

# COMPSAC Returns In-Person—A Remarkable Post-Covid Success

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**T**he three-plus-year COVID-19 pandemic is over! Not really, but almost! And the after effects will likely be with us for a long time. As we transition to a world where the virus will likely continue to mutate, organizers of events where people convene continue to face various and multiple challenges. Since 11 March 2000, when the World Health Organization declared the COVID-19 outbreak a global pandemic, event organizers have scrambled to address the virus's effects on their future plans.

The 2020 IEEE Computers, Software, and Applications Conference (COMPSAC) had been planned to be in Madrid, Spain. Recognizing the impossibility of convening that conference in the face of the pandemic, and because hundreds of submitted papers had already been reviewed, we decided to proceed with the conference and declared it to be virtual; the labels “virtual,” “hybrid,” and “in person” were not yet in general use. Other conference organizers also reconstituted their planned in-person events to be virtual or hybrid, although none of us had much (or any) experience with those formats. In fact, in 2020 and 2021, virtual and hybrid conferences presented organizers with enormous and unknown challenges regarding the mechanics of conducting those events.

For the virtual COMPSAC conferences we conducted in 2020 (and again in 2021 and 2022), we collected downloadable videos of author paper presentations accessible by conference registrants asynchronously from an online program. Some international events (not COMPSAC) attempted to livestream sessions, but attendance at those sessions was often abysmal. This was not because of session quality but because of the impossibility of establishing schedules to accommodate a majority of worldwide conference registrants' diverse time zones.

Through those three years, however, IEEE staff and volunteers learned much about conducting conferences during a pandemic. We learned how to solicit and include paper-related videos for remote conference registrants' access, how to archive those videos with

their associated papers in our digital libraries, about the aforementioned time zone challenges, and that conducting a hybrid conference (when local in-person attendance was somewhat acceptable) was more than twice the work of either an all-virtual or an all-in-person event.

## COMPSAC 2023: EARLY PLANNING GOES AWRY

Late in 2020, following our virtual rendition, while the virus ran rampant worldwide, we decided that the 2021 and 2022 conferences would also be virtual. In 2021, while we were pondering what to do about 2023, we were invited by the Russian Academy of Sciences to hold the 2023 conference in Moscow. We were asked to be the forum for the 75th anniversary of the formalization of computer science as a discipline in Russia. However, in March 2022, international political circumstances changed radically, and we were forced to find an alternative 2023 European venue. [The COMPSAC venue annually rotates from Asia to the Western Hemisphere (usually the USA) to Europe.]

So here we were, at the beginning of 2022, without a clear view of the pandemic's future, nor an alternative 2023 venue for an in-person conference. The pandemic was still charging ahead at that time, but not as fiercely as it had been. The forecasts for 2023 suggested a continuing diminution of its killer effects.

Nevertheless, after three years of “lessons learned” and many hours of Zoom meetings, we decided to gamble and declare COMPSAC 2023 an “in-person” meeting. We were tired of not meeting our colleagues face to face, our conference attendees missing out on networking opportunities from in-person collaborations, and being tied to our screens and keyboards for almost all of our professional activities. It seemed reasonable to expect increasingly more in-person activities to take place: schools were reopening, classes were meeting, countries were relaxing travel requirements for their own and foreign visitors, effective vaccines were becoming available, and medical science seemed to have a better understanding of the elements of the virus and how to treat its “victims.” But what to do about a venue at that late date?

## THE UNIVERSITY OF TURIN COMES TO THE RESCUE

Thankfully, our friends at the 700-year-old University of Turin, neighbor to the Politecnico di Torino, our 2017 venue, offered to host this year's conference. And we did, with the theme, "Resilient Computing and Computing for Resilience in a Sustainable Cyber-Physical World." (A detailed description is posted at [www.compsac.org](http://www.compsac.org).)

Throughout the fall of 2022, our paper submission rate was distressingly low after we initiated the call for papers for our in-person conference. Was it because folks were still unwilling to travel? Was it because airfare costs were/are ridiculously out of sight? Or what other postpandemic or nonpandemic conditions were affecting the submission rates? Whatever the reasons, we decided late in January 2023 to declare the conference hybrid.

We decided that all authors of accepted papers would have to provide a video (PowerPoint) presentation of their paper, whether or not they planned to attend. In-person author sessions were scheduled and presented per a conventional conference program. These were not livestreamed. Nonattending authors' obligation to present was satisfied by their providing their video. All videos were accessible via the online program. Three keynote plenary sessions were conducted for in-person attendees only and recorded and posted online for all registrants to access within 12 hours of each session.

Ultimately, and to our surprise, the volume of submissions and presentations was the same as prepandemic rates: approximately 300 sessions (after a ~25% acceptance rate).

We did make one significant organizational change that we may continue in the future. Typically, the conference lasts five days: Monday and Friday, traditionally reserved for workshop papers, and Tuesday through Thursday for symposia papers. This year, we condensed the in-person meeting to Tuesday through Thursday, scheduling almost 200 in-person sessions, symposia, and workshops in that time frame. (The other 100 sessions were represented by the offline videos submitted by nonattending registrants.) In the future, we will consider making all in-person COMPSACs a three-day event by adding more parallel sessions than in the past. We hope to eliminate the virtual format, but we may continue to insist that all authors submit a video of their presentation for archiving in the IEEE digital libraries.

Unfortunately, we did have some confusion among authors who failed to read our definition of hybrid closely. Usually, hybrid means streaming live sessions

of remote presenters. Through many mass communications, we tried to inform all registrants that there would be no live sessions. However, as is often the case among university community members (students, and apparently faculty!), many ignored those personal communications and expected to find live-streaming sessions, none of which was even in the in-person program schedule! So, lessons were learned by everyone.

This year, we held our welcome reception at the University of Turin's 400-year-old campus headquarters, the Rettorato, close to Torino's famous Piazza Castello. The grand banquet was held at the NH Collection Torino Santo Stefano Hotel in the heart of the historic city. Before the banquet, attendees and guests participated in small group central Turino walkarounds, led by registered tour guides, through the city's incredible and nearby historic sites. (Note: Turin was the first capital of Italy; hence, it is replete with museums, castles, and of course, the (in)famous Shroud of Turin.)

As in the prepandemic "era," each morning of the conference was highlighted by a stimulating and thought-provoking keynote plenary session, which included

- ▶ Tuesday: "Intelligent Orchestrations Along the Cloud Continuum: The MUSA Approach," presented by Ernesto Damiani, director of the Center for Cyber-Physical Systems at Khalifa University, Abu Dhabi.
- ▶ Wednesday: "Unleashing the Magic and Mayhem of Generative AI in Education," presented by Diana Andone, director of the eLearning Center at the Politehnica University of Timisoara, Romania.
- ▶ Thursday: "Future Directions Led Technologies for a Resilient Sustainable World." The panel was moderated by Kathy Grise, senior program director, IEEE Future Directions.

A theme constant throughout many of the sessions, coffee and lunch breaks, and dinners concerned generative artificial intelligence (AI). It is irrefutable that this phenomenon is the current talk of the town.

## IT PROFESSIONAL AT COMPSAC

COMPSAC is usually organized into roughly 10 symposia (tracks) and various workshops (special topics beyond or in more depth than symposia). When I first became involved with the conference, I introduced the Information Technology in Practice (ITIP) symposium to address the interests of a community that had largely been absent from previous conferences. [As a side note, this was the same "logic" upon which I helped found this

## What Exactly Is The IEEE Computers, Software, and Applications Conference?

The IEEE Computers, Software, and Applications Conference (COMPSAC) is the IEEE Computer Society's annual international signature conference on computers, software, and applications, dedicated to advancing the field of computers, software, and computer applications. It has been held since 1977 and has established itself as a prestigious event in the computer science and information technology communities. The primary goal of COMPSAC is to provide a platform for researchers, practitioners, and industry professionals to present and discuss their latest research findings, innovations, and experiences. COMPSAC features a mix of keynote speeches by renowned experts, research paper presentations, panels, workshops, and tutorials. It allows attendees to network with peers, collaborate with researchers, and stay updated on the latest developments in the field, especially when they can meet face to face. The conference covers a broad range of topics including

- › *Software development*: methodologies, processes, tools, and techniques for software development, including requirements engineering, software design, testing, maintenance, and evolution.
- › *Software engineering*: advances in software engineering principles, theories, and practices,

such as software architecture, software metrics, software quality, and software project management.

- › *Artificial intelligence (AI)*: research and applications of AI techniques, including machine learning, natural language processing, computer vision, robotics, and expert systems.
- › *Data science and big data*: techniques, algorithms, and methodologies for data analysis, data mining, data visualization, and handling large-scale data sets.
- › *Cybersecurity and privacy*: research on securing computer systems, protecting data and privacy, cryptography, network security, and secure software development.
- › *Cloud computing and distributed systems*: advances in cloud computing infrastructure, distributed computing models, virtualization, and resource management.
- › *The Internet of Things (IoT) and embedded systems*: research on IoT architectures, protocols, applications, embedded systems, sensor networks, and cyber-physical systems.
- › *Mobile and ubiquitous computing*: innovations in mobile computing, wearable devices, location-based services, mobile applications, and pervasive computing.

magazine, *IT Professional (ITPro)*!] Many of the volunteers who support ITiP also support *ITPro*.

Because of the overlap between *ITPro*'s interests and the ITiP symposium, it's unsurprising that some conference attendees are also *ITPro* volunteers. This year, a number of us were present at the conference. There, *ITPro*'s new Editor-in-Chief (EIC), Charalampos Z. Patrikakis (Babis), organized a "mini" editorial board meeting as a part of the conference, and he intends that this be an annual event at the conference. An outcome of that meeting was an agreement to consider ITiP papers for publication in *ITPro*. Starting next year, COMPSAC will share the list of accepted ITiP papers with the *ITPro* EIC to consider for publication in *ITPro*. The authors of potential *ITPro* papers will be asked if they want their submission to be published in *ITPro* or the COMPSAC conference proceedings.

## NEXT YEAR

COMPSAC never sleeps. Or, more specifically, the volunteers who organize and run the conference never

sleep. Even while this year's conference was being conducted, plans were well underway for 2024 (and initialized for 2025). In the spring of 2023, we visited a potential site to view, select, and arrange facilities for the 2024 meeting. We announced in Turin that the 48th COMPSAC will be held in Osaka, Japan, in the first week of July. The COMPSAC 2024 theme, "Digital Development for a Better Future," will focus on the R&D of computing technologies for their eventual integration into all aspects of society. COMPSAC 2024 will again bring together worldwide researchers, developers, practitioners, and policymakers to discuss their latest field advances and challenges (see "What Exactly Is The IEEE Computers, Software, and Applications Conference?"). You can learn more about this theme by visiting the website ([www.compsac.org](http://www.compsac.org)), submitting a paper, and meeting us in Osaka next July. Sayonara!

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