Call for Papers for Special Issue “Geometric Modelling and Processing for Mixed Reality Technology”

Scope of the Special Issue

With the advent of mixed reality (MR) technology, our living condition will be rapidly evolving into a kind of hybrid environment, in which both real and digitally generated virtual objects seamlessly exist and are engaging actively with each other. This will eventually lead to a revolutionary change to the ways we communicate, live, create, play, learn, and interact. No part of our life will not be affected by this impending revolution. Unlike VR, segmenting, recognizing and reconstructing real world objects captured by MR devices and generating virtual objects on the fly is an essential requirement for MR applications. Although there is a rich set of tools and techniques available for these tasks, they are in general performed off-line and are not fit to the use of MR applications, where huge and dynamic geometric data generated on the fly are required to be processed in real time.

The goal of this special issue is to provide a common platform for researchers from relevant fields to share cutting-edge research on real-time reality modelling and reconstruction, to showcase the latest development, innovations and success concerning geometric object recognition, reconstruction, as well as seamless interaction between real and virtual digital objects. This special issue seeks contributions relevant to, but not limited to, the following topics:

- Real 3D objects capturing
- Real reality object Modelling
- Geometric analysis in mixed reality applications
- Real shape and topology optimization
- Machine learning-based geometric design
- Data driven designs
- Generative geometric modelling
- Procedural geometric modelling
- Implicit modelling
- Explicit-implicit dual geometric modelling
- Explicit-implicit unified geometric representation
- Explicit-implicit mixed geometric modelling
- Real-Virtual mixed geometric modelling
- Cloud-based CAD technique
- High-accuracy reality modelling
- Material modelling
- Point cloud segmentation and classification
- 3D object recognition in point cloud
- Point cloud registration
- Gesture tracking techniques for mixed reality
- Person-specific hand modelling
- Person-specific face modelling
- Image-based shape modelling
- Tangible computing
- Patient-specific organ modelling
Important Dates
Submissions Deadline: August 31, 2019
Review & Revision of Papers Completed: November 15, 2019

Guest Editors
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Submission Instructions
Prospective authors are invited to prepare and submit manuscripts following the instructions at:
https://vciba.springeropen.com/submission-guidelines
The complete manuscript should be submitted through:
https://www.editorialmanager.com/vico/default.aspx

To ensure that you submit to the correct special issue, please select the appropriate special issue ‘Geometric Modelling and Processing for Mixed Reality Technology’ in the 'Additional Information'. In addition, indicate within your cover letter that you wish your manuscript to be considered as part of the special issue on Geometric Modelling and Processing for Mixed Reality Technology.

All submitted papers must be written in English with substantial original work, which has not been published by or is currently under review for any other journals or conferences. All papers will be handled by the editorial team of the journal and peer-reviewed by two independent reviewers.