pull-down style menu is at the left of the Formatting Toolbar at the top of your Word window (for example, the style at this point in the document is "Text"). Highlight a section that you want to designate with a certain style, then select the appropriate name on the style menu. The style will adjust your fonts and line spacing. Do not change the font sizes or line spacing to squeeze more text into a limited number of pages. Use italics for emphasis; do not underline.

To insert images in Word, position the cursor at the insertion point and either use Insert | Picture | From File or copy the image to the Windows clipboard and then Edit | Paste Special | Picture (with "float over text" unchecked).

IEEE will do the final formatting of your paper. If your paper is intended for a conference, please observe the conference page limits.

#### A. Abbreviations and Acronyms

Define abbreviations and acronyms the first time they are used in the text, even after they have already been defined in the abstract. Abbreviations such as IEEE, SI, ac, and dc do not have to be defined. Abbreviations that incorporate periods should not have spaces: write "C.N.R.S.," not "C. N. R. S.," Do not use abbreviations in the title unless they are unavoidable (for example, "IEEE" in the title of this article).

#### B. Other Recommendations

Use one space after periods and colons. Hyphenate complex modifiers: "zero-field-cooled magnetization." Avoid dangling participles, such as, "Using (1), the potential was calculated." [It is not clear who or what used (1).] Write instead, "The potential was calculated by using (1)," or "Using (1), we calculated the potential."

Use a zero before decimal points: "0.25," not ".25." Use "cm<sup>2</sup>," not "cc." Indicate sample dimensions as "0.1 cm × 0.2 cm," not "0.1 × 0.2 cm<sup>2</sup>." The abbreviation for "seconds" is "s," not "sec." Use "W/m<sup>2</sup>" or "watts per square meter," not "watts/m<sup>2</sup>." When expressing a range of values, write "7 to 9" or "7-9," not "7-9."



# Author Tool: PDF Checker

## IEEE PDF Checker

---

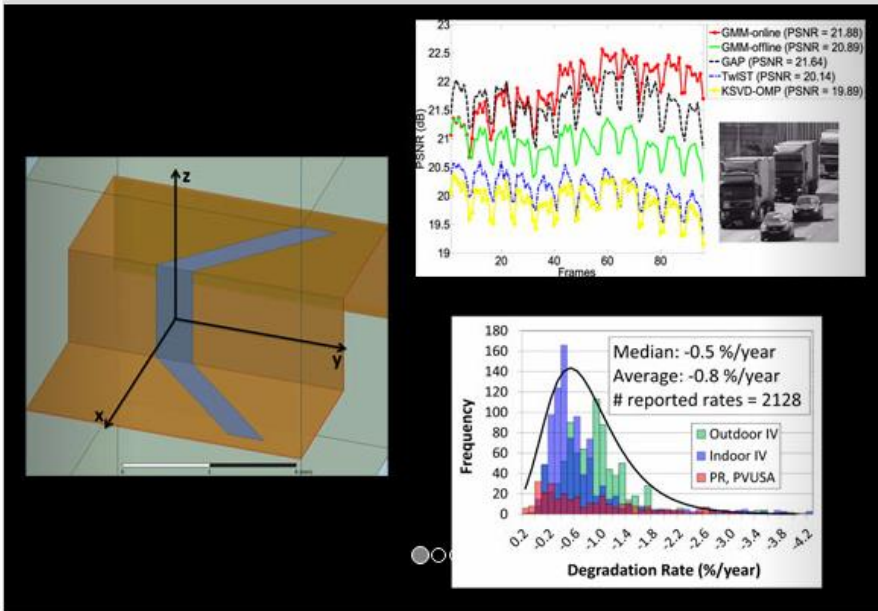
### Upload File

Paper Title:

IEEE Publication Title: Aerospace & Electronics Systems Magazine, IEEE ▼

File:

# Author Tool: Graphics Analyzer



## HOW THE IEEE GRAPHICS ANALYZER WORKS

STEP 1



Select and upload



STEP 2



Wait for report



STEP 3




Get notified

## ANALYZE YOUR GRAPHICS FILES

Speed up your scholarly publishing process by checking your graphics files prior to submission. [Learn more.](#)

# Use AuthorLab in IEEE Collabratec for additional support and help



## IEEE AuthorLab


Hide D

The IEEE AuthorLab welcomes all IEEE authors and potential authors to this forum on publishing in IEEE periodicals. Participate in discussions, share ideas about publishing, and ask questions of other community members, or IEEE publication staff.

Community provided by :

- IEEE Publications

Participants 4336



All Participants

June 2016

Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	

Post Question File

Post to your Community (max 4000 characters)


4000 characters remaining


Promote This Post (Manage)

Post

Activities Files Q & A Events Participants


263 Post(s) in Community





**Tiffany Mckerahan** posted a day ago

Don't miss IEEE's author education event at the 2016 IEEE International Geoscience and Remote Sensing Symposium (IGARSS) conference in Beijing next month! Check out [ieee.org/publications\\_s..](http://ieee.org/publications_s..) for other author education events.



# Open Researcher and Contributor ID (ORCID)

ORCID is a unique, persistent identifier for authors that helps them:

- Ensure their work is discoverable and connected to them throughout their career (including moves and name changes)
- Minimize the time spent entering repetitive information for manuscript submissions and grant applications
- Eliminate name ambiguity and ensure proper attribution

IEEE will require ORCID IDs for all corresponding authors effective July 2016.



# Throughout the process...Refer here early and often – IEEE Author Digital Tools

## Author Digital Tools

### ♦ IEEE Publications Menu

[Publications Home](#)

[Publications News](#)

### + Publication Types

### + Publishing Tools & Services

### + Reprints, Rights & Permissions

[Advertising in IEEE Publications](#)

### + Publications Board

### + Author Resources

[Contact IEEE Publishing](#)

[Author FAQs](#)

## IEEE Author DIGITAL TOOLS

Below are information and tools to assist with all stages of publishing with IEEE.

### On this page:

- › [Preparing your article](#)
- › [Preparing your graphics and multimedia materials](#)
- › [Guidelines for article submission](#)
- › [Post-acceptance procedures](#)
- › [Post-publication procedures](#)
- › [Frequently asked questions](#)

### ♦ Preparing your article

#### › [IEEE Publishing Policy](#) (PDF, 46 KB)

Important information for authors interested in publishing in IEEE Transactions, Journals, and Letters.

#### › [Register for an ORCID](#)

Register for the persistent digital identifier that distinguishes you from every other researcher.

#### › [Overleaf Collaborative Authoring](#)

IEEE has partnered with Overleaf to allow authors to collaborate, write articles, and share files.

#### › [IEEE Style Manual](#) (PDF, 574 KB)

Editorial guidelines for IEEE Transactions, Journals, and Letters.

#### › [Keywords Suggested for Authors](#) (PDF, 326 KB)

Authors are encouraged to select keywords from this list. It comprises the first three hierarchical "levels" under each term-family (or branch) that is formed from the top-most terms of the IEEE Thesaurus. If you cannot find appropriate terms, you may add your own.

#### › [Article Templates](#)

Includes templates and instructions on how to prepare your papers for publication in IEEE Transactions and Journals.

### Authorship

- › [Learn the benefits of publishing with IEEE](#)
- › [View authorship workshop video for writing technical papers](#)
- › [IEEE Publication Recommender](#)

### IEEE Open Access

IEEE Open Access delivers articles free of charge to readers worldwide.

- › [Learn about IEEE Open Access](#)

### More Useful Links

#### Article Templates

- › [Find appropriate templates for the publication you intend to publish in](#)

#### Author Copyright Help

- › [IEEE Rights & Permissions Department](#)
- › [Download IEEE Copyright Form](#)  
(PDF, 108 KB)

#### Contact IEEE Transactions, Journals and Letters

For general inquiries or to request further information, email [trans@ieee.org](mailto:trans@ieee.org)

For inquiries specific to graphics, email [graphics@ieee.org](mailto:graphics@ieee.org)

# IEEE Author Guide Always Available

- Authors learn how to prepare, write, and submit quality technical articles
- Can be downloaded
- Includes embedded links to information, forms, etc.



For more information or to download: [http://www.ieee.org/publications\\_standards/publications/authors/publishing\\_benefits/index.html?WT.mc\\_id=pb\\_ben\\_pub](http://www.ieee.org/publications_standards/publications/authors/publishing_benefits/index.html?WT.mc_id=pb_ben_pub)

# Contacts for Author Questions

Abstract & Indexing services	<a href="mailto:discoveryservices@ieee.org">discoveryservices@ieee.org</a>
Copyright policies	<a href="mailto:copyrights@ieee.org">copyrights@ieee.org</a>
Permissions and reuse	<a href="mailto:pubs-permissions@ieee.org">pubs-permissions@ieee.org</a>
Posting articles in repositories	<a href="mailto:copyrights@ieee.org">copyrights@ieee.org</a>
Preparing figures	<a href="mailto:graphics@ieee.org">graphics@ieee.org</a>
Reprints	<a href="mailto:reprints@ieee.org">reprints@ieee.org</a>
Status report on article in production	Publication editor or <a href="mailto:trans@ieee.org">trans@ieee.org</a>
Subscriptions	<a href="mailto:customer-service@ieee.org">customer-service@ieee.org</a>



# Useful articles on IEEE Xplore

- **"Beginnings and endings: keys to better engineering technical writing"** Pierson, M.M.; Pierson, B.L.,
- **"Hints on writing technical papers and making presentations"** Li, V.O.K.
- **"How to Get Your Manuscript Published in this Transactions in Six Months or Less"** Williams, Dylan F.

<http://ieeexplore.ieee.org>

# Key sites to remember

## **Manuscript “How to write”:**

[http://www.ieee.org/publications\\_standards/publications/authors/author\\_guide\\_interactive.pdf](http://www.ieee.org/publications_standards/publications/authors/author_guide_interactive.pdf)

**IEEE Author Tools** [IEEE.org/go/authorship](http://IEEE.org/go/authorship)

## **IEEE Conference Search and Calls for Papers:**

[http://www.ieee.org/conferences\\_events/index.html](http://www.ieee.org/conferences_events/index.html)

## **IEEE Publication Recommender™**

<http://publication-recommender.ieee.org/home>

**IEEE Xplore:** <http://ieeexplore.ieee.org>

## **IEEE Xplore information, training and tools:**

<http://www.ieee.org/go/clientservices>

## **IEEE Journal Citation reports:**

[http://www.ieee.org/publications\\_standards/publications/journmag/journalcitations.html](http://www.ieee.org/publications_standards/publications/journmag/journalcitations.html)

# Free Authorship videos on IEEE.tv

Speaker: Professor Saifur Rahman from Virginia Tech (VP of Pubs for IEEE's Power & Energy Society)

<http://innovate.ieee.org/innovate/industry/academic/whats-new/newcontent/article/80448>



The screenshot shows the IEEE.tv website interface. At the top, the IEEE.tv logo is on the left, and the tagline "Tune in to where technology lives." is on the right. Below the logo is a navigation bar with links for Home, Series, Channels, Events, My Videos, and Subscriptions. The main content area displays a video player for a presentation titled "How to Publish a Technical Paper with IEEE: Part 2 - Audience & Paper Structure". The video player shows a slide with the heading "Who writes scientific papers?" and lists "Who writes scientific papers?" as a key question. The slide also mentions "important problem in their field" and "Engineering, computer, industrial and research team". The video player interface includes a play button, a progress bar showing 05:24 out of 44:26, and a volume icon. Below the video player, the video title "How to Publish a Technical Paper with IEEE: Part 2 - Audience & Paper Structure" is displayed, along with the date "January 20, 2015" and "443 views". There are also social media sharing icons for Facebook, Twitter, and LinkedIn, and a "ShareThis" button.



**THANK YOU!**

Eszter Lukács

IEEE Client Services Manager - Europe

[e.lukacs@ieee.org](mailto:e.lukacs@ieee.org)

❖ Web: [www.ieee.org/go/clientservices](http://www.ieee.org/go/clientservices)

❖ +49 30 44319367 Office in Berlin

❖ +49 1705632738 Mobile

# Free courses available for customers

- **Techniques for effective research with IEEE *Xplore*** (45 minutes with Tatiana Kalinina OR Eszter Lukacs, online or onsite) RUSSIAN OR ENGLISH
- **How to get published with the IEEE?** (90 minutes, with Eszter Lukacs, online or onsite) - ENGLISH
- **Patent searching best practices with IEEE *Xplore*** (45 minutes with Eszter Lukacs, online or onsite) - ENGLISH



**THANK YOU!**

Eszter Lukács

IEEE Client Services Manager - Europe

[e.lukacs@ieee.org](mailto:e.lukacs@ieee.org)

❖ Web: [www.ieee.org/go/clientservices](http://www.ieee.org/go/clientservices)

❖ +49 30 44319367 Office in Berlin

❖ +49 1705632738 Mobile