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IEEE Future Directions Newsletter



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Welcome to the Anniversary Issue of the Future Directions Newsletter

by Roberto Saracco

One year has gone by since the publication of the first Future Directions Newsletter. This is our 7th issue, in line with the plan to publish one every two months. Future Directions (FD) is a great place to pull together the many threads created by IEEE through its technical Societies and OUs and weave a fabric of innovation. The breadth provided by FD is essential to foster innovation. It takes more than technology, although this is an essential component in modern society. You need to consider economic, industrial, social and regulatory aspects and involve the appropriate constituencies. You also need to get out of the box and take a different perspective; this often is enabled by the interaction of people from different technical areas.

Future Directions is open to everybody through each initiative's Technical Community. The real turning point in science and technology was in the use of the printing press in the 16th century, making information available to a broader community (measured in thousands of educated people). With the Internet we have reached another turning point, expanding the reach to millions of scientists and researchers and even more importantly, in a way, to several billions of people who eventually will steer the evolution by using what researchers and industry are creating. The Internet is flooding us with information but that is just a more subtle way to hide information. At FD, we are digging into this ever-growing heap of information to distill it, trying to focus on what should really grab your attention. We do this with your help, through the involvement of our IEEE OUs. Every June we dedicate a day to discuss what should be the focus of next year, what among the many emerging technologies would benefit most from FD engagement.

On 1 May we started a [daily blog](#) discussing technology advances and their impact. You are welcome to provide your thoughts, and be part of the digital transformation day after day. Stay involved in the exciting work of Future Directions - visit each featured portal for access to upcoming conferences, news articles, technical papers, related standards, professional organizations, and academic programs. We invite you to join any of these communities at no cost. To learn more, contact [Future Directions](#),

IEEE Future Directions Communities



or visit our [website](#).

Technology Policy and Ethics

IEEE Future Directions considers the reflection of technology through the lens of social implications a key tenet of our work as we incubate and promote technologies. We are seeking submissions of original content, short articles of 800-1200 words on the social implications of technology, including but not limited to policy and ethics topics. If interested please email FDPolicyEthics@ieee.org.

Future Directions in Online Healthcare Consumerism Policy Making: Exploring Trust Attributes of Online Healthcare Information

by Ankur Chattopadhyay and Katie L. Turkiewicz

The internet profoundly impacts the way people search for, utilize, and communicate about healthcare information. Eight out of 10 Americans report searching online for healthcare information. More specifically, 83% indicated using the Internet to look up a particular disease or a medical problem. There is an enormous amount of Online Health Information (OHI) available for users. However, there is lack of standardization in setting guidelines of credibility standards for OHI. In other words, there are no standard mechanisms or policies for regulating online healthcare consumerism to help users make 'trust' decisions while using OHI. Although active OHI users make such "trust" judgments all the time, there is no standard policy driven method or approach to comply with the rationale of making such decisions.

[Read the article.](#)

Cybersecurity Law and Emerging Technologies: Part 1 The Federal Trade Commission, Reasonable Security Measures, and Internet of Things (IoT)

by Emile Loza de Siles

Emerging technologies and their development, deployment, and business models accelerate more rapidly than do the important legal frameworks needed to govern those technologies and activities. Cybercriminals likewise run rampant and push the need for meaningful cybersecurity laws forward with urgency. In this Part 1 article, we discuss cybersecurity law as it applies to emerging technologies with a specific focus on the Internet of Things. Cooperative efforts between the technology and legal communities are greatly needed to better inform the development of technically-minded cyber laws and of the technologies that are reshaping humanity and society.

[Read the article.](#)

Feature Article

The End of Moore's Law: A New Beginning for Information Technology

By Thomas N. Theis, Columbia University and H.-S. Philip Wong, Stanford University



Far from signaling an end to progress, the gradual end of Moore's law will open a new era in information technology as the focus of research and development shifts from miniaturization of long-established technologies to the coordinated introduction of new devices, new integration technologies, and new architectures for computing.

Read the article at [IEEE Computing in Science and Engineering](#).

Current Activities in our Technical Communities

IEEE 5G:

Save the date! IEEE 5G will be hosting the IEEE 5G World Forum 2018 (WF-5G) 9-11 July 2017 in Santa Clara, CA, USA. This unique event for industry leaders, academics, and government officials is designed to examine 5G technologies and applications for the benefit of society. Visit the conference [website](#) for more information.

Visit the IEEE 5G [web portal](#).

IEEE Big Data:

Registration is now open for the next event in our series of Data Analytics and Visualization Competitions. It will be held at IEEE Computer Society Signature Conference on Computers, Software and Applications ([COMPSAC 2017](#)), 4-8 July 2017 in Torino, Italy, and is open to all attendees of the conference. Monetary prizes will be awarded to the top winning individuals or teams. [Visit the conference website](#).

Visit the IEEE Big Data [web portal](#).

IEEE Brain:

Call for participation! IEEE Brain Initiative is involved in a number of competitions this year, including brain data bank competitions and brain computer interface (BCI) hackathons. Visit the [Brain portal](#) for the latest information.

Visit the IEEE Brain [web portal](#).

IEEE Cloud Computing:

[Cloud and DevOps World 2017](#) will return to London in June 2017 as part of TechXLR8, London Tech Week's Festival of Technology. TechXLR8 will give you access to all the industries cloud impacts, with our vast floor plan and wide range of co-located events, while the Cloud and DevOps show will focus on the cloud technology innovations that can still disrupt businesses, drive value and streamline IT processes.

Visit the IEEE Cloud Computing [web portal](#).

IEEE Cybersecurity:

The second annual Cybersecurity Development conference (IEEE SecDev) will be held in Boston, MA, USA 24-26 September 2017. SecDev is a venue for presenting ideas, research, and experience about how to develop secure systems, with a focus on how to "build security in" (and not simply to discover the absence of security). Its goal is to encourage and disseminate ideas for secure system development among both academia and industry. Developers have valuable experiences and ideas that can inform academic research, and researchers have concepts, studies, and even code and tools that could benefit developers. Visit the conference [website](#) for more information.

Visit the IEEE Cybersecurity [web portal](#).

IEEE Digital Senses:

[Sign up](#) for this new IEEE community to receive the latest information on Digital Senses.

Visit the IEEE Digital Senses [web portal](#).

IEEE Green ICT:

IEEE Green ICT will be hosting a [Greening through ICT Summit](#) (GtICT) on 3 October 2017 in Paris, France. The theme of the summit is "Sustainability in a Connected World."

Visit the IEEE Green ICT [web portal](#).

IEEE Internet of Things (IoT):

The Fourth IEEE World Forum on The Internet of Things (WF-IoT 2018) will be held 5-8 February 2018 in Singapore under the theme Smart Cities and Nations.

Organized by the IEEE IoT Initiative with IEEE multi-society sponsorship, we are seeking original technical papers, and suggestions for speakers, panels, demonstrations, and sessions aimed at industry technologists, practitioners, managers, and operators; policy makers, public sector administrators, operators of public infrastructure and services; and others involved in the use of IoT. Further information can be found on the [WF-IoT 2018 conference website](#).

Visit the IEEE Internet of Things [web portal](#).

IEEE Life Sciences:

The IEEE Life Sciences Conference will focus on multi-society perspectives on personalized healthcare and wearables. It will take place in Sydney, Australia, 13-15 December 2017. [Learn more](#).

Visit the IEEE Life Sciences [web portal](#).

IEEE Rebooting Computing:

Registration is now open for the opportunity to compete for cash prizes in the [Low Power Image Recognition Challenge](#) (LPIRC). Limited travel grants are available.

Visit the IEEE Rebooting Computing [web portal](#).

IEEE Smart Cities:

The first [IEEE Summer School on Smart Cities](#) (IEEE S3C 2017) will be held 6-11 August 2017 in Natal, Brazil. The School provides a wide range of state-of-the-art courses and other activities led by some of the most prominent researchers and practitioners in the area.

Visit the IEEE Smart Cities [web portal](#).

IEEE Smart Grid:

Check out the new [IEEE Smart Grid Resource Center](#).

Visit the IEEE Smart Grid [web portal](#).

IEEE Software Defined Networks (SDN):

The Software Defined Networks, through its Preindustrial Committee has recently developed a high-level draft conceptual architecture for the Open Multi-Access Edge Cloud (OMEC). Identified within the architecture are seven key components which help define the domains of the architecture, and a proposed collection of proof of concept projects to help prove out the architecture.

Visit the IEEE Software Defined Networks [web portal](#).

IEEE Transportation Electrification:

Read the current issue of the [IEEE Transportation Electrification eNewsletter](#) featuring the following articles:

- "NASA Electric Aircraft Testbed (NEAT) Overview"
- "Electric Transportation and Community Solar - A Worthy but Complex Multi-Agency Initiative"
- "Virtual Synchronous Converter Based Motor Drives for Future Electric Vehicles"

Visit the IEEE Transportation Electrification [web portal](#).

IEEE Future Directions Upcoming Events

[IEEE 3rd Conference on Network Softwarization \(NetSoft 2017\)](#)

3-7 July 2017, Bologna, Italy

[IEEE COMPSAC 2017, DSAT: Data Sciences, Analytics, and Technologies Symposium](#)

4-8 July 2017, Turin, Italy

[IEEE Secure Development Conference \(IEEE SecDev\)](#)

24-26 September 2017, Cambridge, MA, USA

[Greening through ICT Summit](#) (GtICT)

3 October 2017, Paris, France

[IEEE Rebooting Computing Week](#)

Kicks off with the [International Roadmap for Devices and Systems \(IRDS\) Workshop](#) scheduled for 6-7 November 2017, followed by the [IEEE International Conference on Rebooting Computing](#) (ICRC) to be held 8-9 November 2017, and then concludes with the [Industry Summit on the Future of Computing](#) on 10 November 2017. All of the IEEE Rebooting Computing Week events will be held at The Ritz-Carlton Hotel in McLean, VA, USA.

[IEEE Life Sciences Conference](#)

13-15 December 2017, Sydney, Australia

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