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Mark Your Calendars! IEEE 5G World Forum Goes Virtual on 10-12 September 2020

Now in its third year, the [2020 IEEE 5G World Forum \(5GWF'20\)](#) continues to be the leading venue focused on examining key innovations of 5G technologies and beyond. Convening experts from industry, academia, and research, this flagship conference of the IEEE Future Networks Initiative offers attendees the unique opportunity to examine the emerging 5G ecosystem and exchange visions for driving the development of 5G and applications across the global landscape.

IEEE 5GWF'20 is transforming its dynamic, well-attended event into an equally rich and comprehensive virtual environment. Live sessions and daily content updates will be scheduled from 10-12 September 2020, and the virtual platform will remain open for registrants to consume the content for several weeks after that. One registration covers all sessions, including a variety of workshops, panels, keynote talks, technical paper presentations, tutorials, topical/vertical tracks and more centered around this year's theme, "5G and Beyond: A Comprehensive Look at Future Networks."

Visit the [IEEE 5GWF'20 website](#) to learn more about the conference, including our invited keynote speakers and technical program that explores 5G across nine innovative topical/vertical tracks.

The 5G revolution is here -- don't miss out on this premier event! Registration is open, so act now and reserve your virtual seat today. We look forward to "seeing" you in September!

[Register Today](#)



[IEEE Future Directions Technology, Policy and Ethics](#) publishes articles addressing issues in current and future technologies, including the social and ethical considerations. We are currently seeking submissions of original content, articles of 800-1200 words on the implications of technology, including but not limited to policy and ethics topics. If interested, please email FDPolicyEthics@ieee.org. Learn more about submitting an article through the [author guidelines](#).

The Faustian Bargain- The Promise of AI and the Destruction of Jobs Part 3

Dr. Frank M. Groom, *Ball State University, Muncie, Indiana*

[Read Part 1](#)

[Read Part 2](#)

One option is to undertake a national effort to identify the work which must remain local to the communities and the country. Among these will be the traditional trades of plumbing, welding, electrical, repair, and installation. The builders, bricklayers, roofers, solar panel installers, well drillers, chimney builders, and repairers are always needed. Other local positions needed are the care and assistance of others including the sick, disabled, and elderly. Furthermore, the teachers in the pre-school, elementary, and high schools will likely remain local. Over time, public university education will increasingly be delivered by a few high-quality instructors over the national broadband network which 5G will significantly enhance. Millions of additional required jobs must be envisioned, planned, trained, and embedded in our business, public, and private organizations. Otherwise, we may be left with a sizable unemployed population supported by a public dole which can only be sustained by the large corporations which no longer need and employ that populace.

[Read Part 3](#)

The Economics of Shared Infrastructure in 5G Networks

Zoraida Frias, *Universidad Politécnica de Madrid, Spain*; Volker Stocker, *Weizenbaum Institute for the Networked Society (The German Internet Institute) / Technische Universität Berlin, Germany*

5G, the new generation of mobile communications, has been designed to become the ultimate enabler for a digital revolution. Making possible a variety of new applications and business models, 5G is expected to drive a disruptive transformation of societies and economies. It promises to connect vehicles for more efficient, sustainable, and safer mobility; facilitate connected urban infrastructures for improved public services; revolutionize the health sector; and make factories and production processes smarter.

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How Blockchain Solutions can Improve the Education Sector

Bryan Fortriede, Lindsey Neeley, and Jake Skinner – *Ball State University*

Starting with identity management and the “laws of identity” this article will discuss the current challenges and requirements imposed upon students in the education sector today. Building upon identity and record-keeping on a blockchain, the access granted to requesting entities is defined within access security. An exploration of the challenges and benefits by implementing blockchain and identity management with access security will highlight areas where

complicated processes can be simplified with the use of blockchain technology. The summary below will detail how blockchain and identity management can be implemented to simplify and improve the current procedures that exist today.

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Current Activities in our Technical Communities



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Stay current in the field of blockchain with the online [IEEE Blockchain eLearning modules](#). Courses range from an introduction to blockchain that lays the groundwork for understanding the technology to insightful case studies and applications to the potential impact of blockchain on the human rights of nationality and privacy. Gain an in-depth understanding of blockchain and its social and ethical impacts, and meet your CEU and PDH requirements with each course.

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The IEEE Brain Neurotech Entrepreneurs Workshop inspired, empowered, and connected aspiring entrepreneurs to the neurotech innovation community. You can now watch this full set of presentations that cover ideation, market analysis, customer and stakeholder analysis, intellectual property, regulatory affairs, reimbursement, valuation, and fundraising on IEEE.tv. [Access the video presentations.](#)

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The [IEEE Transactions on Cloud Computing](#) is a scholarly journal dedicated to the multidisciplinary field of cloud computing. It publishes peer-reviewed articles that present innovative research ideas and application results of cloud computing, focusing on key technical issues related to theory, algorithms, systems, applications, and performance.



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The IEEE Secure Development Conference (SecDev) will be held as an all-digital conference experience 28-30 September 2020. The goal of SecDev is to encourage and disseminate ideas for secure system development among academia, industry, and government. [Visit the conference website](#) for the most up-to-date news on SecDev 2020.

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Check out the most recent white paper from IEEE Digital Reality co-chair Roberto Saracco, entitled, [The Evolution of Human to Whatever Interface](#). This paper addresses how human machine interaction was designed, out of necessity, with the machine in mind. It did not mirror the way humans interact with one another. This situation has not really changed in the last fifty years, but it is starting to change now thanks to software and artificial intelligence.



A complimentary effort by the IEEE Future Networks Initiative through its technology roadmap development is on Artificial Intelligence and Machine Learning. IEEE Future Networks roadmap, [IEEE International Network Generations Roadmap \(INGR\)](#) has produced a technical community that fosters the exchange of ideas, sharing of research, setting of standards, and identification, development, and maturation of system drivers, system specifications, use cases, and supported applications. Work continues with the Second Edition, where experts are encouraged to participate, to evolve and strengthen this crucial document. If you're interested in joining and/or learning more about the Artificial Intelligence/Machine Learning working group, please email 5GRM-AIML@ieee.org.

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Despite 5G's massive potential, favorable economics and constant promotion via television ads, actual deployment of 5G is a major challenge due to public pushback, policy issues and public vs. private options. The IEEE Future Networks Initiative's deployment co-chair David Witkowski will tackle these issues and more in a new podcast series on 5G Deployment. [Listen to the first episode](#) and find options to subscribe to the IEEE Future Networks podcast feed.

The IEEE International Network Generations Roadmap (INGR) held a three-day Virtual Workshop in June to progress their work toward a second edition. [Visit the](#)

[workshop page](#) to view the recordings and slides from the public readout and learn more about INGR.

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The IEEE WF-IoT 2020 Virtual Forum on Internet of Things 2020 is a series of online events, with many exciting events coming soon, including: Tutorials Week, which addresses important aspects of IoT; Standards for IoT Week, including interactive presentations and panels; Vertical and Topical Areas of IoT Week, focused on hot topics in IoT; and a Women-in-Engineering interactive panel. For more information, visit the [IEEE WF-IoT 2020 website](#).

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The IEEE Life Science Technical Community (LSTC) fosters collaboration and communication among an array of IEEE Societies making contributions in the Life Sciences, to provide a broad-based home for IEEE members who are interested in some aspects of the life sciences. [Join the IEEE Life Science Community](#) to stay connected and informed on research and developments as they unfold in this dynamic field.

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IEEE Quantum Week 2020 is now virtual! Attend IEEE's premier conference on quantum technologies on 12-16 October 2020 online to learn about the latest in quantum research, technologies, practice, applications, education, and training. The extensive, multi-disciplinary program will feature leading keynotes, tutorials, workshops, and more. Reserve your virtual seat and register today at the [IEEE Quantum Week website](#).

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The 2020 5th IEEE International Conference on Rebooting Computing (ICRC) will be a fully virtual conference held on 1-3 December 2020. ICRC is the leading venue for forward-looking computing, with emphasis on all aspects of the computing stack. Call for Papers now available -- Submit your abstracts by 7 August 2020. Learn more at the [IEEE ICRC website](#).

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The [2020 IEEE International Smart Cities Conference](#), the flagship event of IEEE Smart Cities, which brings together practitioners, city policymakers & administrators, infrastructure operators, industry representatives and researchers, will be held on 28 September to 1 October 2020. Subject matter experts will present technologies and applications and share their experiences & views with current and future Smart Cities applications. The conference includes keynote and panel session discussions, tutorials given by experts on state-of-the-art topics, and special sessions on emerging topics with the aim of complementing the regular program. Registration will be opening soon.

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IEEE Smart Grid hosts a series of webinars on varying aspects of global grid modernization. [Visit the Live Webinar Events](#) page on the IEEE Smart Grid web portal to see the latest offerings, or [browse the Past Webinars](#) page to access previously recorded webinars on demand.

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IEEE SDN now offers a collection of online courses in the field of Software Defined Networking, Network Function Virtualization, and related technologies. Learn from industry experts about topics that include the fundamentals of SDN and NFV, security and management challenges, the latest SDN open source platforms, and more. Participants also have the opportunity to earn Continuing Education Units (CEUs) and Professional Development Hours (PDHs) with each course. [Access the courses](#).

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The IEEE Sustainable ICT Initiative's mission is to build a holistic approach to sustainability through ICT by incorporating green metrics through IEEE technical domains and seeks to foster the incorporation of green metrics and standards in design concepts for various technical domains. The initiative brings together expertise from different fields, in conferences and publications, with a view to foster holistic design and standardization approaches. Please [join the IEEE Sustainable ICT Technical Community](#) to help drive this very important topic.

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TEC will be hosting a webinar, All-electric Propulsion for Heavy-duty Urban Aerial Vehicles, on 19 August 2020. In this webinar, Yue Cao will dive deep into such heavy-duty all-electric UAVs, and particularly their propulsion systems. The webinar will break into several subtopics: 1) Unique technology needs and challenges in such power electronics based powertrains; 2) Propulsion system architectures and multi-physics modeling; 3) A machine-learning enabled automated and efficient system design approach; 4) A fully integrated fault-tolerant motor drive; 5) High-conversion high-voltage power converters; 6) Future opportunities in component/system design and broader energy impact. [Register now](#) to participate in this virtual event, and [view previous events](#) on the TEC portal.

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IEEE Future Directions Events

[2020 IEEE 5G World Forum \(5GWF\)](#), 10-12 September 2020, Online

[2020 IEEE Secure Development Conference \(SecDev\)](#), 28-30 September 2020, Online

[2020 IEEE International Smart Cities Conference \(ISC2\)](#), 28 September - 1 October 2020, Online

[2020 IEEE Quantum Week](#), 12-16 October 2020, Online

[2020 5th IEEE International Conference on Rebooting Computing \(ICRC\)](#), 1-3 December 2020, Online

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