International Workshop

MODELING IN ENGINEERING

PART 1

Advanced Modeling and Data Analysis in Biomedical Engineering

PART 2

Simulation and Modeling in Engineering

November 28, 2014 • UCEEB, Třinecká 1024, Buštěhrad

Since December 1, 2012, the Czech Technical University in Prague has been dealing with a project focusing on the support for a better quality of research and development and the development of intersectoral mobility under the direction of doc. RNDr. Vojtěch Petráček, CSc., vice-rector for science and research.

The main aim of the project is focusing on better quality of the scientific-research work within ČVUT by means of including young initiative graduates in the research teams. The Post-graduates employed within the framework of the project help to increase the invention within the framework of research for the existing academic and research workers, participating at the same time in the education of students in the regions.

The following faculties are actively participating in the project: Faculty of Civil Engineering, Faculty of Mechanical Engineering, Faculty of Electrical Engineering, Faculty of Nuclear Sciences and Physical Engineering, Faculty of Biomedical Engineering and the University Centre for Energy Efficient Buildings. Currently, there are approx. 70 post-docs employed under the leadership of 38 mentors. The issues dealt with cover a wide spectre of scientific-research activities. The presented posters represent significant results of the scientific work on the topic dealt with by these teams.

ČVUT is a significant university and as such, increasing the research and development activities is one of its primary strategic goals. It influences the quality of the tuition and the education of young researchers, scientific workers and workers dealing with innovation and technology transfer in a positive way.

PART 1

Advanced Modeling and Data Analysis in Biomedical Engineering

SCIENTIFIC COMMITTEE: prof. Ing. Karel ROUBÍK, Ph.D., Ing. Martin ROŽÁNEK, Ph.D.

Time	Topic	Speaker/Lecturer	Institution
13.00	Opening address	prof. Ing. Karel Roubík, Ph.D.	FBME
13.10	Introduction to biomedical modeling and signal processing	prof. Ing. Karel Roubík, Ph.D.	FBME
13.30	Modeling and measurement of biomedical flow	Ing. Jakub Ráfl	FBME
15.00	*Break, refreshment*		
15.20	Intelligent Data Analysis	Velazco Rodrigo Nava	FEE
15.40	Advanced signal processing and decision support for health care - Computational neuroscience	Gerla Václav	FEE
16.00	Advanced signal processing and decision support for health care - Electrophysiology	Sieger Tomáš	FEE
16.20	*Break, refreshment*		
16.40	Non-Abelian Monopoles in the Parameter Space of Point-like Interactions	Satoshi Ohya	FNSPE
17.00	State-of-the-art in assistive devices for people with disabilities using sound	Lavergne Thomas	FEE
17.20	Theory and practice of multiagent systems	Egan Malcolm	FEE
17.40	Workshop summary, closing ceremony	prof. Ing. Karel Roubík, Ph.D.	FBME
17.45	Farewell, departure		

PART 2

Simulation and Modeling in Engineering

SCIENTIFIC COMMITTEE: doc. RNDr. Vojtěch Petráček, CSc.

Time	Topic	Speaker/Lecturer	Institution
18.00	Opening address	prof. Ing. Petr Konvalinka, CSc.	Rector of CTU
18.10	Introduction of the project	doc. RNDr. Vojtěch Petráček, CSc.	Vice-Rector for Science and Research
18.20	Benefits of the project	prof. Ing. Jan Macek, DrSc.	Mentor Faculty of Mechanical Engineering
18.30	Benefits of the project	prof. Ing. Zbyněk Škvor, CSc.	Mentor Faculty of Electrical Engineering
18.40	Benefits of the project	prof. Karel Roubík, Ph.D.	Mentor Faculty of Biomedical Engineering
18.50	Benefits of the project	prof. Ing. Zdeněk Bittnar, DrSc.	Mentor Faculty of Civil Engineering
18.55	Benefits of the project	Ing. Jan Včelák, Ph.D.	Mentor University Centre for Energy Efficient Buildings
19.00	Summary	doc. Ing. Lukáš Ferkl, Ph.D.	Director University Centre for Energy Efficient Buildings
19.00	Break and Social evening with live music Julius Baroš kvintet		
19.00	Poster section		

ORGANIZATIONAL GUIDELINES

Time	Topic
16.30	Farewell, departure (busses available from Prague to Buštěhrad, free of charge)
17.00–18.00	Registration
20.00	Tour for those interest at UCEEB
21.00	Farewell, departure (busses available from Buštěhrad to Prague and Kladno, free of charge)