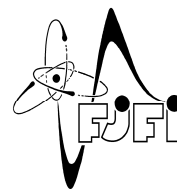


CZECH TECHNICAL UNIVERSITY IN PRAGUE
**FACULTY OF NUCLEAR SCIENCES AND
PHYSICAL ENGINEERING**

Břehová 7, 115 19 Praha 1, Czech Republic



**PRAGUE WORKSHOP
ON RADIOLOGICAL PHYSICS**

Prague, 11. – 13. January 2010



PRAGUE WORKSHOP ON RADIOLOGICAL PHYSICS

Prague, 11. – 13. January 2010

Workshop topics

- 1) Monte Carlo in radiotherapy, nuclear medicine, and diagnostic imaging
- 2) Dose calculation and optimization for radiation therapy
- 3) Clinical dosimetry, verification, and modern treatment modalities

Organizing committee:

Prof. Tomáš Čechák, Czech Technical University – Faculty of Nuclear Sciences and Physical Engineering (CTU FNSPE)

Ing. Kateřina Vávrů, Czech Technical University – Faculty of Nuclear Sciences and Physical Engineering (CTU FNSPE)

Ing. Jitka Šemnická, Czech Technical University – Faculty of Nuclear Sciences and Physical Engineering (CTU FNSPE) / Na Homolce Hospital

Further information for participants

Workshop place:

CTU FNSPE, Břehová 7, 11519 Praha 1

FREE ENTRY, no participation fee is required.

Accommodation is not arranged by organizing committee.

Venue and transportation:

CTU FNSPE, Břehová 7, 11519 Praha 1:

Staroměstská stop: trams 17, 18, metro A, bus 133

Právnická fakulta stop: tram 17, bus 133

Prof. Tomáš Čechák, KDAIZ FJFI CVUT, Břehová 7, CZ 11519, Praha1, Czech Republic
tomas.cechak@fjfi.cvut.cz tel.No: +420 224 358 255

Ing. Kateřina Vávrů, KDAIZ FJFI CVUT, Břehová 7, CZ 11519, Praha1, Czech Republic
katerina.vavru@fjfi.cvut.cz tel.No: +420 224 358 239

PROGRAMME

Monday 11th January

Time	Speaker	Title
9:00 - 9:15	Registration	
9:15 - 9:30	Welcome T. Čechák	
Monte Carlo in radiotherapy, nuclear medicine, and diagnostic imaging		
9:30 - 11:00	M. Bazalová	Monte Carlo in radiotherapy 1 (introduction, overview of available codes and their applications in radiotherapy)
11:00 - 11:30	Coffee break	
11:00 - 12:30	M. Bazalová	Monte Carlo in radiotherapy 2 (EGSnrc codes, issues, applications, examples)
12:30 - 14:00	Lunch break	
14:00 - 14:45	J. Pipek	Geant4 in Radiotherapy: Model of LGK
14:45 - 15:30	J. Mužík	Monte Carlo vs. Pencil Beam based optimization of stereotactic lung IMRT
15:45 - 16:30	T. Urban	Shielding Calculations for Proton Therapy Center in Prague, Czech Republic

Tuesday 12th January

Time	Speaker	Title
Dose calculation and optimization for radiation therapy		
9:30 - 11:00	L. Bogner	Inverse MC optimization with photons and protons
11:00 - 11:30	Coffee break	
11:00 - 12:30	T. Dirscherl	Biological optimization and dose-painting-by-numbers
12:30 - 14:00	Lunch break	
14:00 - 14:45	M. Bazalová	Computed Tomography
14:45 - 15:30	M. Bazalová	Metal artifacts in computed tomography and their influence on dose calculations
15:45 - 16:30	O. Konček	Application of pencil beam algorithm for relative dose calculation from cobalt unit

Wednesday 13th January

Time	Speaker	Title
Clinical dosimetry, verification, and modern treatment modalities		
9:30 - 11:00	M. Bazalová	Dual-energy CT for dose calculations
11:00 - 11:30	Coffee break	
11:00 - 12:30	J. Novotný	Leksell gamma knife Perfexion
12:30 - 14:00	Lunch break	
14:00 - 14:45	M. Navrátil	Influence of errors in patient positioning on resulting dose distribution during IMRT
15:00 - 15:45	K. Vávrů	Gel dosimetry - introduction, gel types, read-out methods
15:45 - 16:30	J. Šemnická	Gel dosimetry at CTU
16:30 - 17:00	End of the workshop	

Programme changes reserved