

## Special Issue on **Advances in Human-Computer Interactions: Methods, Algorithms, and Applications**

# CALL FOR PAPERS

The recent widespread of new technologies and devices for the fruition of multimedia contents (e.g., head-mounted-displays, augmented reality devices, smartphones, and tablets) has been changing the modality of accessing and exploring the digital information, by introducing novel human-computer interaction (HCI) modalities. The even growing market demand, on the one hand, has pushed the diffusion of such technologies; on the other hand, it has hampered a detailed analysis of their effects on the users. In particular, perceptual evidence from cognitive sciences and neurosciences has to be considered during the design of HCI systems in order to decrease visual fatigue and cybersickness and to lead to natural HCI in virtual and augmented reality (VR/AR) environments. Moreover, computer science and artificial intelligence can provide techniques to design systems that adapt themselves to the specific characteristics of each user by producing personalized interfaces that allow a natural HCI, by taking into account the sensorimotor control aspects that arise by using such systems.

The aim of this special issue is to call for high-quality research articles as well as review articles with a focus on perceptual aspects and computational intelligence techniques to improve the HCI systems in order to obtain natural and ecological ways to interact with digital contents in VR and AR environments, but not only.

Potential topics include but are not limited to the following:

- ▶ Natural and ecological HCI in virtual/augmented/mixed reality environments
- ▶ Computational intelligence approach to improve users' experience
- ▶ Sensorimotor control in virtual/augmented/mixed reality environments and in HCI systems
- ▶ Cognitive science and psychological research on human perception and effects of HCI interfaces
- ▶ Hand/face/body tracking and activity recognition
- ▶ Vision neuroscience and computational vision models for HCI
- ▶ Haptic-based and human-robot interfaces in virtual/augmented/mixed reality environments
- ▶ Misperception issues and undesired effects in visualization devices (e.g., S3D displays and head-mounted displays)
- ▶ Passive BCI-based HCI and eye-tracking for HCI
- ▶ Applications based on S3D displays, smartphones, tablets, and head-mounted displays

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/cin/ahcim/>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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