



## CW 2021 SCOPE

Created intentionally or spontaneously, cyberworlds are information spaces and communities that use computer technologies to augment the way we interact, participate in business and receive information throughout the world. CW 2021 is the 20th conference organized annually since 2002. CW 2021 will consider the following tracks and topics:

### VISUAL AND INTERACTIVE COMPUTING:

Applications of virtual and augmented reality in cyberspace; Art and heritage in cyberspace; Color theory and image recoloring for color vision defect support; Computer vision for augmented and mixed reality; Electronic education in cyberspace; Image processing and computer vision for vision enhancement; Image-based ophthalmologic diagnosis; Multi-user games in cyberspace; Multimodal interaction; Shape modeling in cyberspace; Virtual and augmented reality for smart cities and smart manufacturing; Virtual city modelling, processing and simulation; Virtual collaborative spaces; Virtual humans and avatars; Visual analytics in cyberspace; Visual computing for active ageing; Virtual and augmented reality for the vision impaired.

### COGNITIVE HUMAN-MACHINE INTERACTION:

Affective computing; BCI applications; Cognitive informatics; EEG-based neuroimaging; Emotion artificial intelligence; Game innovation for active living; Human factors in transportation, maritime, and industry 4.0; Human and machine intelligence coexistence; Human-robot interaction; Machine and deep learning for biosignal-based algorithms; Machine-assisted cognitive enhancement; Mobile and adaptive BCIs; Multimodal interfaces; Neuroergonomics; Neurofeedback systems and games; Neurorehabilitation and neuroplasticity; Signal processing; Virtual and augmented reality and human factors.

### CYBERSECURITY AND BIOMETRICS:

Authentication protocols; Behavioral biometrics; Biometric template protection; Content protection and digital rights management; Emerging biometrics; Identity and trust management; Information hiding and anonymity; Multi-biometrics; Password security; Performance evaluation of biometric systems; Presentation attack detection; Privacy protocols; Privacy, security and trust in social media; Quality of biometric data; Risk and reputation management; Security of embedded systems; Security of personal data; Security protocols.

**SUBMISSION CATEGORIES:** full paper (up to 8 pages), short paper (up to 4 pages), poster paper (up to 4 pages with publication in the proceeding) and poster only (1 page abstract without publication in the proceedings).

**CONFERENCE PROCEEDINGS** with all accepted papers will be published by IEEE Computer Society Conference Publishing Services (CPS) as well as submitted to the IEEE Xplore Digital Library, IEEE Computer Society Digital Library and reference databases of all major referencing indices including EI Compindex, Scopus, and SCI

**SPECIAL JOURNAL ISSUES** will consider for publications extended versions of all accepted FULL papers

## IMPORTANT DATES

**23 April** Papers (Full/Short) submission  
**31 May** Papers (Full/Short) notification  
**11 June** Poster papers submission  
**28 June** Poster papers notification  
**16 July** Author registration  
**16 July** Camera-ready papers submission

## ORGANIZATION COMMITTEE

### GENERAL CHAIRS

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## Conference web page:

<https://cyberworlds2021.sciencesconf.org>,  
[www.cyberworlds-conference.org](http://www.cyberworlds-conference.org)

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