

# IEEE Xplore Update – Content, Features and Functionality

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IEEE Client Services Manager

September 2015





IEEE is the world's largest professional association dedicated to advancing technological innovation and excellence for the benefit of humanity. More than 430,000 members worldwide.

### **Mission statement**

IEEE's core purpose is to foster technological innovation and excellence for the benefit of humanity.

Many programs, projects and initiatives that IEEE has in place to support this mission...

# The world's most successful technology leaders & organizations rely on IEEE information



## Technology Companies

- 28 of the top 29 Semiconductor companies
- 9 of top 10 Communications Equipment companies
- All top 10 Aerospace companies
- All top 5 Computer Hardware companies
- 9 of top 10 Auto & Truck Manufacturers
- 7 out of top 10 Telecommunications companies

(Forbes Global 2000 Rankings, May 2014)



## Universities

- All of the top 100 engineering schools in US
- 98 of the Top 100 Technical Universities Worldwide

(US News and World Report 2014, Times Higher Education Top Technology Universities)



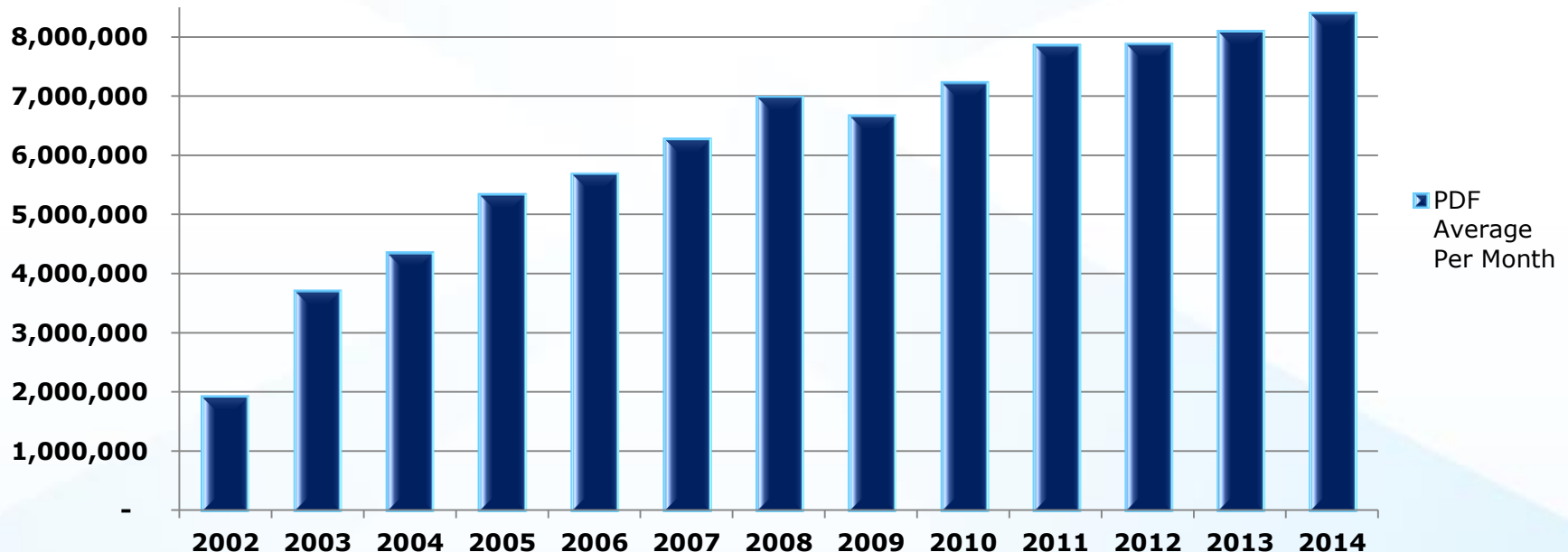
## Government

- Defense research and aerospace agencies
- Communications and energy labs
- Patent offices and scientific councils
- Government R&D centers in North America, Europe, Asia and the Middle East

# All they all use it more & more each year!

Over 8.5 million downloads per month from IEEE *Xplore*  
from over 3 million unique users

Average PDF Downloads Per Month



**2014 Milestone: Over 100 million total document downloads!**

Source: IEEE *Xplore* Internal Usage Stats

# Countries that lead the world in downloads from IEEE Xplore

**#1** China



**#2** USA



**#3** India



**#4** Taiwan



**#5** Korea



Data year end 2014

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Why do they all rely on  
IEEE information?

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# IEEE quality makes an impact

Thomson Reuters Journal Citation Reports® by Impact Factor

## IEEE publishes:

**18 of the top 20** journals in Electrical and Electronic Engineering

**18 of the top 20** journals in Telecommunications

**8 of the top 10** journals in Computer Science, Hardware & Architecture

**7 of the top 10** journals in 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 Robotics

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

Based on the 2014 study released June 2015

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



# IEEE quality makes an impact

Thomson Reuters Journal Citation Reports® by Impact Factor

## IEEE journals are:

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



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

Based on the 2014 study released June 2015



# Stay current with IEEE

The technology landscape is constantly evolving and so are IEEE publications.

Each year, IEEE introduces new journals, conferences, and standards to address growing areas of research, such as Cloud Computing, Big Data, Smart Grid technology, Internet of Things and others.

- New journal and magazine titles
- New conferences titles
- New and revised standards
- New eBooks and eLearning titles
- New tools to discover them all



# New IEEE Journals in 2014

- *IEEE Cloud Computing*
- *IEEE Internet of Things Journal*
- *IEEE Trans. on Computational Social Systems*
- *IEEE Trans. on Control of Network Systems*
- *IEEE Electrification Magazine*
- *IEEE Trans. on Network Science and Engineering*
- *IEEE Power Electronics Magazine*
- *IEEE/CAA Journal of Automatica Sinica*

2003 – 2013: >50 new journals added



# New IEEE Journals Coming in 2015

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



# IEEE Conferences leading-edge content

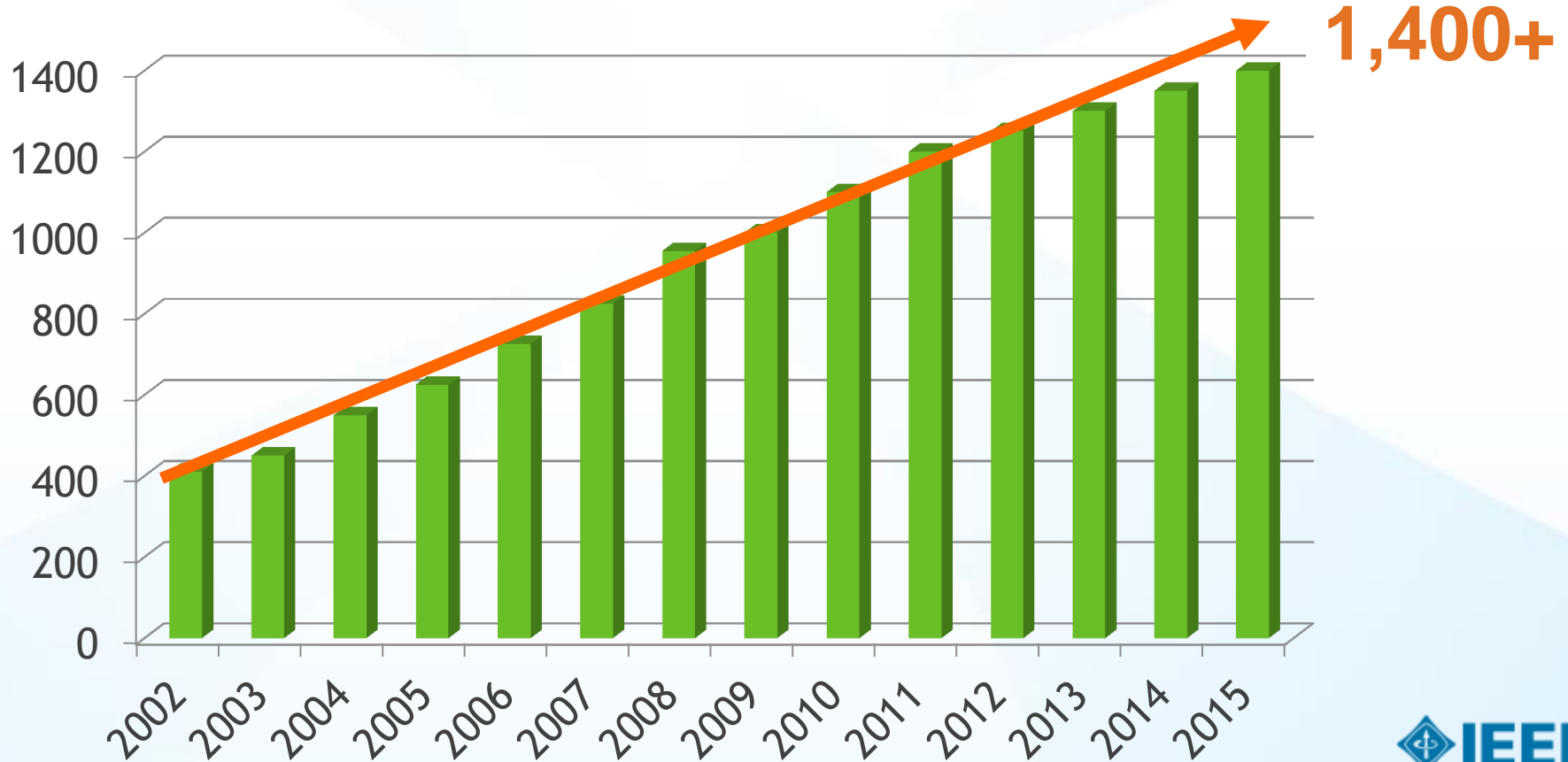
This year the IEEE will publish more than 1,400 leading-edge conference proceedings, which are recognized by academia and industry worldwide as the most vital collection of consolidated published papers in electrical engineering, computer science, and related fields.

- **Breadth of content:** papers on topics from grid computing to wireless communications
- **The latest research:** often published before other leading journals
- **Unequaled depth:** 2.1 million conference papers are available and more than 1,400 conference proceedings titles are published each year
- **Quality of content:** papers authored by innovators of today's top emerging technologies. Most IEEE conferences follow a paper-selection process and many have peer-review procedures



# The IEEE conference collection continues to grow

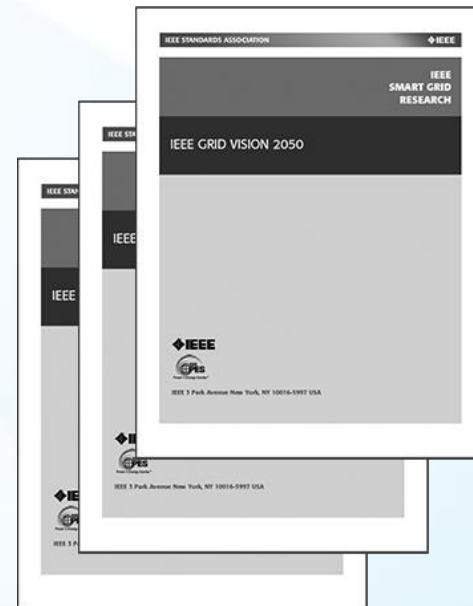
Now over 1,400 annual conferences.  
Over 2.5 million total papers.





# IEEE Smart Grid Research

- A collaborative effort that leverages the work of over 100 industry experts and pioneers in the field to share a view of the future of smart grid as far as 2030 and beyond. These insights are essential to business planning, research, and reference.
- It provides detailed long-term and short-term projections of smart grid industry evolution, technology challenges and opportunities, and areas requiring additional research to help you prepare for what is to come.
- Focused on five technology sectors:
  - Power, Computing, Communications, Control Systems, Vehicle Technology
- Each Technology Bundle includes:
  - Long-term vision document
  - Reference model
  - Roadmap



# IEEE Synchrophasor Measurement Test Suite Specification (TSS)

- The TSS is a test specification required to design phasor measurement unit products (PMU)
- Provides a comprehensive, dependable plan that any manufacturer globally can use in the design stage to test their PMU products for eventual certification of IEEE C37.118.1™\*
- Essential to many organizations working in smart grid technology.
- **Who needs the TSS?**
  - Utilities companies worldwide
  - PMU manufacturers
  - Traditional meter companies making the transition to Smart Grid technology
  - Small startups who are eager to capitalize on the market
  - Universities with a strong power engineering program & strong partnerships with industry



# Why are Synchrophasors so important?

- **Synchrophasors** are considered one of the most important measuring devices in the future of power systems.
- A mailbox-sized, monitoring device that can measure the instantaneous voltage, current & frequency at specific locations on the grid
- They give operators a near-real-time picture of what is happening on the system and allows them to make decisions to prevent power outages.
- By providing more accurate and timely data on system limits, synchrophasors make the grid more reliable and efficient, ultimately reducing planning and operations costs.



**Learn More: [www.ieee.org/go/synchrophasor-subscriptions](http://www.ieee.org/go/synchrophasor-subscriptions)**



# Building Partnerships

- Goal for IEEE *Xplore* to become the technology destination of choice worldwide
- Need to enable users to find other high quality content to help fulfill their needs
- IET and IEEE: partners since 1988
  - Journals and conference proceedings are included in IEL subscriptions
  - IET represents over 200,000 articles in IEEE *Xplore*!
- IEEE *Xplore* now hosts select content from other leading society publishers:
  - IEEE-Wiley eBooks Library
  - IBM Journal of Research and Development
  - Tsinghua Science and Technology Journal
  - Journal of Systems Engineering and Electronics from the Beijing Institute of Aerospace Information
  - VDE Conference Proceedings
  - MIT Press
  - Morgan & Claypool



# Bell Labs Technical Journal Now Available IEEE *Xplore*

The in-house scientific journal for scientists of Bell Labs/Alcatel-Lucent

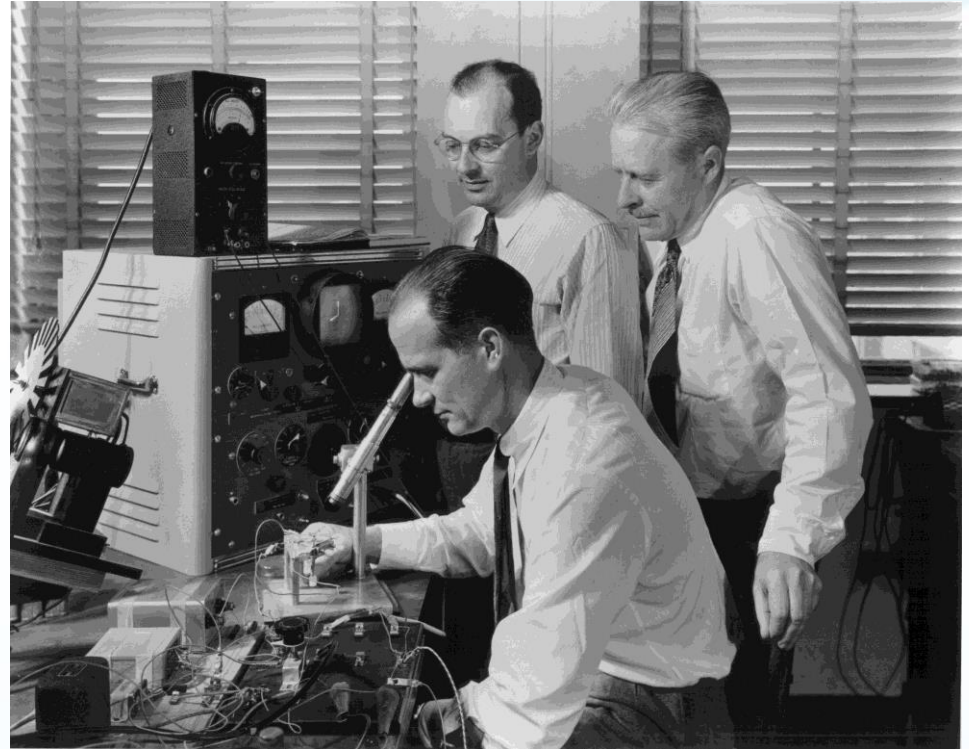
- Delivered via IEEE *Xplore*
- More than 92 years of innovative research
- 26 new articles will be published each year
- Over 6,200 individual articles, backfile to 192
- Key research from leaders in the telecommunications, computer science, and engineering industries
- Peer-reviewed scientific journal for the global research and technical community
- A selected list of 40 seminal articles from the backfile now available for free on IEEE *Xplore*



# Historic content from BLTJ

Volume 28, 1949

- Invention of the first Transistor
- Fundamental building block of modern electronic devices
- Research won a Nobel Prize in 1947
  - William Shockley
  - John Bardeen
  - Walter Brattain



# Historic content from BLTJ



Volume 42, 1963

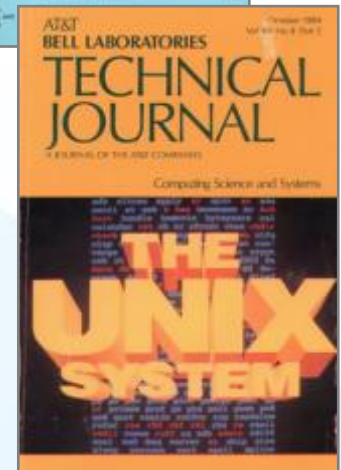
- Telstar
- World's first active communications satellite
- Was able to transmit television signals and collect data on radiation in space

# Other Seminal Papers from Bell Labs

- The Unix-Time Sharing System (1978)
  - The original paper describing the Operating System
- A mathematical theory of communication (1948)
  - Defined the field of information theory
- In-Band Single-Frequency Signaling (1954)
  - Enabled the famous “Blue Boxes”
- Number One Electronic Switching System (1964)
  - The first stored-program telephone switch, a technological marvel of its day
- The Cellular Concept (1978)
  - Plan to create mobile telephone service on a large scale



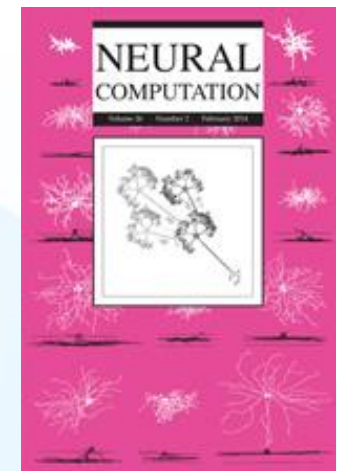
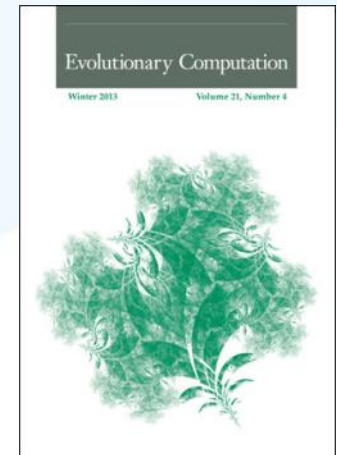
THE BELL SYSTEM TECHNICAL JOURNAL	
JULY-AUGUST 1978 VOL. 57, NO. 8, PART 2	
THE UNIX-TIME SHARING SYSTEM	
D. M. Dornier	1067
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# MIT Press Journals Library

## Computer & Engineering Collection

- IEEE has partnered with the MIT Press to bring a subset of their high quality journals to the IEEE Xplore digital library.
- 8 specially selected titles from the MIT Press in leading Science and Technology areas such as:
  - Artificial Intelligence
  - Evolutionary Computation
  - Cognitive Neuroscience
  - Neural Computation
  - Linguistics
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- Unlimited full-text access to more than 10,000 articles
- Backfile to 1989
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# Three Leading eBook Collections now in IEEE Xplore

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- Nearly 600 eBook titles from the MIT Press with more than 70% of titles in computing related fields
- Backfile to 1943



## ■ Morgan & Claypool Synthesis eBooks Library

- Access nearly 700 peer-reviewed titles focusing on computer science
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Available as subscription add-ons  
Perpetual access options available



# New! – SMPTE content in IEEE Xplore

IEEE has partnered with SMPTE, the Society of Motion Picture and Television Engineers®, to be the exclusive host for the complete SMPTE Digital Library for institutional customers.

- SMPTE Motion Picture and Television Standards and Practices— more than 800 Standards
- Proceedings from the Annual SMPTE Technical Conference & Exhibition – more than 2,000 papers
- Peer-reviewed SMPTE Motion Imaging Journal – more than 20,000 articles

Available as subscription add-ons  
Perpetual access options available

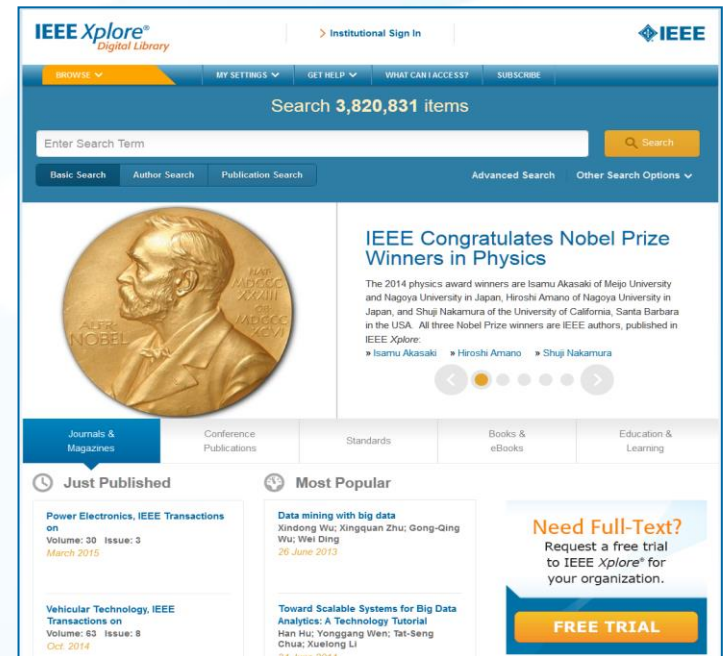




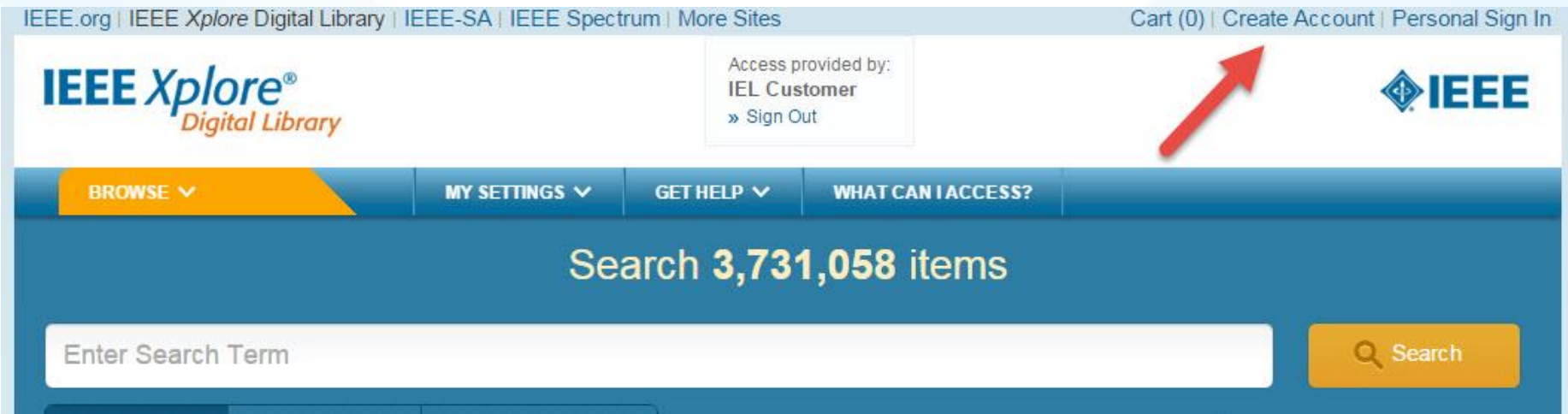
# Recent enhancements to IEEE Xplore

IEEE Xplore now provides:

- Multiple authentication options for onsite, remote, and mobile users
- Enhanced interactive HTML format with ability to view and copy equations and mathematical formulas multiple formats
- New collaboration tools
- And much more....



# Create a free personal account



## Why use a IEEE Xplore Personal Account?

- Search preferences
- Set-up search and content alerts
- Use search history
- Enable remote access feature & more...

The screenshot shows a web interface for creating an IEEE account. On the left, a 'Create an IEEE Account' section includes a heading, a question 'Don't have an IEEE Account yet?', a subtext 'Create a free account in order to:', a bulleted list of benefits, a paragraph about institutional accounts, and a 'CREATE ACCOUNT' button with a 'Cancel' link. On the right, a 'SIGN IN' modal is open, featuring input fields for 'Username' and 'Password', a 'SIGN IN' button, and links for 'Forgot username or password', 'Other Authentication Options', and 'Institutional Sign In'.

## Create an IEEE Account

Don't have an IEEE Account yet?  
Create a free account in order to:

- Sign in to various IEEE sites with a single account
- Manage your membership
- Get member discounts
- Personalize your experience
- Manage your profile and order history

If your institution is not already registered and you would like to create an account for your institution, please contact [onlinesupport@ieee.org](mailto:onlinesupport@ieee.org).

**CREATE ACCOUNT** » Cancel

### SIGN IN

Username:

Password:

» [Forgot username or password](#)  
» [Other Authentication Options](#)  
» [Institutional Sign In](#)

**SIGN IN**

**3-click  
process – just  
fill out your  
First Name,  
Last Name,  
email address,  
password and  
two security  
questions.**

# Personal account benefits

- **Search Preferences:** Designate what you want to search and how you want your search results displayed in IEEE *Xplore* by setting search preferences.
- **Search History:** Search history allows you to record your 50 most recent searches for later viewing and create more complex searches by combining searches. Turn on the search history recording feature in your Preferences.
- **Saved Search Alerts:** Stay up-to-date with the latest research by saving your search. IEEE will notify you when new articles of interest are available.
- **Table of Contents Alerts:** Sign up to receive an email when a new journal or magazine in your area of interest has been posted online with a link to the Table of Contents.
- **Collabratec:** Create personal Research Collections to keep documents organized by project or topic within IEEE *Xplore*. Personalize with project descriptions, and add notes and tags to individual articles as you save them.  
**(formerly My Projects)**

# Remote Access

- Allows for remote mobile 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))



# Setting Up Remote Access

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

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Access provided by:  
Tom Institution  
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IEEE

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Advanced Search | Other Search Options ▼

Remote Access

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# 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

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**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**



# Select Establish Remote Access to pair mobile device

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

# Refresh remote access every 90 days

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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

**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.

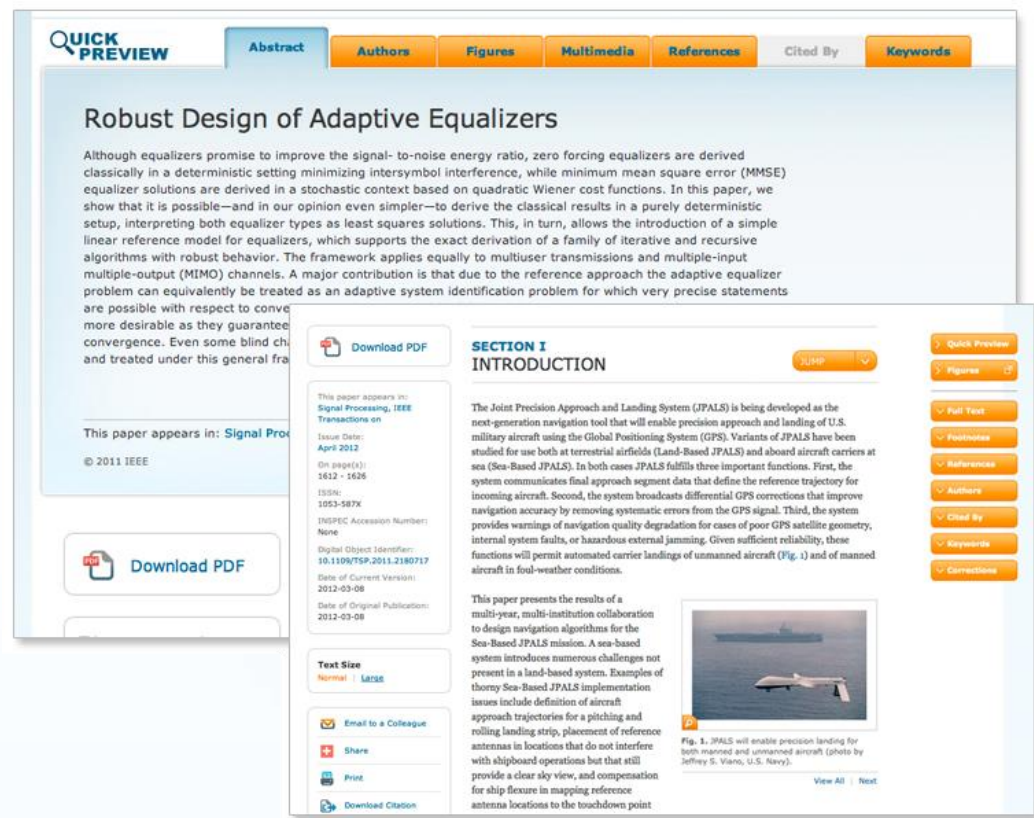
**REFRESH REMOTE ACCESS**

# Remote Access

- This feature will be OFF by default. Libraries can have this feature enabled by contacting Online Support ([onlinesupport@ieee.org](mailto:onlinesupport@ieee.org))
- Institution must have WiFi available to their users and have added the WiFi IP address to their IEEE account authentication
- There is no limit to the number of devices a user can pair, but each individual device and browser on the device will need to be paired uniquely
- User must create/use their IEEE personal account to pair device as well as use the subscription on the paired device

# Dynamic new layout with full-text HTML articles

- ✓ **Scan and interpret** articles in under 60 seconds using "Quick Preview"
- ✓ **Navigate** between sections of long articles with intuitive floating navigation
- ✓ **Effortlessly explore** text, figures, equations, and multimedia files
- ✓ **Quickly view** and copy mathematical equations, expressions, and formulas
- ✓ **Enhance your research** with recommendations for related articles



# Intuitive navigation and interaction with full-text HTML

## SECTION III

### OCEANOGRAPHY SCIENCE AND APPLICATIONS

#### A. Previous Work and Limitations of F

Satellite altimetry measurements of ocean surface the 1980s: Seasat, Geosat, ERS-1, ERS-2, TOPEX/Jason-2. These measurements have led to dramatic of oceanography [33]. For instance, the TOPEX/P demonstrated an average rise of global sea level of TOPEX/Poseidon OST measurements level and their relations to the heat stor TOPEX/Poseidon were used to study the event in historical context [36]. Because between the OST variability and the ph OST measurements into ocean circulation global ocean circulation patterns [38]. ( scientific predictive capabilities. For in

JUMP

I. Introduction

II. Hydrology Science and Applications

III. Oceanography Science and Applications

IV. Swot Ka-Band Radar Interferometer (Karin)

V. Conclusion

> Quick Preview

> Figures

< Full Text

> Footnotes

> References

QUICK PREVIEW

Abstract

Authors

Figures

Multimedia

References

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Keywords

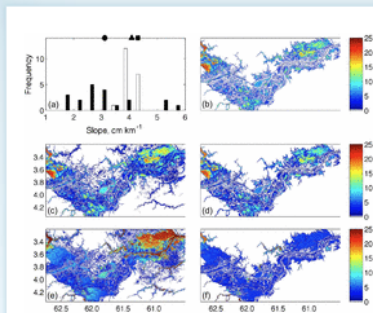


Fig. 4.

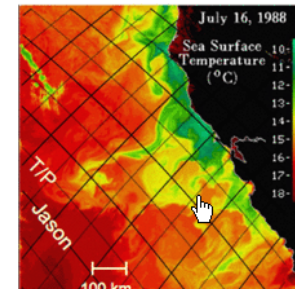


Fig. 5. Sea surface temperature from the AVHRR instrument. Tracks from the TopeX/Poseidon and Jason radar altimeters are also shown.

▶ View in Context  
▶ View Hi-Res Image  
▶ View All Figures

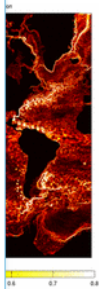


Fig. 6.

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### 3.1 Formulation of Feature Combination

As discussed in Section 2, we treat the set of all possible appearances of the image patch surrounding a keypoint as a class. Therefore, given the patch surrounding a keypoint detected in an image, our task is to assign it to the most likely class. Let  $c_i$ ,  $i = 1, \dots, H$ , be the set of classes and let  $f_j$ ,  $j = 1, \dots, N$ , be the set of binary features that will be calculated over the patch that we are trying to classify. Formally, we are looking for

$$\hat{c}_i = \operatorname{argmax}_{c_i} P(C = c_i \mid f_1, f_2, \dots, f_N),$$

► View Source ⓘ

where  $C$  is a random variable that represents the class. Bayes' formula yields

$$\begin{aligned} P(C = c_i \mid f_1, f_2, \dots, f_N) \\ = \frac{P(f_1, f_2, \dots, f_N \mid C = c_i)P(C = c_i)}{P(f_1, f_2, \dots, f_N)}. \end{aligned}$$

► View Source ⓘ

Assuming a uniform prior  $P(C)$ , since the denominator is simply a scaling factor that is independent from the class, our problem reduces to finding

$$\hat{c}_i = \operatorname{argmax}_{c_i} P(f_1, f_2, \dots, f_N \mid C = c_i). \quad (1)$$

where  $C$  is a random variable that represents the class. Bayes' formula yields

$$P(C = c_i | f_1, f_2, \dots, f_N)$$

$$= \frac{P(f_1, f_2, \dots, f_N | C = c_i) P(C = c_i)}{P(f_1, f_2, \dots, f_N)}$$

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where  $C$  is a random variable that represents the class. Bayes' formula yields

$$P(C = c_i \mid f_1, f_2, \dots, f_N)$$

$$= \frac{P(f_1, f_2, \dots, f_N \mid C = c_i)}{P(f_1, f_2, \dots, f_N)}$$

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Assuming a uniform prior  $P(C)$ , since the denominator is simply a scaling factor that is independent from the class, our problem reduces to finding

$$\hat{c}_i = \underset{c_i}{\operatorname{argmax}} P(f_1, f_2, \dots, f_N \mid C = c_i).$$




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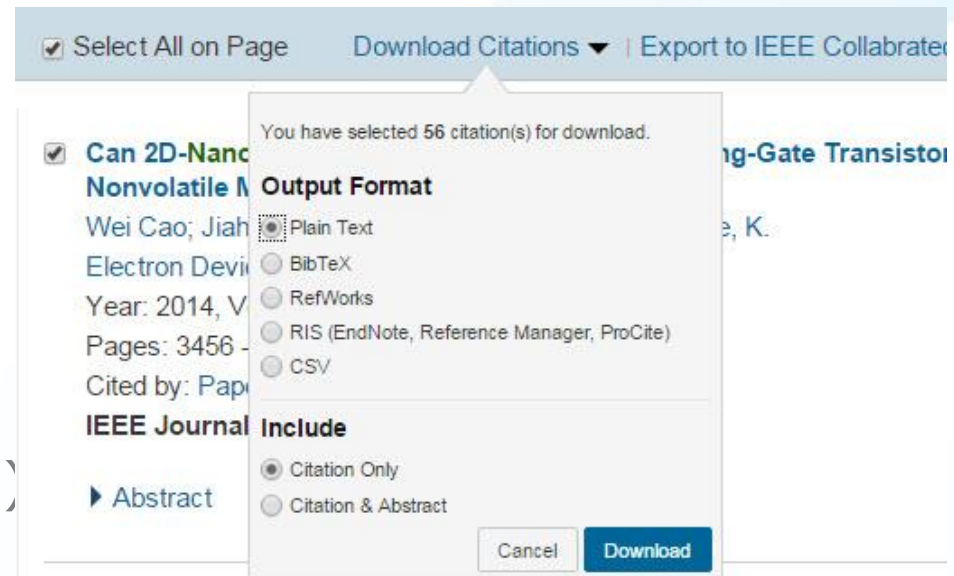
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☒ **Can 2D-Nanocrystals Extend the Lifetime of Floating-Gate Transistor Based Nonvolatile Memory?**   
Wei Cao; Jiahao Kang; Bertolazzi, S.; Kis, A.; Banerjee, K.  
Electron Devices, IEEE Transactions on  
Year: 2014, Volume: 61, Issue: 10  
Pages: 3456 - 3464, DOI: 10.1109/TED.2014.2350483  
Cited by: Papers (1)  
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☒ **Memory property of APTMS-mediated Au-SiO<sub>2</sub> core-shell nanocrystal memory**   
Sheng-Fu Huang; An-Ching Hsiao; Fu-Ken Liu; Ching-Chieh Leu  
Nanoelectronics Conference (INEC), 2013 IEEE 5th International

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

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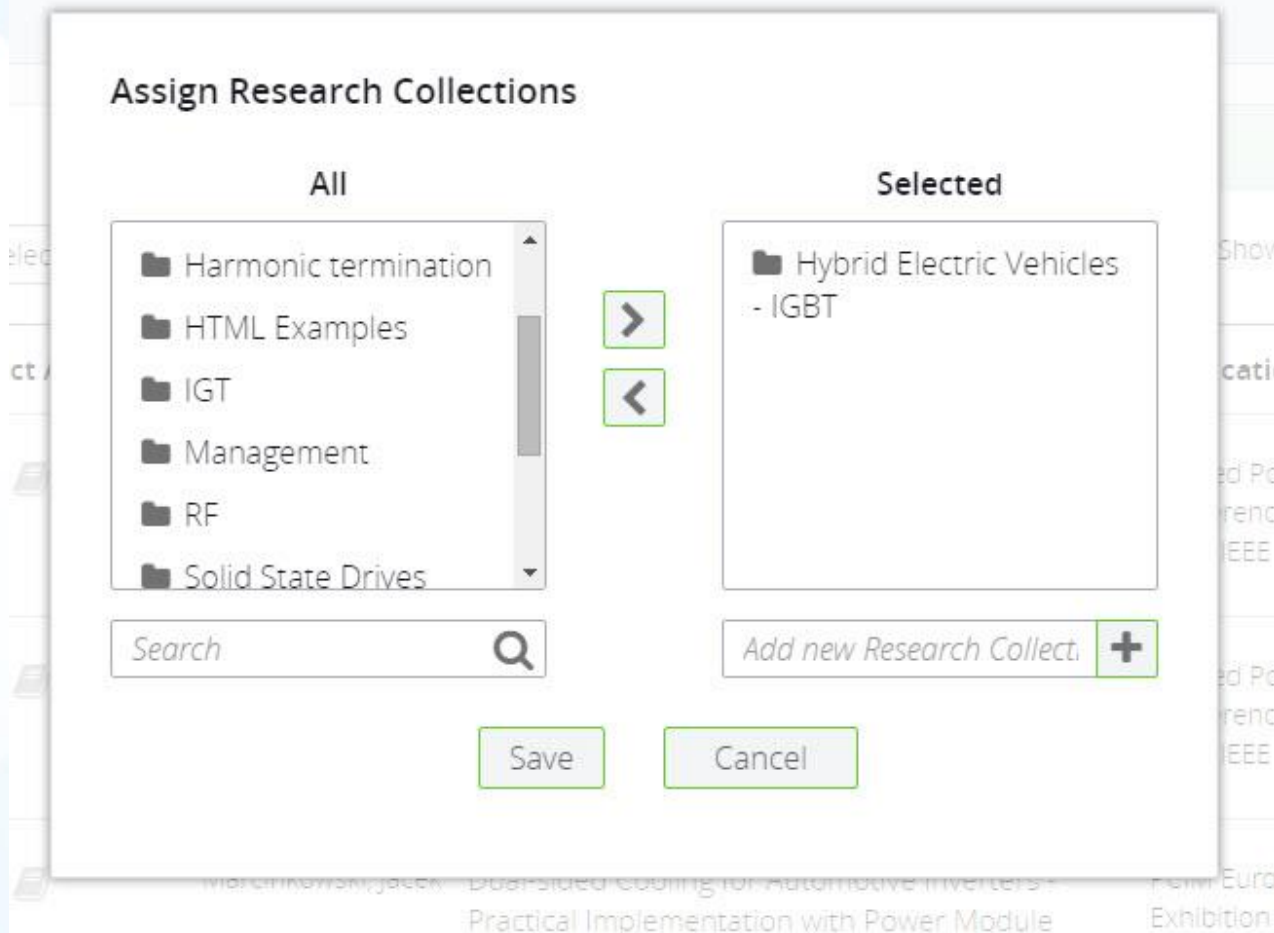
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Ganesh, Anand ; Munsil, Donald J. ; Sullivan, Gary J. ; Evans, Glenn F. ; Sadhwani, Shyam ; Estrop, Stephen J. , "Accelerated video encoding" , Patent No. 8654842 

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**Inventors:**  
Ganesh, Anand ; Munsil, Donald J. ; Sullivan, Gary J. ; Evans, Glenn F. ; Sadhwani, Shyam ; Estrop, Stephen J.

**Abstract:**  
A video encoding acceleration service to increase one or more of the speed and quality of video encoding is described. The service acts as an intermediary between an arbitrary video encoder computer program application and arbitrary video acceleration hardware. The service receives one or more queries from the video encoder to identify implementation specifics of the video acceleration hardware. The service interfaces with the video acceleration hardware to obtain the implementation specifics. The service communicates the implementation specifics to the video encoder. The implementation specifics enable the video encoder to: (a) determine whether one or more of speed and quality of software encoding operations associated with the video encoder can be increased with implementation of a pipeline of one or more supported encoding pipeline configurations and capabilities, and (b) implement the pipeline by interfacing with the service.

**Assignee:**  
MICROSOFT CORP

**Filing Date:**  
February 09, 2007

**Grant Date:**  
February 18, 2014

**Patent Classes:**  
Current U.S. Class:  
375240120, 375240220, 375240250, 382232000  
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Shults, M.C. ; Rhodes, R.K. ; Updike, Stuart J. ; Gilligan, B.J. ; Reining, W.N.

Biomedical Engineering, IEEE Transactions on

Volume: 41 , Issue: 10

DOI: 10.1109/10.324525

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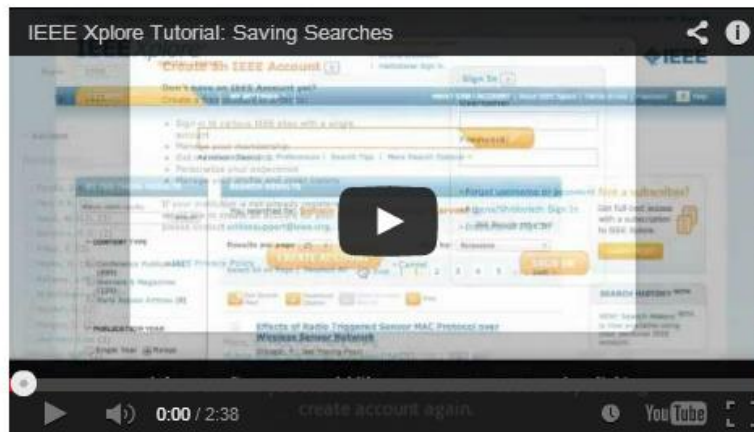
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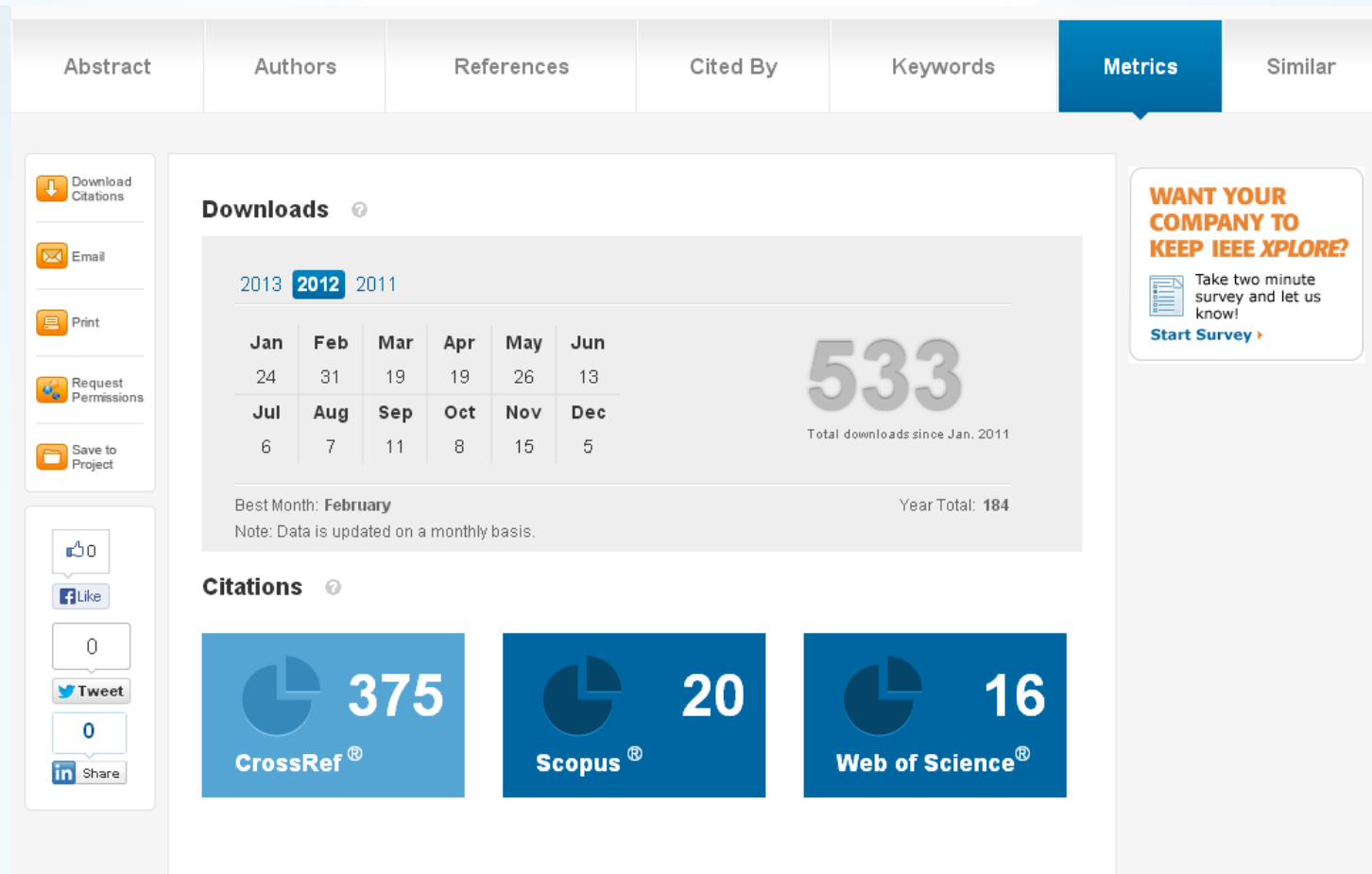
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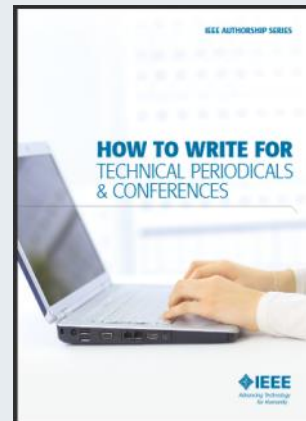
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## The Surface Water and Ocean Topography Mission: Observing Terrestrial Surface Water and Oceanic Submesoscale Eddies

The elevation of the ocean surface has been measured for over two decades from spaceborne altimeters. However, existing altimeter measurements are not adequate to characterize the dynamic variations of most inland water bodies, nor of ocean eddies at scales of less than about 100 km, notwithstanding that such eddies play a key role in ocean circulation and climate change. For terrestrial hydrology, in situ and spaceborne measurements of water surface elevation form the basis for estimates of water storage change in lakes, reservoirs, and wetlands, and of river discharge. However, storage in most inland water bodies, e.g., millions of Arctic lakes, is not readily measured using existing technologies. A solution to the needs of both surface water hydrology and physical oceanography communities is the measurement of water elevations along rivers, lakes, streams, and wetlands and over the ocean surface using swath altimetry. The proposed surface water and ocean topography (SWOT) mission will make such measurements. The core technology for SWOT is the Ka-band radar interferometer (KaRIN), which would achieve spatial resolution on the order of tens of meters and centimetric vertical precision when averaged over targets of interest. Average revisit times will depend upon latitude, with two to four revisits at low to mid latitudes and up to ten revisits at high latitudes per ~20-day orbit repeat period.

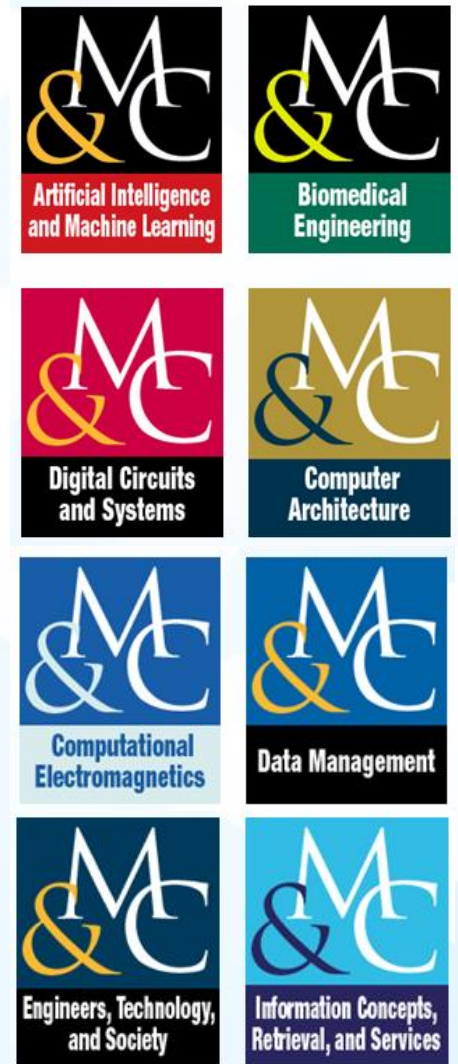
This paper appears in: [Proceedings of the IEEE](#), Issue Date: [May 2010](#), Written by: Durand, M.; Lee-Lueng Fu; Lettenmaier, D.P.; Alsdorf, D.E.; Rodriguez, E.; Esteban-Fernandez, D.

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  - Corporate and Govt worldwide
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# 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

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

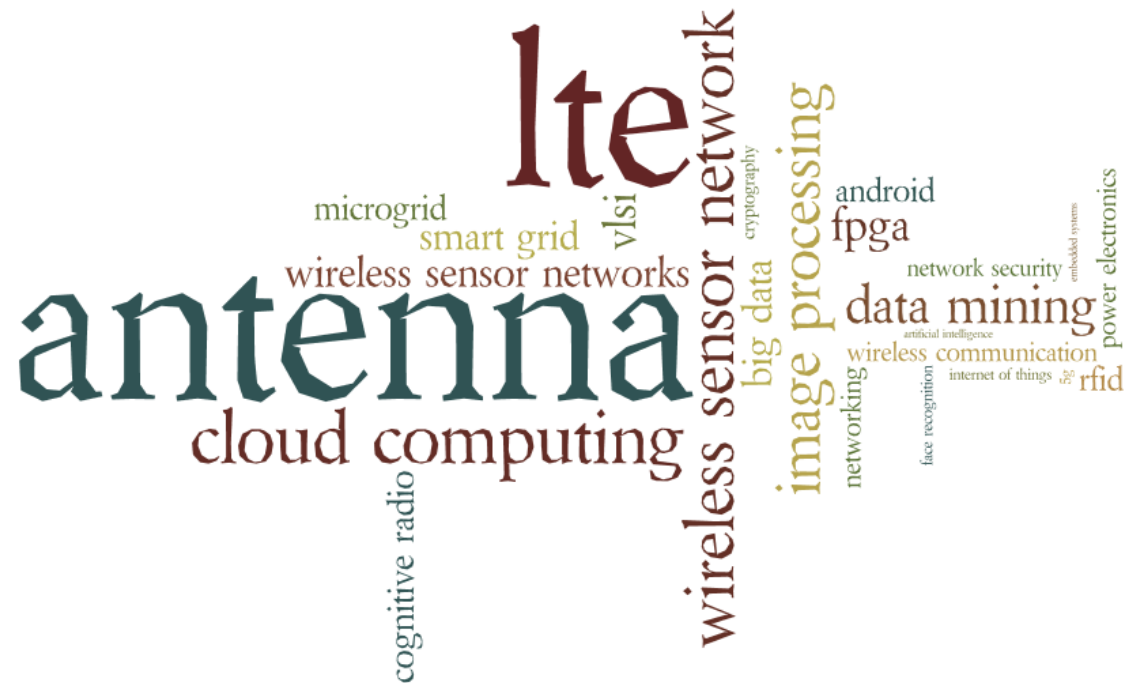
**IEEE 43™**—IEEE Recommended Practice for Testing Insulation Resistance of Electric Machinery

**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

# Top Internal Search Terms 2014

Rank	Search Term
1	cloud computing
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11	internet of things
12	vlsi
13	networking
14	artificial intelligence
15	wireless communication
16	5g
17	cryptography
18	rfid
19	cognitive radio
20	fpga
21	embedded systems
22	wireless sensor network
23	microgrid
24	face recognition
25	lte



Source: NetInsight

# Key Themes Defining The Future

## Openness and Interoperability

- Ease of data accessibility
- Outside & inside innovation
- New applications and tools

## “Segment of One” User Experiences

- Know who I am
- Know what I want
- Give it to me the way I want

## Collaboration and Networking

- Help me connect with others
- Give me access to experts
- Help me be more productive



# How does IEEE listen to its customers?

- IEEE Library Advisory Council
- Requests to the IEEE Online Support team
- Feedback from the field, report back to IEEE
- CSM trainings at customer sites
- Questions & requests to CSMs
- Engineering and library conferences
- Customer surveys
- Volunteer leadership



# IEEE New Initiatives in Scholarly Communication

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- Authors seek maximum exposure for their groundbreaking research and application-oriented articles.
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# IEEE & Data Conservancy

- In May 2014, the Data Conservancy, in partnership with IEEE and Portico, have been awarded a grant to link publications with data.
- Now a significant grant from the Alfred P. Sloan Foundation will support the creation of a service to do just that.
- This service will help preserve the myriad relationships that often exist between and among scholarly and scientific publications and associated datasets.

*“We believe that the models developed as a result of this project will enable new forms of scholarly communication, and thus help to set the stage for the future of research and digital publishing.”*

- Sayeed Choudhury, associate dean for research data management and Hodson director of the Digital Research and Curation Center at the Sheridan Libraries of Johns Hopkins University

**Read the Press Release:**

<http://www.portico.org/digital-preservation/news-events/news/the-data-conservancy-ieee-and-portico-receive-alfred-p-sloan-foundation-grant-to-connect-publications-and-their-linked-data>

# IEEE and ORCID



- ORCID is an open, non-profit, community-driven effort to create and maintain a registry of **unique researcher** identifiers and a transparent method of linking research activities and outputs to these identifiers.
- It is a hub that **connects researchers and research** through the embedding of ORCID identifiers in key workflows, such as research profile maintenance, manuscript submissions, grant applications, and patent applications.
- ORCID provides two core functions:
  - (1) a registry to obtain a unique identifier and manage a record of activities, and
  - (2) APIs that support system-to-system communication and authentication

# IEEE and ORCID



- IEEE is working actively with ORCID on the following collaborations and development projects:
  - IEEE Member Profile Management Portal
  - IEEE Author Gateway
  - IEEE Conference Submission Systems
  - IEEE *Xplore* Digital Library – Author Publication Page
- All projects at various stages of development. For more info, see Renny Guida, IEEE Dir. of Prod Mgmt. (r.guida@ieee.org)

# Who relies on IEEE information?

## Core groups

**Rely on speed, versatility, and ease of managing a lot of information**

- Faculties
- Students from Engineering to Humanities
- Research & Development Teams
- Engineering Work Groups



## More than just R&D

**Depend on intuitive access to exactly what they need, when they need it**

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- Product Management
- Information Technology (IT) Groups
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- Human Resources Hi-Tech Recruiters
- Investment Research Analysts

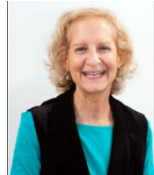
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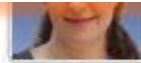
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# IEEE – The top-cited publications in the field

Each year, the Thomson Reuters Journal Citation Reports® (JCR) examines the impact of academic journals by determining how often journal articles are cited in later research.

The 2014 JCR study, released in July 2015, shows that IEEE publications continue to rank at the top in citations on technology.



# Examples of New IEEE Conferences in 2014



- **Internet of Things** (WF-IoT), 2014 IEEE World Forum on
- **Humanitarian Technology** Conference, (IHTC), 2014 IEEE Canada International
- Aerospace Electronics and Remote Sensing Technology (ICARES), 2014 IEEE International Conference on
- Antenna Measurements & Applications (CAMA), 2014 IEEE Conference on
- Consumer Electronics, Taiwan (ICCE-TW), 2014 IEEE International Conference on
- Energy Conversion (CENCON), 2014 IEEE Conference on
- Ethics in Science, Technology and Engineering, 2014 IEEE International Symposium on
- **Transportation Electrification** Asia-Pacific (ITEC Asia-Pacific), 2014 IEEE Conference and Expo
- **Intelligent Energy** and Power Systems (IEPS), 2014 IEEE International Conference on
- Quantum Optics Workshop (QOW), 2014
- Sensor Systems for a Changing Ocean (SSCO), 2014 IEEE
- Wireless and Mobile, 2014 IEEE Asia Pacific Conference on
- Industrial Engineering and Information Technology (IEIT), 2014 International Conference on
- Guidance, Navigation and Control Conference (CGNCC), 2014 IEEE Chinese

# Examples of New IEEE Standards in 2014

**IEEE 802®–2014**—IEEE Standard for **Local and Metropolitan Area Networks**: Overview and Architecture

**IEEE 1127™–2013**—IEEE Guide for the Design, Construction, and Operation of **Electric Power Substations** for Community Acceptance and Environmental Compatibility

**IEEE 1361™–2014** —IEEE Guide for Selecting, Charging, Testing, and Evaluating Lead-Acid Batteries Used in Stand-Alone **Photovoltaic (PV) Systems**

**IEEE 1609.0™–2013** - IEEE Guide for **Wireless Access in Vehicular Environments** (WAVE) – Architecture

**IEEE 1683™ -2014** - IEEE Guide for Motor Control Centers Rated up to and including 600 V AC or 1000 V DC with Recommendations Intended to Help **Reduce Electrical Hazards**

**IEEE 1716™ –2014** - IEEE Recommended Practice for **Managing Natural Disaster Impact** on Key Electrical Systems and Installations in Petroleum and Chemical Facilities

**IEEE 1782™–2014** - IEEE Guide for Collecting, Categorizing, and Utilizing Information Related to **Electric Power Distribution Interruption Events**

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