Name:**Diagnostic Medical Imaging**		NEPTUN-code:*NBXCO1PMNE*	Number of periods/week:full-time: 2 lec + 0 sem + 2 lab
Credit: 4*Requirement:* exam		*Prerequisite:**NIXSKGEMNE* Image Processing and Computer Graphics	
*Responsible:*Miklós KOZLOVSZKY, Ph.D.	*Position:*associate professor	*Faculty and Institute name:*John von Neumann Faculty of InformaticsInstitute of Biomatics	

Way of assessment:
- mid-term exam (with one retake possibility)
- Written exam. Final mark is calculated as the average of the mid-term and the exam.

Competences

Course description:

The course focuses on the properties of the diagnostic medical imaging systems (X-ray, computed tomography (CT), magnetic resonance imaging (MRI), positron emission tomography (PET), ultrasound (US), optical coherence tomography (OCT), digital subtraction angiography (DSA), infrared thermography, high-resolution digital microscopy). It gives an overall picture about the modalities, the possibilities of reducing the errors, and the fusion of different modalities. It also discusses the infrastructure and methods to process the large datastructures created by such imaging methods.

Literature

Tibor Deutsch, Tamás Gergely: Kibermedicina, Medicina, Budapest, 2003 (some parts, in Hungarian)
Sajeesh Kumar, Bruce E. Dunn: Telepathology, Springer-Verlag Berlin Heidelberg, 2009
K. Kayser, B. Molnar, G. Weinstein: Virtual microscopy, Veterinaerspigel Verlag, Berlin, 2006
Alex A.T. Bui, Ricky K. Taira: Medical Imaging Informatics 2010th Edition, Springer; 2010