The 20th International Conference on Service-Oriented Computing
ICSOC 2022

November 29th- December 2nd, 2022
Sevilla, Spain
http://www.icsoc.org

Call for Research / Industry papers

ICSOC, the International Conference on Service-Oriented Computing, is the premier international forum for academics, industry researchers, developers, and practitioners to report and share groundbreaking work in service-oriented computing. ICSOC fosters cross-community scientific excellence by gathering experts from various disciplines, such as services science, data science, management science, business-process management, distributed systems, wireless and mobile computing, cloud and edge computing, cyber-physical systems, Internet-of-Things (IoT), scientific workflows, artificial intelligence, machine learning, and services and software engineering.

ICSOC provides a high-quality forum for presenting results and discussing ideas that further our knowledge and understanding of the various aspects (e.g. application and system aspects) related to Service Computing with particular focus on artificial intelligence, machine learning, big data analytics, IoT, and emerging technologies including quantum computing.

ICSOC 2022, the 20th event in this series, will take place in Sevilla, Spain from November 29 - December 2, 2022. Following on the ICSOC tradition, it will feature visionary keynote presentations, research and industry presentations, a vision track, workshops, tutorials, and a PhD track. We invite interested researchers, students, practitioners, and professionals to submit their original research contributions to ICSOC 2022.

Submission/review model

Anonymous submissions: ICSOC implements a double-blind reviewing process. Author names and affiliations should not appear in the paper. The authors should make a reasonable effort not to reveal their identities or institutional affiliations in the text, figures, photos, links, or other data that is contained in the paper. Authors' prior work should be preferably referred to in the third person; if this is not feasible, the references should be blinded. Submissions that violate these requirements will be rejected without review. The list of authors cannot be changed after the acceptance decision is made unless approved by the Program Chairs.

Early submissions: Authors are invited to consider early submissions. In the early submission round, only papers submitted as full/regular papers will be considered, and they will go through a full peer-review process. An early submitted paper that is accepted will be included in the proceedings. An early submitted paper that is rejected can be still revised and submitted to the normal submission round by the given deadline. If the authors of an early submitted paper that is rejected decide to resubmit their paper to the normal submission round, they will have to include an appendix (maximum 2 pages) describing how they have addressed the comments received by the reviewers from the early submission.

Normal submissions: Authors are also welcome to submit papers to the normal submission round by the given deadline. After the normal submission deadline, the papers resubmitted from the early submission round and those submitted only to the normal submission round will undergo a traditional review process. The decisions made from this normal review procedure will be final and no resubmission will be permitted afterwards.

It should be noted that unformatted papers and papers beyond the page limit may not be reviewed.

Important dates

~~Early paper submissions due:~~	~~May 5th, 2022~~
Review comments to authors of early submission papers:	~~May 26th, 2022~~ June 6th, 2022

Normal paper submission due:	~~June 30th, 2022~~ July 7th, 2022 (extended and final)
Final notification to authors:	August 25th, 2022
Camera ready manuscripts due:	September 22nd, 2022
Author registration:	September 22nd, 2022
Conference dates:	November 29th- December 2nd, 2022

All deadlines are in Anywhere on Earth time (AOE = GMT − 12). Check the time in the AOE Zone here: https://time.is/AOE

Special issues

As per its tradition, ICSOC 2022 will also feature some special issues in high impact journals. A selection of the top accepted papers will be invited for special issues in journals, the specific list will be announced soon.

Areas of interest

ICSOC is the premier international forum for presenting the most recent and significant research contributions in service-oriented computing. We invite high quality submissions of research papers describing original contributions that are unpublished and not under review elsewhere. The research papers will focus on the following five focus areas. **Research in each area will be considered strictly in the context of service-oriented computing**.

Focus Area 1: Service-Oriented Technology Trends

This focus area targets outstanding, original contributions, including theoretical and empirical evaluations, as well as practical and industrial experiences, with emphasis

on results that solve open research problems and have significant impact on the field of digital services and service-oriented computing.

Topics that are part of this focus area may include but are not limited to:

- Service design, specification, discovery, customization, composition, and deployment
- Service change management
- Theoretical foundations of Service Engineering
- Service monitoring and adaptive management
- Secure service lifecycle development
- Privacy management aspects for services
- Trust management for services
- Service mining and analytics
- Data-provisioning services
- Cloud service management
- Cloud and fog computing
- Edge service orchestration
- Lightweight service deployment and management
- Social networks and services
- Innovative service business models

Focus Area 2: Machine Learning / Artificial Intelligence

Machine learning allows computers to process large amounts of data automatically or at least, partially automatically to gain an understanding of that input, as well as acquire about using the input. It generally follows a "learn by doing" process to achieve artificial intelligence (AI) and enables computers to learn and act without being explicitly programmed. Machine learning and artificial intelligence have grown into a driving force for increasing smartness, operation efficiency, and decision-making in various applications. In many cases, machine learning itself can be considered as a service for public benefits.

Topics that are part of this focus area, **as they relate to service-oriented computing**, may include but are not limited to:

- Network architectures
- Graph neural networks
- Domain adaptation and transfer learning
- Event detection and tracking
- Neural ranking and neural recommendation
- Security and privacy of AI/machine learning

- Evaluation, performance studies, and benchmarks

Focus Area 3: Big Data Analytics

The proliferation of the Internet, edge computing, and ubiquitous computing devices have made available massive data that support gaining high-level knowledge of services, applications, and domains. Big data analysis is trending as the methodology and tools for knowledge mining from high-volume datasets (e.g., processes, transactions, web/event logs, and users' activity histories) that are too large or complex to be dealt with by traditional data-processing application software. It is a cornerstone for the forthcoming era of AI and the relevant revolutions such as Industry 4.0.

Topics that are part of this focus area, **as they relate to service-oriented computing**, may include but are not limited to:

- Data cleaning and preparation
- Data Transformation and Integration
- Process mining and anomaly detection
- Visual techniques for big data
- Efficient data processing
- Information access and retrieval
- Exploratory data sciences

Focus Area 4: Internet of Things (IoT)

The Internet of Things (IoT) aims at turning every physical object into a "thing" on the Internet. It is made up of billions of "things" connected with each other: simple sensors, cameras, wearables, appliances, traffic lights, cars, and so on. The IoT involves harnessing the data and functionalities provided by "things" to enable novel smart services that benefit enterprises, industries, and society.

Topics that are part of this focus area, **as they relate to service-oriented computing**, may include but are not limited to:

- Embedded and real-time services
- RFID, sensor data, and services related to the IoT/CPS
- Services for IoT/CPS (Cyber-physical systems) platforms and applications
- Service oriented protocols for IoT/CPS applications
- IoT As A Service
- Smart cities and connected cars.
- IoT security

- Smart sensors and IoT for large scale applications (manufacturing, agriculture, healthcare, power grids, etc.)
- Energy efficiency and sustainability in IoT

Focus Area 5: Emerging Technologies

Emerging technologies bring new possibilities for more effective and efficient processing and integration of data and services. Thus, for example, we are living in the "quantum decade" in which quantum computers (whether annealers or gate-based) are starting to be used to solve previously unimaginable problems. Another example is the emergence of a new generation of chatbots and virtual assistants supported by the recent advances in natural language processing. All this offers new challenges and challenges that impact on the architecture, design and deployment of service systems. These and other emerging technologies, whether used individually or together, can have a major impact on the security, sustainability, connectivity, etc. of service-oriented computing.

Topics that are part of this focus area, **as they relate to service-oriented computing**, may include but are not limited to:

- Quantum Service Computing
- Digital twins
- 3D printing/additive manufacturing techniques
- Blockchain
- Robotic Process Automation
- Chatbots and virtual assistants
- Low-code / No-code solutions
- Virtual Reality and Augmented Reality
- Green IT
- 5G

Paper Submission

The conference solicits outstanding original research and practice papers on all aspects of service-oriented computing. Papers should clearly demonstrate the research or practical contribution, the relevance to the field, and the relationship to prior work. Submitted papers will be evaluated according to their rigor, significance, originality, technical quality, and exposition. All papers will be reviewed by at least three members of the Program Committee.

Papers should be formatted according to Springer's LNCS Formatting Guidelines. Submissions must be in English and must not exceed 15 pages. All papers must be

submitted electronically to the Conference Submission System. Each paper must be submitted on or before the provided deadlines. Authors are kindly invited to respect the abstract submission deadline, set one week before the paper submission. The limit length of accepted papers should be 15 pages (including abstract, figures and references) with a maximum of 2 extra paid pages (€90 per extra page). The final submission should be formatted according to Springer's LNCS Camera ready instructions.

For each accepted paper, at least one author must attend the conference and present the paper. The deadline for identifying and registering this individual author will be at the time when the camera-ready version is submitted.

Submit your paper [here](#).

Best Paper Award

The Best Paper Award, sponsored by Springer, will be given to the paper that the Program Committee judges to be the best in quality, execution, and impact among all the accepted papers in the conference.

Proceedings

All accepted papers will be included in the Conference Proceedings published by Springer Verlag in the Lecture Notes in Computer Science (LNCS) series.