

Preface

Nowadays, medical and service robotics have become a major part in the field of robotics. Medical robotics, in particular, benefits from theoretical and technological advances and the increased acceptance as supporting technology for rehabilitation, surgery and other services that serve our society. Furthermore, medical robots represent the economically most important subclass in the service robotics domain. There is an ongoing demand on new devices for a wide spectrum of applications ranging from robotic devices for keyhole surgery, devices for camera navigation, surgical assistance robots, rehabilitation devices, medical transportation systems, sanitation and disinfection robots, robots that work within an MRI scanner to the application of robots in the treatment of autistic children.

MeSRob2016 was the fifth edition of this series of conferences starting in 2012 in Cluj-Napoca, Romania, followed by the second workshop MeSRob2013 organized by Institute “Mihailo Pupin” in Belgrade, Serbia, the third MeSRob2014, in Lausanne, Switzerland organized by EPFL and the fourth MeSRob2015 was held in Nantes, France, organized by IRCCyN. The next MeSRob workshop will be in Cassino, Italy in 2018.

MeSRob2016 has covered a wide range from the issues mentioned above, but has also gone beyond these topics. Examples contained in the book are the design of high-precision devices for biopsy or the motion analysis of the left ventricle for the design of a cardiovascular mock-loop. There are also several contributions dealing with gait analysis and the design of exoskeletons. Furthermore, new rehabilitation robots are presented and analyzed in a couple of papers. But there are also some interesting less mainstream papers dealing with robot–child interaction, force balancing mechanisms or devices that are inspired by biology.

These contributions are provided as a collection of 23 papers that were selected by the Scientific Committee from the papers that have been presented during MeSRob2016. All presented papers had also been selected on the basis of a peer-review process. We would therefore like to express our gratitude to the authors, who provided the valuable content, the reviewers and Scientific Committee for their contribution to ensure the scientific quality of MeSRob’2016 and the organizing committee and support staff for managing this successful scientific

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