ifip 60 YEARS

News

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IFIP Continues to Operate Under Shadow of COVID-19

As nations and cities around the world move to remote working and social distancing to help curb the spread of the Coronavirus, IFIP continues to play a leadership role for ICT professionals.

The IFIP headquarters in Laxenburg is closed and staff are working from home, however meetings are continuing on Zoom, Skype and by phone, and activities within all the Technical Committees, Working Groups and our member societies are continuing.

We will respond to all queries we receive, but please be patient if we take a little longer than usual as we might not have access to all the usual infrastructure and resources.

Decisions about conferences and other major meetings are being made by the relevant organisers, who will post information and updates on their home pages.

We encourage all our members to act responsibly in these uncertain times, to stay safe, practise social distancing measures and support each other through whatever changing circumstances you face.

Please follow the recommendations and policies of your nation's government and other authorities, and do your best to support yourself and others in navigating these challenges.

Mike Hinchey

(IFIP President)

IP3 News

International Professional Practice Partnership
Partnering for Trust in Digital

From the Chair – Moira de Roche

These days we are all consumed with the Corona virus (COVID-19) Pandemic. The statistics are alarming. I have been considering Trust & the Duty of Care during the Pandemic.

IFIP IP3 launched the iDOCED – ifip Duty Of Care in Everything Digital - campaign at the end of 2016. This was as a response to the need for everyone to be aware of cyber-security in the Fourth Industrial Revolution. We wanted to alert Professionals, consumers, end-users and governments to the dangers of an increasingly connected world.

Has this changed now that so many are forced to work from home, or are living in a lockdown situation where we are forced to stay at home? I think so.

End-users – administrative staff, call-centre staff, etc – who are used to working in an environment where their online security is taken care, and are now working in a possibly unsecured environment at home, must exercise a duty of care which they are unaccustomed to. Do they have secure router passwords? Their children are at home because the schools are closed, and their devices are connected to the home network. Are parents monitoring the sites they visit, and ensuring their devices are password protected and have at least a basic level of virus protection. In fact, this is an ideal time for everyone to educate themselves and their families on security and privacy. I urge you to encourage your neighbourhoods and social networks to do so.

From a non-technological point of view, there is also a duty of care to do everything we can to prevent the spread of the virus. This includes self-isolating as far as possible and not congregating in crowds. I was out shopping for essentials this morning, and was astounded by how many families – Mom, Dad and small children were out shopping. One parent should have stayed at home with the children, whilst the other went shopping for essentials.

Hopefully everyone will understand the seriousness of the situation, and understand that a duty of care surpasses selfish reasons, such as “I am going to go home to my village for Easter because I always do”, or “It’s Easter, I must attend church services”.

I wish all readers everything of the best. May you and your families stay healthy, and if you are sick, I pray you will recover well. Keep calm and wash your hands!

Vice-chair Strategic Relations – Stephen Ibaraki

Stephen is involved with several COVID-19 activities, and has conducted some relevant interviews:

ACM Interview with Alexander Wong, P.Eng. founder speaking about COVID-NET: Canada Research Chair in Artificial Intelligence and Medical Imaging, co-director of the Vision and Image Processing Research Group, associate professor in the Department of Systems Design Engineering at the University of Waterloo, and Chief Scientist at DarwinAI

ACM Interview with David Bray on COVID, Director, GeoTech Center and GeoTech Commission with the Atlantic Council

http://stephenibaraki.com/acm/interviews/v0320/david_bray2020_acm.html
All interviews can be found at ACM Interviews with Stephen Ibaraki

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Chair SAC – Adrian Schofield

The reality of a virtual world

The world will be a changed environment after the COVID-19 pandemic has run its course. Although we have yet to see the full extent of the devastation caused by the transmission of the virus from person to person and group to group, there is no doubt that many of the ways we interact with each other will be changed forever.

One of the small cogs in the big wheel of promoting professionalism in the practice of ICT skills is the International Professional Practice Partnership (IP3) accreditation of schemes by member societies to certify the professional standing of their members. IP3's Standards & Accreditation Council (SAC) conducts a rigorous process of examining evidence in the form of documentation and other records, together with interviewing key stakeholders from the society's community, in order to accredit the scheme(s) that allow qualifying members to be certified. This process is renewed at 5-yearly intervals or when required to accommodate a change in the certification grades.It is like a financial audit.

So here is the 2020 challenge: can such an accreditation process be effectively carried out without the physical presence of the assessment team? Three of IP3's member societies require re-accreditation in 2020. Whilst the assessors are very disappointed that they cannot enjoy the hospitality of the various host cities, the reality of the next six months is that such travel will be unwise, if not downright impossible.

The SAC is actively considering how to meet the standards for effective accreditation through a remote process. We are blessed as a sector with access to some great technology for remote working - and much of that technology will be thoroughly tested during the lockdown phase that seems to be most effective in halting the spread of the coronavirus. Documentary evidence can be placed in secure shared storage, such as Dropbox, Box, Google Drive, OneDrive and the like. Interviews can be conducted using virtual meeting applications, such as Hangouts, Zoom, Skype, WebEx and others.

The upside of rising to this 2020 challenge is the greatly reduced cost of the accreditation "visit", no longer requiring travel, accommodation and sustenance for the participants. The downside is missing out on visiting some great cities and meeting some great people.

News from Europe

Director Liesbeth Ruoff (KNVI representative), who is our person on the ground in Europe, reports:

In January 2020 we had a first expert meeting of the recently launched project e-Competences Performance Indicators and Common Metrics of CEN TC 428 in Paris at the CIGREF location. The main objective of the project is to find an agreed European approach aimed to assess the competences of ICT professionals, whenever/wherever such competences have been acquired/developed.

In this context, the event focused on major themes related to e-Competences assessment:

How to recognize and validate the e-Competences?
What are the existing tools and good practices in Europe?
What is still needed and feasible?

An interview with IP3 experts will take place in this respect to see if and what can be learned from other practices in this area.

In February CEN TC meetings were

- around the user guide update of the European e-Competence Framework 2019, Frankfurt - IG Metal.
- around the development of a European Foundational Body of Knowledge for the ICT Profession (EU ICT BoK). The work is taking place in CEN Technical Committee TC 428, aiming at publishing a European-agreed EU ICT BoK Standard and supporting Technical Report User Guide in 2021. Similar to and complementary with the e-CF standard EN 16234-1:2019 (e-Competence Framework) that provides an effi-

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cient and broadly accepted common European language about ICT professional competence to IT organisations, learning program providers and digital skills policy, the European ICT Foundational Body of Knowledge will make another key contribution to increase transparency and maturity across the European ICT Profession. A European Foundational Body of Knowledge needs strong ICT sector engagement from both ICT qualification and workplace perspectives. In relation to this project a questionnaire has been developed. IFIP stakeholders are encouraged to share their expertise, personal experience and views. The EU ICT BoK stakeholder requirements survey completed here. Participation does not necessarily require in-depth expertise. General views from multiple perspectives will support working towards a pragmatic and well-founded Foundational Body of Knowledge for the ICT Profession that can be equally applied in the qualification, workplace and digital skills policy environment of the European ICT sector.

All follow-up meetings and conferences have been cancelled and/or postponed due to the COVID-19 Pandemic.

AICA (Italy): "News from the first line against the pandemic"

It looks like a science fiction scenario, but it is reality and its name is SARS COV 2, a virus that after spreading to China has now arrived in Europe, seriously affecting Italy. A virus that in addition to affecting people's health is also shaking their everyday lives. This is particularly true when it comes to schools. While in the middle of a nation-wide lockdown, the Italian government is inviting school employees to work from home and teachers to cooperate in order to implement distance teaching. Schools were ill equipped for such a scenario and, therefore, they are suffering; however, what is happening now underlines how schools cannot stop despite everything. Schools represent education, growth, hope, for the present and the future.

Within a few days, teachers and school principals were asked to keep-up-to date and become digital experts, managing to master tools that until recently were mostly unknown. To help these new “digital teachers”, AICA, together with its network of partners built and consolidated over time, made up of companies, organizations and other associations, delivers important projects for all the persons who want to approach the world of digital skills even in such a particular situation, especially teachers and students. The association, that in order to protect its employees facilitated remote working from the beginning of the pandemic, is making available several resources and certifications: webinars, online classes and tutorials for teachers that need to keep up-to-date their digital skills.

The SARS COV 2 emergency should not discourage teachers and principals. Instead, we should see it as an occasion that emphasizes the potential of applying digital technologies to teaching. In this situation it is even more evident the importance of the social role of teachers, to whom technologies offer the necessary tools to be at the forefront, alongside pupils and families, not only to teach them the regular subjects, but also to educate them to an efficient, responsible and informed use of technologies. The hope is that after this SARS COV 2 emergency, schools will change for the better. After this critical period, schools will have to treasure this experience: many teachers are realizing that a different way of teaching, in which digital technologies play an important role, is possible. They are seeing that internet, institutions, companies and important associations such as AICA, offer several opportunities to improve the learning experience. Every new encounter and relationship, even if only from a distance, is a positive experience, because together it is easier to seize opportunities, even in a difficult circumstance like this. Creativity is stimulated, energies multiply and, thanks to the effort of everyone, it is possible to overcome this emergency with a set of tools and experiences that will allow institutions, teachers and pupils to be better prepared to return to a world that will probably not be the one we knew before, but maybe will see better people.

Important Dates

Submission due
15 June 2020

Notification of acceptance
31 August 2020

Deadline for final version
15 December 2020

General Chair

Leon Strous, De Nederlandsche Bank, NL

Program Chairs

Srinivas Katkoori, USF, USA

Augusto Casaca, Inesc-ID/Inov, PT

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Basie von Solms, South Africa

Neuman Souza, Brazil

Leon Strous, The Netherlands

Ulrika Westergren, Sweden

Marco Winckler, France

3rd IFIP International Internet of Things (IoT) Conference

5 – 6 November 2020

Amsterdam, The Netherlands

The IFIP International Internet of Things (IoT) Conference is the annual event of IFIP totally dedicated to IoT research, innovations and applications. The third conference in the series continues to put emphasis on the multidisciplinary nature of the IoT world. IoT covers a wide range of topics, from communication network protocols and embedded systems to data analytics and machine learning algorithms, having the objective of enabling a vast array of services in areas like e-health, mobility, energy, manufacturing and agriculture, just to cite a few examples. IoT deployment needs also to take into consideration the security, privacy and social aspects of networking, which need to be fully investigated to ensure real added value for the IoT users.

The IFIP IoT Conference addresses this wide variety of topics. Papers are sought to show technical advancements, research on major questions, innovation, pilot site results and policy issues. Perspectives might be from the people and organizations involved, like researchers, users, user organizations, ICT industry, authorities and regulators.

Main topics of interest (non-exhaustive list)

Education, training, awareness	IoT networks
End-user development	IoT architectures
Context-dependent applications	IoT devices
Environmental issues	IoT low power design
Organizational and collaborative structures	IoT standards
Risks, privacy, security, and resilience issues	Pilot site results
Impact on persons and society	Artificial Intelligence in IoT
Novel applications and business models	IoT edge, fog and cloud architectures
Professionalism/duty of care	Distributed ledger technologies for IoT
Legal and ethical issues	Interoperability of IoT deployments

Submissions and submission guidelines

We solicit submissions of full papers and poster presentations.

Submitted full papers must be original, unpublished, and not submitted to another conference or journal for consideration. Poster presentations will have to be student papers.

Accepted submissions will be presented at the conference and included in the post-conference edited book published in the IFIP Advances in Information and Communication Technology (AICT) series by Springer Nature. See **https://www.springer.com/series/6102**

All papers must be written in English. Full papers should be at most 18 pages long in total including references and appendices. The paper should be intelligible without having to read the appendices. Poster presentations should be at most 4 pages. Submissions should not be anonymized.

Authors must follow the Springer formatting instructions. Each paper will receive at least 3 reviews. At least one author of each accepted paper must register by the early registration date and present the paper. Poster presentations will have to be presented by the student(s).

For paper submissions go to
https://easychair.org/conferences/?conf=ifipiot2020

For more information visit the conference website http://ifip-iotconference.org/ or feel free to contact Leon Strous at strous@iae.nl or Srinivas Katkoori at katkoori@mail.usf.edu or Augusto Casaca at augusto.casaca@inesc-id.pt

Global Policy Framework for Responsible AI – Transparency and Explainability

IFIP Vice President and Deputy Vice-Chair of IP3, Anthony Wong is collaborating with a multi-disciplinary group of 54 technology law experts from 16 countries to update Principle 3 – Transparency and Explainability of the iTechlaw Global Policy Framework for Responsible AI: www.itechlaw.org/ResponsibleAI. He welcomes and seeks input from technical experts on recent developments in the field of Explainable Artificial Intelligence (XAI) and Transparency and on guidance for regulators on how to best implement the Principle at anthonywong@agwconsult.com.

AI and algorithmic decision-making will over time bring significant benefits to many areas of our human endeavours. The proliferation of AI systems imbued with increasingly complex mathematical modelling and machine learning algorithms are being integrated in virtually every sector of the economy and society, to support and in many cases undertake more autonomous decisions and actions. Algorithmic decision-making is often opaque and complex, and it can be difficult to explain the rationale for its conclusions- raising concerns including trustworthiness, accountability, liability, explainability, interpretability, transparency, and human control.

In the public sector, these systems are increasingly being adopted by governments to improve and reform public service processes. In many situations, stakeholders and users of AI will expect reasons to be given for transparency and accountability of government decisions which are important elements for the functioning of public administration.

Addressing these challenges have increased in urgency as adverse potential impacts could be significant. If not appropriately addressed, human trust suffers, impacting on adoption and oversight and in some cases posing significant risks to humanity and societal values.

Internet of Things (IoT)

The book of the second edition is now available, the net list price of IFIP AICT 574 is € 92.00.

The eBook can be found here: https://link.springer.com/book/10.1007/978-3-030-43605-6

New chair for IFIP TC3

Following Sindre Røsvik's period of office as chair of IFIP TC3, Don Passey has now taken over as the incoming chair. There was a formal handover during the IFIP TC3 AGM held in Mumbai, India in early January 2020.

Here are some of the members who attended the IFIP TC3 AGM, from left to right: Javier Osorio (chair of IFIP TC3 WG3.7), Torsten Brinda (chair of IFIP TC3 WG3.1), Cathy Lewin (chair of IFIP TC3 WG3.3), Gerald Futschek (national representative for Austria), Sharon Singh (national representative for Australia), Mary Webb (Secretary of the IFIP TC3 executive and chair of the IFIP TC3 task force on computing curriculum), Sindre Røsvik (outgoing chair of IFIP TC3), Don Passey (incoming chair of IFIP TC3), Eduard Dundler (Secretary of IFIP), and Maciej Syslo (national representative for Poland).

Don has been involved with IFIP TC3 for over 25 years. Most recently he has supported IFIP TC3 events as co-chair of SaITE 2016 in Guimarães, Portugal (with Cathy Lewin as co-chair), chair of WCCE 2017 in Dublin, Ireland, chair of the doctoral consortium for OCCE 2018 in Linz, Austria and co-chair of OCCE 2020 in Mumbai, India (with Therese Keane as co-chair).

Don looks forward to continuing his involvement with IFIP TC3. In his upcoming role as chair, Don says:

"I have been fortunate to find so many colleagues in IFIP TC3 over the years whom I have been able to gain so much from. IFIP TC3 has always been a welcoming community, yet sincere in its desires to support technological and computing awareness, access, and usability for all, to enhance teaching, learning and educational endeavour.

This is a community where expertise in computing and digital technologies is shared internationally, openly and willingly across those concerned with policy, practice and research. IFIP TC3 continues to identify key challenges that we face internationally in education, and to look to ways to address these through appropriate approaches to policy, practice and research.

I look forward to being involved in that continued journey".

IFIP TC3 OCCE 2020 – latest TC3 conference held in Mumbai, India

The Centre for Education Innovation and Action Research (CEI&AR) at the Tata Institute of Social Sciences (TISS) in Mumbai, India, hosted the latest IFIP TC3 Open Conference on Computers in Education (OCCE 2020), 6th to 8th January 2020. The conference was entitled: '*Empowering teaching for digital equity and agency*'.

OCCE 2020 attracted a wide range of participants – policy makers, teachers, students, and researchers. With more than 150 delegates from 13 countries, 48 presentations were given. OCCE 2020 aims were to enable participants to share knowledge and ideas about the rapidly emerging practices of Computer Science Education (CSE), and the important role CSE has in educating creators of the future. Participants were able to discuss the importance of ensuring digital equity and access, and how to achieve this for more communities. Some sessions involved demonstrations, with illustrated examples of how mobile devices are used for educational purposes in developed and developing countries. Examples of how inclusive and adaptive technologies impact society and knowledge were discussed and illustrated.

OCCE 2020 began with a Pre-Conference Workshop for education practitioners, providing opportunities for them to experience contemporary educational concepts and practices using ICT. TC3 members facilitated four workshops: Therese Keane and Jayanti Nayak, Swinburne University, Australia; Don Passey, Lancaster University, UK; Mick Chesterman, Manchester Metropolitan University, UK; and Louise Hayes and Ellie Overland, Manchester Metropolitan University, UK. Sixty-nine participants from across India were involved, and reported that sessions were highly applicable and useful for their classroom teaching practices.

OCCE 2020 was co-chaired by Don Passey and Therese Keane, with the local organising committee chaired by Amina Charania, TISS. Opened by Prof Shalini Bharat, Director of TISS, she also welcomed Davide Storti, UNESCO, the first keynote who spoke on: '*Youth education projects in computer science and making mobile apps: a worldwide perspective*':

At the end of the day, a panel discussion on: '*The role of ICT in bridging learning and opportunity gaps: Issues of Quality, Scale and Sustainability*' was moderated by Satyajit Salian, Head of Education, Tata Trusts. The panel consisted of participants from: the Directorate of Education, Government of Delhi; Kaivalya Education Foundation; Madrasah Education, Government of West Bengal; the School Leaders Network Foundation and SLN Global Network; SCERT, Chattisgarh Raipur; and Deepening Learning, Tata Trusts.

On the second day, a keynote was given by Dr Aaditeshwar Seth, IIT Delhi, and co-founder of Gram Vaani, a community media platform for empowering rural populations. Aaditeshwar Seth is thanked here for his presentation by the co-chair, Therese Keane:

A final keynote was given by Prof Padma Sarangapani, TISS, on: '*Continuous Professional Development for Teachers: What Works, Why and What is worth doing with ICT*'. Other conference sessions enabled participants to present full and short papers, symposia, industry and system foresights, and innovative examples of learning and teaching.

The final vote of thanks was given by the TC3 Chair, Sindre Røsvik. A post-conference book will be published in due course. The lead editor is Torsten Brinda.

IFIP Names First Cohort of Fellows

Global ICT Professional Body Recognises Contributions of 18 High Achieving Members

In an historic move, IFIP has announced its first cohort of Fellows, elevating 18 Members to the new higher status in recognition of their substantial and enduring contributions to the ICT industry.

IFIP President, Professor Mike Hinchey, said he was delighted to welcome so many members to the new grade of Fellow and congratulated them on their achievements.

"Many of our members play very significant roles in driving innovation, conducting research and industry development," he said.

"These are committed professionals who have helped to shape the ICT sector in a significant way, both through the roles they have played in IFIP Technical Committees (TCs) and Working Groups (WGs), and through their contributions to their various professional domains. IFIP is proud to reward their efforts with recognition as Fellows," he said, noting that the Federation is already accepting nominations for future Fellows.

The new Fellows are:

Erol Gelenbe was recognised for his pioneering work on Computer and Network Performance. A pre-eminent academic based at London's Imperial College, Gelenbe was responsible for introducing the G-Networks Model and Random Neural Networks as well as contributing to products including QNAP (Sydney Performance Analysis software), the FLEXSIM manufacturing system simulation tool, the SYCOMORE (Thales) Voice Packet Switch, and the C2Agents (QinetiQ) Command and Control Decision Aid. His research into energy-efficient cloud computing and networks of queues has been heavily cited and he has been a member of both IFIP WG 6.5 (Computer-based Message Services) and WG 7.3 (Computer Systems Modelling). A Member of Academia Europaea, he is a Fellow of IEEE and ACM and has graduated 77 PhDs, including 17 women.

Sir Tony Hoare is a British computer scientist known for developing Hoare logic for verifying program correctness, and the formal language communicating sequential processes (CSP) to specify the interactions of concurrent processes (including the dining philosophers problem) and the inspiration for the programming language occam. Emeritus Professor of Oxford University's Department of Computer Science, he won the prestigious ACM Turing Award in 1980 and was knighted for services to education and computer science in 2000. His seminal paper, Communicating Sequential Processes (CACM, 1978) has over 18 000 citations. Hoare is a distinguished Fellow of IFIP TC 1 (Foundations of Computer Science) and also served on IFIP WG 1.9/2.15 (Verified Software), WG 2.1 (Algorithmic Languages and Calculi), WG 2.2 (Formal Description of Programming Concepts) and WG 2.3 (Programming Methodology).

Lothar Thiele was awarded a Fellowship for his outstanding contributions in the area of multiobjective optimisation. Based at ETH Zurich, Computer Engineering and Networks Laboratory, he is responsible for inventing, together with E. Zitzler, the very popular Strength Pareto Evolutionary Algorithms SPEA and SPEA2 and also proposed a systematic approach to designing test problems for evaluation of multiobjective evolutionary algorithms. Widely cited for his work on multiobjective algorithms and multiobjective optimization, Thiele served as a member of IFIP WG 10.2 (Embedded Systems).

Grzegorz Rozenberg has enjoyed a lengthy career in which he made distinguished contributions to various areas relating to the foundations of computer science, including formal languages (the theory of L systems introduced together with Arto Salomaa), and DNA computing. A long-time member of IFIP TC 1 (Foundations of Computer Science), Rozenberg holds honorary doctorates from several leading universities, was President of the European Association for Theoretical Computer Science from 1985-1994 and is a member of Academia Europaea.

Joelle Coutaz is an internationally acclaimed researcher with significant achievements in the software aspects of HCI, including multimodal interaction, software architecture modelling and plasticity of user interfaces. Based at the Laboratory of Informatics at the university of Grenoble Alps in France, Coutaz has been investigating the concept of plasticity of user interfaces, user interfaces for mobile computing, the notion of context of use, as well as the design and implementation of artefacts that blend the

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physical and the virtual. She is also investigating the problem of end-user software engineering for smart homes within the general framework of ubiquitous computing. A long-time member of IFIP WG 2.7 (User Interface Engineering) from 1988 to last year, acting as its Vice Chair from 1995-1999. She also served on the program committees of IFIP conferences in 1992, 1993, 1997 and 2005. She was awarded an IFIP "TC13 Pioneer award" for "outstanding contributions to the educational, theoretical, technical, commercial or professional aspects of analysis, design, construction, evaluation and use of interactive systems" in 2013.

Bertrand Meyer is a French academic and scientist responsible for the Eiffel programming language and the concept of design-by-contract. Professor of Software Engineering at ETH Zurich from 2001-2016, he is currently a Professor at the Polytechnic University of Milan. His book, "Object-Oriented Software Construction" is one of the earliest and most comprehensive works presenting the case for object-oriented programming. A recipient of the IFIP Silver Core Award, Meyer is a Past Chair of IFIP TC 2 (Software Theory and Practice) and a member of WG 2.3 (Programming Methodology).

Wil van der Aalst was recognised for his impressive foundational contributions to Business Process Management by developing workflow management patterns and the YAWL language for workflow management. A member of both IFIP WG 8.1 (Design and Evaluation of Information Systems) and WG 2.12 (Web Data Semantics), van der Aalst presented a Keynote address at the IFIP World Computer Congress 2018 in Poznan, Poland.

Fabio Paterno is Fabio Paternò is Research Director and Head of the Laboratory on Human Interfaces in Information Systems at the Institute of Science and Technology (ISTI-CNR) in Pisa, Italy. He was recognised for his numerous contributions to Human Computer Interaction (HCI) and also to connected fields such as Software Engineering and Artificial Intelligence. He has published over 250 papers in refereed international conferences or journals and his book, "Model-based Design and Evaluation of Interactive Applications" had a huge impact on the HCI community. Italy's National Representative to IFIP TC 13 (Human Computer interaction) since 1996, Paterno also chaired IIFIP WG 2.7/13/4 (User Interface Engineering) and is a member of IFIP WG 13.2 and 13.3. He was awarded an IFIP Silver Core in 2013.

John Mylopoulos is a scientist who has made an outstanding contribution to Software Engineering, collaborating on the Telos approach to representing knowledge about information systems, and helping to develop TROPOS, an agent-oriented software development methodology. Born in Greece, he now resides in Canada and works at the University of Toronto. He has been a member of WIFIP WG 2.9 (Software Requirements Engineering), 2.12 and 5.12 (Architectures for Enterprise Integration).

Gene Tsudik was named a Fellow for his significant contributions to cybersecurity and privacy, particularly through the development of the highly efficient provably secure PDP technique (Provable Data Possession) based entirely on symmetric key cryptography, as well as his group signature and companion identity escrow scheme. Based at the Department of Computer Science, University of California, Tsudik is a member of IFIP WG 11.3 (Data and Application Security and Privacy). He is an IEEE Fellow and ACM Fellow.

Roman Slowinski is a scientist known for his work in the areas of dominance-based rough set theory and robust ordinal regression. Professor and Founding Chair of the Laboratory of Intelligent Decision Support Systems at the Institute of Computing Science, Poznań University of Technology, Poland, Slowinski has been developing methodology and techniques of decision support, including multiple criteria decision aiding, multiobjective optimization, preference modelling and knowledge-based decision support. His research results have been applied to decision support in medicine, technology, economics and environmental studies He was General co-Chair of the IFIP World Computer Congress 2019 in Poland and is a member of IFIP TC 12 (Artificial Intelligence)

Leslie G. Valiant is a British computer scientist and computational theorist who is currently the T. Jefferson Coolidge Professor of Computer Science and Applied Mathematics at Harvard University. Known for introducing the concept of the learning machine (theoretical foundation of programming by example) and bulk-synchronous parallel (BSP) model, he is a Distinguished Fellow of IFIP TC 1 (Foundations of Computer Science) and a former winner of the prestigious ACM Turing Award.

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Jan Gulliksen is a pioneer researcher and educator focusing on HCI research for societal impact through user-centred design, usability and accessibility for all. Professor of HCI and dean of the School of Computer Science and Communication at the KTH Royal Institute of Technology in Stockholm, Gulliksen was appointed "Sweden's Digital Champion" by the Swedish Government in 2012, and is also Chairman of the Government's Digital Commission. He won the IFIP Silver Core Award in 2007 and became an IFIP TC13 Pioneer in 2016 in recognition of his active participation in IFIP Technical Committees and related IFIP groups, and outstanding contributions to the educational, theoretical, technical, commercial or professional aspects of analysis, design, construction, evaluation and use of interactive systems.

Frank Tip is a leading researcher working at the boundary of Programming Languages and Software Engineering, focusing on tools for improving software quality and programmer productivity. He is the inventor of automated program refactoring techniques that are used in many integrated development environments, most notably the Eclipse framework. His work includes program slicing, refactoring, and change impact analysis. Professor and Associate Dean for Graduate Programs at the College of Computer and Information Science at Northeastern University in Boston, Tip chaired IFIP WG 2.4 (Software Implementation Technology) from 2011-2018 as well as serving on numerous professional committees and expert groups.

Gerhard Goos was honoured for his outstanding contributions as an educator in the field of Information Processing. The first Chair of Informatics at the University of Karlsruhe, Goos was a founder of the Foschungszentrum Informatik in 1983, and led its Software Engineering group. Many of Prof. Goos' doctoral students from that group have gone on to top academic posts in Germany, Sweden and the UK. In 1987-88 he helped found the International Computer Science Institute, a joint effort by the Gesellschaft für Mathematik und Datenverarbeitung and the University of California at Berkeley. A founding member of IFIP WG 2.4 (Software Implementation Technology) in 1974, he chaired that group from 1981-85.

Andreas Zeller is best known for his contributions to software engineering, particularly in relation to automated debugging and mining software archives. He introduced the idea of delta debugging on inputs, which one of the most prominent and most widely used techniques for automated debugging, and he pioneered the research area known as software repository mining. His publications on debugging, fault localisation and defect prediction are highly influential. An ACM Fellow and member of IFIP WG 2.4 (Software Implementation Technology), Zeller has received several prestigious awards and has chaired and organised numerous conferences and seminars. His research has provided the foundation for the start-up Testfabrik AG that develops techniques for automatic testing of Web applications.

Michael Franz has made breakthrough contributions through his invention of trace-tree dynamic compilation, (particularly suited for dynamic languages like JavaScript), and his technological leadership in bringing this technology to the open-source Firefox browser. He convinced Mozilla to incorporate his trace-tree compilation technology into Firefox, accelerating JavaScript performance by a factor of 7x and positively impacting literally hundreds of millions of users worldwide. Franz was the Swiss Country representation to IFIP TC 2 (Software Theory and Practice) from 1994-96 and has held membership of WG 2.4 (Software Implementation Technology) since 1998. He has also served on WG 11.3 (Data and Application Security and Privacy) from 2008-17 and WG 11.10 (Critical Infrastructure Protection) since 2018.

Julio Abascal has been recognised as an IFIP Fellow for his work as a teaching and research pioneer in the HCI field in Spain and across Europe. He contributed to the creation of a Spanish speaking HCI community (AIPO) collaborating with other universities in numerous research and teaching activities. His research in HCI and disability contributed to the international advancement of the field of universal accessibility. In this area, he has collaborated with researchers and institutions worldwide in research, teaching and promoting accessibility. In 1985 he founded (and has since headed) one of the first research teams in HCI and disability, and has served as an expert, reviewer and evaluator for most EU research programs on accessibility. Abascal has represented Spain in the IFIP TC13 (HCI) since 1991, co-founding WG13.3 (HCI and Disability) in 1993 and chairing it until 1998. Her has also been a member of WG 13.1 (Education in HCI and HCI Curriculum) since 1993, co-organising numerous HCI conferences for IFIP.

IFIP France committee is proud to that Erol Gelenbe *PHD DSc D.h.c.m.*, was elected IFIP Fellow in 2019.

He is a Fellow of ACM, IEEE, the National Academy of Technologies of France, the Science Academies of Belgium, Hungary, Poland, Turkey and Academia Europaea.

Citizen of France and Turkey, he graduated from *Ankara Koleji* and *Middle East Technical University*, Ankara with High Honours.

Erol received a PhD in Electrical Engineering under Prof. Ed Smith at *NYU* on "Stochastic Automata with Structural Restrictions" linking the state transition function of probabilistic automata to the formal languages that they recognize published in *Information and Computation,* and *IEEE Transactions on Computers*.

During his PhD he studied Logic under Dick Karp (later a Turing Award Winner) and formal languages based on Jeff Ullman's first book.

He worked briefly at Philips Research, Eindhoven, on a virtual memory for Algol-based "stack" architectures, and became Assistant Professor at the *University of Michigan, Ann Arbor* where his colleagues included Arthur Burks, first author of the report that introduced the "von Neumann machine", John Holland (inventor of Genetic Algorithms), and the discrete mathematician Gene Lawler. There, Erol learned practical computing by teaching programming languages, algorithms and operating systems, and published research on reliable memory management in *Comm. ACM* and *Acta Informatica.*

From 1972 at INRIA he pioneered research on Computer and System Performance Modelling using Queueing Networks, helping to solve the thrashing problem in operating systems with virtual memory, and contributing to the QNAP software package and INRIA's first start-up SIMULOG. In 1973 he received a Doctorat ès Sciences under Prof. J.-L. Lions. He became Chair Professor at *University of Liège* in 1974, continuing as consultant at INRIA with seminal research on Diffusion Approximations, Optimum Checkpoints, and Optimum Control of Ethernet-like Channels that appeared in *Journal ACM*. Returning to Paris as Professor at *Orsay* in 1979 he co-founded the *LRI (Laboratoire de Recherche en Informatique)* with J.-C. Bermond and J. Vuillemin. At *Orsay and University Paris-Descartes* (1986-93), he invented G-Networks and Random Neural Networks, patented the first Voice-over-IP switch Sycomore, published seminal work on resequencing in codecs in *Journal ACM*, and other work in *Journal of Applied Probability, Comm. ACM, Theoretical Computer Science, and Management Science*.

He founded two PhD programs, developed the commercial FLEXSIM manufacturing simulator, served as Ministerial Adviser for Science (1983-86), and co-founded IFIP WG7.3. In 1993 he became *New Jersey Endowed Professor of Computer Science at NJIT*, and later *Nello L. Teer at Duke University* where he developed neuronal adaptive video compression methods and an algorithm for recognizing brain tumours in MRI images published in the journal Proceedings IEEE.

In 1998-2003 as *Director of the School of EECS* at University of Central Florida, he invented the "Cognitive Packet Network" that routes packets adaptively in a network to optimize Quality of Service. At Imperial College (2003-19) he developed new research on Self-Aware Networks and Energy-Aware Cloud Computing publishing in several *IEEE and ACM Transactions*, the *Computer Journal* and *Physical Review,* and gave keynotes at IFIP WCC and TC6, IEEE and ACM conferences.

After Brexit, he continues his research as Professor in the *Institute of Theoretical and Applied Informatics, Polish Academy of Sciences*, and is involved in several EU H2020 programs. He has graduated over 90 PhDs: some became ACM President, University Presidents and Provosts, Fellows of National Academies in France and Canada, industry leaders and professors in France, Canada, Greece, China, Turkey, Morocco, UK, and USA.

Erol was awarded Chevalier de la Légion d'Honneur and Commandeur du Mérite (France), Commendatore al Merito and Grande Ufficiale della Stella d'Italia (Italy), and Doctorates Honoris Causa from the Universities of Liège (Belgium), Roma II (Italy) and Bogazici (Turkey).

GROWING IMPACT OF ICT ON SERBIA'S DEVELOPMENT

After years of stagnation, Serbia has been recording increasing success in the field of information and communication technologies (ICT) for several years now. The latest beneficial impacts of ICT on Serbia's development are reflected in the following:

In 2019, the IT sector in Serbia grew at a rate of 26.2% and it was ranked among the 4 leading industries according to profitability.

In 2019, IT service exports amounted to 1.4 billion euros, thus representing an increase of 55% compared to 2017. The largest number of national IT companies is oriented towards **doing business with companies in the European Union.**

Teaching informatics in schools is constantly being improved, thus creating a sound basis for the future development of successful students and professionals who will benefit the operations of ICT. In the last 2 years, quotas for studying informatics have increased by 20%, which is good, yet not enough.

The plan "Serbia 2025", which envisages total investments in infrastructure amounting to 14 billion euros, has been adopted. The plan includes investments in the development of ICT application worth 600 million euros, an access to the Internet for all those citizens who currently do not have it, the opening of 30,000 digital classrooms, investments in artificial intelligence projects worth 90 million euros, etc.

In December 2019, the Government of the Republic of Serbia adopted the Strategy for the Development of Artificial Intelligence, thus making Serbia the 25th country in the world to have such a developmental document. The document envisages the application of artificial intelligence in public administration, health care, economy, transport, start-up companies, as well as in the development of new products and services, etc. Artificial intelligence is expected to contribute to Serbia's GDP growth at a rate of 10% by 2030.

The successful development of e-Government is reflected in the setting up of a new portal (www.euprava.gov.rs) containing new functionalities and contents. The portal can be accessed via computers or mobile phones. The portal has about one million users (every sixth citizen of Serbia uses it).

The support system aimed at start-ups and innovations is constantly being improved. In 2019, **about 400 companies used assets from the Innovation Fund.** Since 2020, partial tax and contribution exemptions to the earnings of founders in the area of innovation, as well as for new employment and young returnees from abroad have been introduced. The "Science-Technology Park Belgrade" bringing together 60 start-up companies with about 800 engineers, who predominantly work in the IT field and have notable results in innovation, is successfully being developed. Science-technology parks in Niš and Novi Sad will have been opened by the end of this year.

These and other measures and processes in the IT field are gradually **changing Serbia's economic structure** in favour of a greater role of knowledge and innovation and we hope that this process will continue. The Informatics Association of Serbia contributes by working on the promotion of new ICT, application of new knowledge and affirmation of successful national ICT solutions.

In addition to evident successes and positive processes, the IT scene in Serbia faces some longstanding problems. Due to years of low economic growth, the national IT market is underdeveloped and it amounts to around 520 million euros, with an average IT spending of around 70 euros per capita. The realized economic growth of 4.2% recorded in 2019 is expected to contribute to a greater growth of the national IT market. Serbia now lacks about 15,000 IT professionals. The Informatics Association of Serbia has suggested the Ministry of Education, Science and Technological Development increase the quotas for studying informatics by 100% in the next 3 years, thus solving the growing problem of staff shortages to a degree.

ICT companies and higher education institutions are responsible for most of the successes so far in the IT sector development in Serbia. The presented data show that nowadays, after a number of years, the state, with its initiatives and activities, is emerging as a complementary generator of a more dynamic participation of the ICT sector in Serbia's faster development.

Nikola Marković, Dragana Bečejski Vujaklija, PhD
Informatics Association of Serbia

PRESS RELEASE:

KZN IT sector: room for growth despite slow market

KZN IITPSA leaders and IT industry stakeholders see opportunities in blockchain, cybersecurity, IoT

In the face of slow economic growth across the country, IT industry stakeholders are optimistic that there are opportunities for growth in the KwaZulu-Natal market.

Committee members of the Institute of Information Technology Professionals South Africa (IITPSA) and local industry players report that there is scope for IT sector growth both within the province and out of the province into pan-African and global markets.

KwaZulu Natal is characterised by a cross-section of industries, ranging from ports and logistics through to manufacturing and retail. The province is feeling the effects of slow national economic growth, say stakeholders. “The market is flat. Many businesses are struggling with tough economic conditions, which is reflected in their IT spend,” says IITPSA KZN Chapter Committee member Bryan Baxter. However, he sees keen local interest in emerging technologies and scope for growth in future.

“A lot of people are talking about the Internet of Things (IoT), although few are doing it at this stage. There is room for IoT growth in the province’s retail, manufacturing, logistics, agriculture and utilities sectors in particular. Agriculture is very interested in the technology to help improve water management and crop yields, and sugar companies have looked at soil moisture monitoring to improve management of irrigation. Smaller farms are using the technology from niche providers. But the use cases for IoT are as wide as your imagination, including safety proximity, emissions monitoring and asset tracking,” he says.

In addition to budget constraints, he notes there are certain challenges in the way of IoT adoption in the province: “A key component of IoT is communicating with the end sensors. Options are limited in remote areas where private LPWAN (low-power wide-area network) networks will have to be built. Also, entry level IoT systems are designed with no consideration for cyber security, which presents new challenges for IT professionals to ensure the adoption of this technology takes place securely without putting the rest of the business at risk.”

Fellow IITPSA KZN Chapter Committee member John Singh notes that businesses in the province have also shown keen interest in cyber security and Blockchain in recent years: “I am personally interested in positioning KZN as a Blockchain and crypto hub, and this is why I am running the IITPSA Blockchain Special Interest Group in KZN,” he says.

Trevor Hart-Jones, founder and managing director of Pylot Pty Ltd, an IoT and systems integration specialist firm headquartered in Umhlanga, is growing his business internationally, although it is based in KZN. “Uptake has been relatively slow in the province amid economic constraints and a lack of understanding of what IoT can do for business,” he says. “Many of the businesses in the province are mid-sized companies rather than large enterprises, and as such they do not have massive IT budgets. We find that there is interest locally in digital transformation and what IoT can do for business, but the IoT market in the province is generally quite immature. Potential markets in the province include cold chain monitoring, vehicle tracking and commercial dairy farming.”

Chapter Chair Marshall Masanga believes stakeholders must move fast to get ahead of the Fourth Industrial Revolution (4IR) curve: “Now is the time to master technology instead of technology becoming our master. With emerging technologies such as IoT, artificial intelligence, robotics, blockchain, virtual and augmented reality now at our fingertips, history is moving faster than our imagination. The 4IR is a reality and inevitably we cannot out-smart or out-efficient the machines but we can out-human them by upskilling, un-learning, re-learning and re-training to acquire new competencies. Evolve or die applies now at both individual, organisational and government levels.”

The IITPSA KwaZulu Natal Chapter serves to encourage ICT professionalism, engage with members and stage events that provide value to members in the province. The Chapter also seeks ways to give back to the community with a bias towards ICT. For more information about IITPSA and to apply for membership, go to www.iitpsa.org.za

Issued by ITP Communications on behalf of the Institute of Information Technology Professionals South Africa (IITPSA). For further information please contact leigh@tradeprojects.co.za or Tel: (011) 869 9153

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PRESS RELEASE:

Blockchain, Bitcoin show promise in SA, but more skills needed

IITPSA Blockchain SIG hears Blockchain use will pick up in SA, and Bitcoin expected to be the crypto winner

South African financial organisations are exploring the potential use cases for Blockchain in their operations, but are exercising caution in its adoption. So says John Singh, a senior systems analyst and head of the Institute of Information Technology Professionals South Africa (IITPSA) Blockchain Special Interest Group (SIG) in Kwazulu-Natal.

Singh was speaking last week at the first IITPSA SIG meeting to be delivered as a webinar, to curb the spread of COVID-19. He reported back on the recent Blockchain Africa conference in Johannesburg, wrapping up the presentations and giving his own insights on the Blockchain environment.

With leading financial institutions well on their journey to assess the use cases and regulatory implications of Blockchain in financial systems, and a growing interest in cryptocurrency trading in Africa, Singh believes there will be a strong demand for Blockchain and cryptocurrency skills in future: “It's definitely an area young South Africans could look at. One of the amazing things is that even if it is not gaining traction in South Africa yet, it can still be a way into a great career. This a true global technology with people doing open source development that is not centralised and not located in any one country. The initial development and testing of Bitcoin was all done remotely with only communication in email, and this is how the community does things. Furthermore it uses important cryptography standards, which in itself is a valuable skill in the area of security. The learning curve is steep but the skill gained will be enormous and can be used in many other areas of IT,” he says.

Bitcoin to outlast the rest

Singh highlighted key presentations at the conference, including one by International cryptocurrency trader and consultant Tone Vays, who spoke about cryptocurrency trading and Bitcoin in particular. “Vays showed that Bitcoin has seen a strong upward trend in the past few years, despite a number of negative impacts, and he is adamant that it will be the only cryptocurrency left after the others have disappeared,” Singh said. He noted that Vays was critical of the large number of Blockchain projects across the world, saying Bitcoin’s value would never diminish. “Its value is that it is unconfiscatable, uncensorable and uninflatable, plus it will soon be greatly improved by new technologies to improve scalability and fungibility/privacy. However, it does still struggle with price volatility and coin security – or private key storage,” Singh reported.

Richard de Sousa, founder and CEO of local cryptocurrency exchange AltCoinTrader, was positive about cryptocurrency growth in South Africa. Says Singh: “Richard de Sousa discussed decentralized finance, noting that the traditional banking sector is very restrictive, particularly when the economy is bad. He highlighted that the cryptocurrency world offers decentralised loans that are not a traditional system of debt.

For example, Ethereum could be used as collateral for a person to take out 66% of the collateral as a loan in the stable coin DAI through a smart collateral debt position (CDP) contract. The person might then exchange this for cash. I don’t recommend doing this kind of deal at the moment, because they are quite complex, but it illustrates how these kind of products can assist people. You also have to be aware when you open a CDP that the price of Ethereum does move up and down quickly.”

Blockchain use cases in the spotlight

Blockchain technology to underpin financial services, improve supply chain systems and enable digital Self-Sovereign Identity came under discussion at the conference, Singh said.

(Continued on page 16)

(Continued from page 15)

"Anrich Daseman, senior fintech specialist at the South African Reserve Bank (SARB), said SARB had come up with its own lengthy definition of cryptocurrency, and was exploring use cases including buying and selling, ICOs, payments, derivatives and funds, and also market support. He notes that SARB was advanced in the regulatory review process and had produced recommendations such as that crypto asset service providers should become accountable institutions in terms of AML/CFT requirements, that crypto assets be declared a financial product/service, and that an exchange control regime should be introduced for this environment," Singh said.

Gary de beer, application development specialist at Bankserv Africa outlined the aims of the South African Financial Blockchain Consortium Working Group building Self-Sovereign Identity (SSID) solutions for institutions and individuals. Said Singh: "He said there was a growing need for a standard for identification in the digital world. In a Blockchain SSID solution, there would be no need for a verifier in order to trust the issuer, as there would be decentralised identifiers in a public Blockchain."

Akhona Damane, manager of the Office of Digital Advantage at CSIR (Council for Scientific and Industrial Research), noted that there was scope for more R&D and innovation around Blockchain and cryptocurrency in South Africa. Said Singh: "He said that in the Blockchain arena, very little was happening at university level, and that South Africa had very limited technical Blockchain skills resources, but that there was huge potential for South Africa to make its mark at all levels in this environment."

Issued by ITP Communications on behalf of the Information Technology Professionals South Africa (IITPSA)

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Joint Working Conference of IFIP Working Groups 8.2, 9.1, and 9.4

10-11 December 2020 | Hyderabad, India

The IFIP Working Groups 8.2, 9.1, and 9.4 are organizing a Joint Working Conference to implore scholarly discussion and debate on the theme "The future of digital work: The challenge of inequality". The conference seeks to address the challenges and issues arising from digitalization of private and professional life, such as better/worse quality of life and work, social inclusion/exclusion, (non)discrimination, (un)employment, and civic (non)participation.

The keynote address for the conference will be delivered by social activist, **Renana Jhabvala**, and Professor at the University of Cambridge, **Michael Barrett**. Renana Jhabvala has been active for decades in organising women in the informal economy into trade unions, co-operatives and financial institutions in India. The Government of India awarded her the Padma Shri in 1990 for her contributions in the field of social work. Prof. Michael Barrett has a long-standing interest in the content and implications of digitalisation informed by practice-oriented perspectives. He has close affinities with IFIP, especially WG 8.2 and 9.4. He is also the director of Cambridge Digital Innovation centre.

The conference will be held at the Hyderabad International Convention Centre, and will include panel discussions, full-paper presentations, and paper development sessions.

For more details and updates, please check http://www.ifipjwc2020.org/

Important dates:

May 18, 2020	Deadline for submitting full papers
July 30, 2020	Notification of accepted full papers
September 10, 2020	Deadline for submitting research-in-progress papers
October 20, 2020	Notification of accepted research-in-progress papers
December 10 – 11, 2020	Conference in Hyderabad, India

Some of forthcoming IFIP events. For a full list of events, please look at http://www.ifip.org

IEEE/IFIP Network Operations and Management Symposium 2020 https://noms2020.ieee-noms.org/	**NOMS 2020**	**20/04-24/04 2020 Budapest, HU**	**IFIP WG6.6 / IFIP TC6**
International Workshop on Coalgebraic Methods in Computer Science *https://www.coalg.org/cmcs20/*	**CMCS 2020**	*25/04-26/04 2020 Dublin, IE* ***POSTPONED***	**IFIP WG1.3 / IFIP TC1**
The 16th International Conference on Open Source Systems http://www.oss2020.org	**OSS 2020**	**12/05-13/05 2020 Innopolis, RU**	**IFIP WG2.13 / TC2**
INTERNATIONAL CONFERENCE ON OPTICAL NETWORK DESIGN AND MODELLING https://ondm2020.cttc.cat/	**ONDM 2020**	**18/05-21/05 2020 Castelldefels, ES**	**IEEE Communications Society (in-progress)**
Annual Privacy Forum 2020 *http://privacyforum.eu/*	**APF 2020**	*04/06-05/06 2020 Lisbon, PT* ***POSTPONED***	**European Commission, Católica University of Portugal, Lisbon school of Law**
ARTIFICIAL INTELLIGENCE APPLICATIONS AND INNOVATIONS http://www.aiai2020.eu/	**AIAI 2020**	**05/06-07/06 2020 PORTO CARRAS, grand resort MARMARAS CHALKIDIKI, GR**	**IFIP WG12.5**
IFIP WG9.4 European Conference on the Social Implications of Compuiters in Developing Coutnries https://www.salford.ac.uk/conferencing-at-salford/conference-management/current-conference/	**IFIPWG9.4_Euro2020**	**10/06-11/06 2020 Manchester, GB**	**IFIP WG9.4 / IFIP TC9**
Network Traffic Measurement and Analysis Conference 2020 https://tma.ifip.org/2020/	**TMA 2020**	**10/06-12/06 2020 Berlin, DE**	
18th International Symposium on Modeling and Optimization in Mobile, Ad Hoc and Wireless Networks http://wi-opt.org/	**WiOpt 2020**	**15/06-19/06 2020 Volos, GR**	**IEEE Control Systems society, IEEE Information Theory Society**
IFIP Networking Conference https://networking.ifip.org/2020/	**Networking**	**23/06-25/06 2020 Paris, FR**	**IFIP TC6 / IEEE ComSoc**
The IFIP 2020 20th Open Conference of the International Federation for Information Processing WG 8.3 on Decision Support ifip2020dss.com	**IFIP DS 2020**	**24/06-26/06 2020 Wroclaw, PL**	**IFIP WG8.3 / IFIP TC8**
34th Annual IFIP WG 11.3 Conference on Data and Applications Security and Privacy https://dbsec2020.ur.de/	**DBSec 2020**	**25/06-27/06 2020 Regensburg, DE**	**IFIP WG11.3 / IFIP TC11**
The 14th IFIP International Conference on Trust Management http://s.ifiptm.org/conf2020	**IFIPTM 2020**	**29/06-01/07 2020 Tel-Aviv, IL**	**Sapir Academic College**

Some of forthcoming IFIP events. For a full list of events, please look at http://www.ifip.org

Doctoral Conference on Computing, Electrical and Industrial Systems http://doceis.dee.fct.unl.pt	DoCEIS`20	01/07-03/07 2020 Caparica (Lisbon), PT	SOCOLNET - Society of Collaborative Networks (Main Sponsor) / IFIP WG5.5 / IEEE-IES (if accepted)
The Third International Conference on Topics in Theoretical Computer Science http://cs.ipm.ac.ir/ttcs/2020/	TTCS 2020	01/07-03/07 2020Tehran, IR	IFIP WG1.8 / IFIP TC1
International Conference on New Technologies, Mobility and Security http://www.ntms-conf.org/ntms2020/	NTMS	06/07-08/07 2020 Paris, FR	EFREI, TELECOM ParisTECH
5th IFIP Conference on Information Technology in Disaster Risk Reduction http://itdrr.unwe.bg/	ITDRR-2020	15/07-17/07 2020 Varna, BG	Science Research Center for Disaster Risk Reduction @University of National and World Economy, Sofia, Bulgaria / IFIP TC5
Automata 2020 https://automata2020.weebly.com/	AUTOMATA2020	10/08-12/08 2020 Stockholm, SE	Oxford Immune Algorithmics
International Cross Domain Conference for Machine Learning & Knowledge Extraction https://cd-make.net/	CD-MAKE 2020	25/08-28/08 2020 Dublin, IE	IFIP WG8.4 / IFIP TC8
8th International Conference on Human-Centered Software Engineering https://hcse-conference.com/	HCSE 2020	26/08-28/08 2020 Eindhoven, NL	IFIP WG13.2 / IFIP TC13
Advances in Production Management Systems https://www.apms-conference.org/	APMS	30/08-02/09 2020 Novi Sad, RS	IFIP WG5.7 / IFIP TC5
The 19th conference on electronic government and the 12th conference on electronic participation http://dgsoc.org/egov-2020/	EGOV	31/08-02/09 2020 Linkoping, SE	IFIP WG8.5 / IFIP TC8
IFIP TC7 conference on System modelling and optimization https://modemat.epn.edu.ec/ifip_tc7_2020/	IFIP TC7	31/08-04/09 2020 Quito, EC	Sociedad Ecuatoriana de Matematica / IFIP TC7
21st IFIP / Socolnet Working Conference on Virtual Enterprises http://www.pro-ve.org	PRO-VE 2020	14/09-16/09 2020 Valencia, ES	SOCOLNET - Society of Collaborative Networks
35th IFIP TC-11 SEC 2020 International Information Security and Privacy Conference https://sec2020.um.si/	IFIP SEC 2020	21/09-23/09 2020 Maribor, SI	IFIP TC11

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