SVEUČILIŠTE U ZAGREBU, FAKULTET STROJARSTVA I BRODOGRADNJE

AKADEMIJA TEHNIČKIH ZNANOSTI HRVATSKE

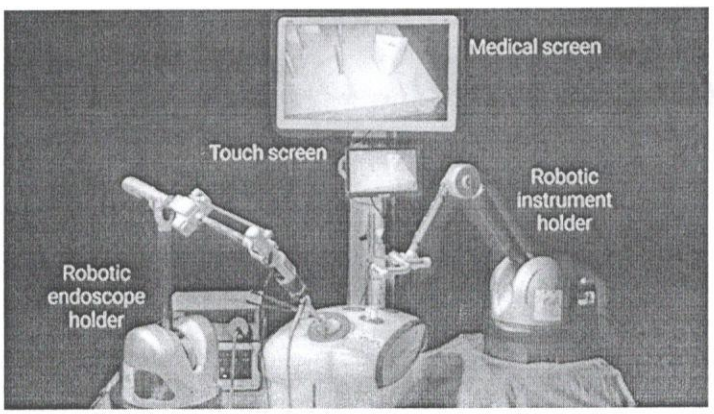
AKADEMIJA MEDICINSKIH ZNANOSTI HRVATSKE

Pozivaju vas na predavanje:

Prof. dr. sc. Guillaume Morel

COMANIPULATION FOR ASSISTANCE TO GESTURE WITH THERAPEUTIC APPLICATIONS

Comanipulation is an approach of robotics where a human user and a robot simultaneously perform the same task. In this approach, the robot is aimed at easing the user's job. This can take the form of many different modes of assistance, from weight compensation to tremor filtering or guidance. We will demonstrate how this approach can be used to enhance the sensorimotor capacities of an expert surgeon (smart instruments) or a patient suffering from motor deficiencies (exoskeletons, prostheses).



Četvrtak, 5. prosinac 2019. u 18:30

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Guillaume Morel was born in Clermont-Ferrand in January 1969. After a degree in electronics engineering from the Institute of Science and Technology (1990), he obtained in 1994 a doctorate from the University Pierre and Marie Curie (UPMC) - Mechanical and Robotics specialty. He then spent two years at the Massachusetts Institute of Technology as a postdoctoral researcher (1995-1996). Back in France, after a year spent working as an engineer for Electricité de France, he joined the academic world in September 1997 as a lecturer at Louis Pasteur University - Strasbourg I. He then allowed himself a new interlude in the industrial world in 2000-2001 (research engineer at EDF) then joined the UPMC from his debut as a lecturer in September 2001. Since September 2007, he is Professor in Robotics in this same establishment. For 15 years, Guillaume Morel's research has focused on the control of robotic systems using exteroceptive sensors, in particular the control of forces (fine control of contacts) and visual servoing (motion control using a time image). real). At the Institute of Intelligent Systems and Robotics, Guillaume Morel leads the team AGATHE (Assistance to Gestures and Therapeutic Applications) which brings together about fifteen permanent or non-permanent researchers around robotics assistance to the gesture with a particular interest for therapeutic applications (assistance to surgery and medicine, functional rehabilitation). At the same time, he directs the Robotics engineering training he created in 2006 at Polytech'Paris-UPMC. Guillaume Morel is associate editor of the IEEE / ASME Transactions on Mechatronics journal, and a member of the editorial boards of international reference conferences in the fields of robotics, mechatronics and surgical assistance (IEEE Int. Robotics & Automation, IEEE Int.Conf on Advanced Intelligent Mechatronics, Inc. on Medical Image Computing and Computer Assisted Interventions). He is also a member of UPMC's Research Directorate, which is the board of the University on which the Presidency relies to define its research policy.

Vitae:

1990-1994 : PhD student, Laboratoire de Robotique de Paris
Topic : Programming and Adapting the Impedance of Manipulators in Contact with Their Environments

1995-1996 : Postdoc research assistant, M.I.T., Dept. of Mechanical Engineering, Field and Space Robotics Lab.
Topic : Base force/torque sensing for manipulation, application to friction compensation

1996-1997 : Research Engineer, Centre de Robotique Intégrée d'Ile de France
Topic : Integration of Force feedback control and vision based control in teleoperation systems

1997-2000 : Assistant professor, University of Strasbourg
Research activities : Robust visual servoing, Applications to surgical robotics
Teaching activities : Control and Robotics, Ecole Nationale Supérieure de Physique de Strasbourg.

2000-2001 : Research Engineer, Electricité de France (EDF R&D, Chatou)
Research activities : Robotics for In-pipe inspection and repair for nuclear power plants

2001-present : Associate Professor, then Professor (since 09/2007) at the University of Paris VI
Research activities : Vision and force control, applications to surgical robotics