Department of Electromagnetic Field

Faculty of Electrical Engineering, CTU in Prague

would like to invite you

to a guest lecture of

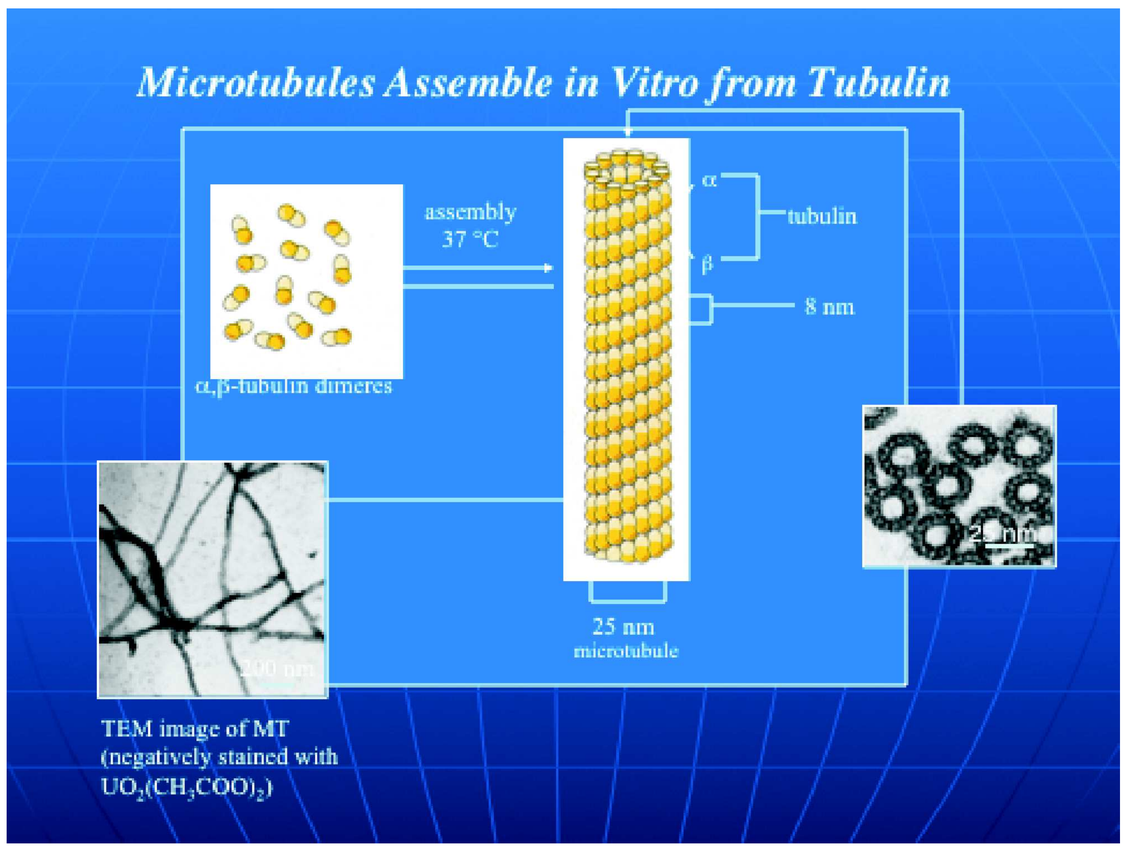
Dr. Jack Tuszynski

The biophysical properties of microtubules and their technological potential

when: 16th December 2014 at 10:00

where: Technicka 2, Praha 6, room no. 80

In this talk I will provide an overview of the many interesting biophysical and biochemical properties of microtubules. The building block of microtubules, the heterodimer of alpha and beta tubulin has been well characterized and is a target for drug discovery, which will be mentioned briefly in this talk. This will be followed by a discussion of the unique polymerization and depolymerization properties of microtubules. With the knowledge of the crystallographic structure of tubulin it has been possible to analyze at atomistic-level detail, its electrostatic properties, molecular mechanics, stability, hydrogen-bond interactions as well as conductive properties in ionic solutions. Finally, I will provide an insight into the technological and biomedical potential of microtubules and nano-engineered constructs involving microtubules and motor proteins.



Dr. Jack Tuszynski Dr. Tuszynski is a Fellow of the National Institute for Nanotechnology of Canada. He is an Allard Chair and Professor in the Department of Oncology at the University of Alberta and a Professor in the Department of Physics. Professor Jack Tuszynski received his M.Sc. with distinction in Physics from the University of Poznan (Poland). He received his PhD in Physics from the University of Calgary. He has published over 360 peer-reviewed papers, over 50 conference proceedings, 10 book chapters and 10 books. Dr. Jack Tuszynski heads a multi-disciplinary team creating "designer drugs"for cancer chemotherapy, immunology, neurodegenerative disorders and virology applications using computational biophysics methods. He was awarded a von Humboldt Fellowship, a McCalla Professorship, the inaugural S.S. Chern Visiting Professor (Nankai University, China) and was a visiting professor in Denmark, Germany, France, Belgium and Switzerland.