

## Guest editors' foreword to the second issue on virtual reality in scientific application

Oswaldo Gervasi · Roberto Ranon

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In the last decades, virtual environments are (perhaps slowly, but steadily) moving from Virtual Reality research laboratories to several application domains, where they have become useful tools for study, exploration, and discovery. This Special Issue of *Virtual Reality* is devoted to illustrate various applications that employ Virtual Reality for scientific purposes. The special issue comprises ten papers, which, for reasons of space, are split into two volumes.

The present volume consists of five papers, which are briefly presented in the following.

The paper “*Toward the Development of Interactive Virtual Dissection with Haptic Feedback*”, by Nasim Melony Vafai and Shahram Payandeh, illustrates a framework for haptic rendering and its application to a novel virtual reality dissection simulator where a user can dissect an animal and its organs using a 3D force feedback haptic device.

The paper “*Exploring Individual User Differences in the 2D/3D Interaction with Medical Image Data*”, by Elena Zudilova-Seinstra et al., reports a study whose goal is to evaluate whether computer experience and demographic user characteristics would have an effect on the way people interact with the visualized medical data in a 3D virtual environment using 2D and 3D input devices.

The paper “*Visualization and simulation of 3D artificial neural structures generated by L-system*”, by Regina Celia Coelho, Nivaldi Calonego Jr., and Luis A Consularo, presents the visualization and simulation environment of 3D artificial neural structures.

The paper “*Nu!RehaVR: Virtual Reality in Neuro Tele-rehabilitation of Traumatic Brain Injury and Stroke Patients*”, by O. Gervasi, R. Magni and M. Zampolini, presents some virtual environments to help patients with trauma brain injury and stroke to recover some cognitive functions using tele-rehabilitation techniques.

The paper “*Auditory and visual 3D virtual reality therapy for chronic subjective tinnitus: theoretical framework*”, by A. Londero et al., describes a theoretical framework to adapt virtual reality techniques to subjective tinnitus treatment. Subjective tinnitus affects the 10% of the adult population in developed countries, and the proposed environment contributes to tinnitus treatment by promoting cerebral plasticity, through multiple interactive sessions.

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We hope that readers will find this special issue a source of valuable information regarding the current state of the art in scientific applications of Virtual Reality.

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O. Gervasi (✉)  
Department of Mathematics and Computer Science,  
University of Perugia, Via Vanvitelli, 1,  
06123 Perugia (PG), Italy  
e-mail: osvaldo@unipg.it

R. Ranon  
Human-Computer Interaction Lab,  
Department of Mathematics and Computer Science,  
University of Udine, via delle Scienze 206, 33100 Udine, Italy  
e-mail: ranon@dimi.uniud.it