Interdiszciplinary Medical Sciences (D93)
The Leader of the Doctoral School: Dr. Gallyas, Ferenc

A-129/1993 Molecular and cellular biochemistry Program leader: Dr. Gallyas, Ferenc

Dr. Berente, Zoltán zoltan.berente@aok.pte.hu	Department of Biochemistry and Medical Chemistry	**Magnetic resonance imaging (MRI) and spectroscopic (MRS) study of various disease models in vitro, in situ and on small animals in vivo**
Nuclear magnetic resonance, due to its inherently advantageous properties, is especially suitable for noninvasive and nondestructive study of the living material (cells, tissues, intact living creatures). The method provides morphological, cellular (e.g. diffusion and perfusion) and molecular (e.g. metabolite concentrations) information practically simultaneously and in a spatially resolved manner. A further advantage of the method is that using non-radioactive isotope labelling it provides the localisation of the label not only among but also within the metabolites (i.e. which carbon atom(s) of a certain metabolite become(s) labelled). The planned studies are aimed at identifying in vivo detectable and quantifiable markers that indicate the extent and progression of the damages present in disease models. A further objective is monitoring these markers during experimental therapies (e.g. application of drug candidates) in order to characterise the efficacy of the therapy. The applicant will join the work of the MR lab in the Szentágothai Research Center of University of Pécs. The lab is already equipped with a Bruker Avance III 500 NMR spectrometer (11.7 T magnet) and during the year 2015 a 4.7 T small animal MRI instrument will be installed.		

Dr. Gallyas, Ferenc ferenc.gallyas@aok.pte.hu	Department of Biochemistry and Medical Chemistry	**Identifying new molecular targets in oxidative stress**
Oxidative stress is considered as a major pathogenic factor in various diseases. Under pathophysiological conditions macrophages, monocytes and neutrophil granulocytes produce high amounts of reactive oxygen species and various cytokines that can induce cell and tissue damage. These processes occur locally in ischemia-reperfusion related maladies such as cardio- and cerebrovascular diseases, as well as globally in multi organ failure in septic shock. The initiative damaging agents, the reactive oxygen and nitrogen species produced by various processes impair certain intracellular components such as nucleic acids, proteins and lipids. These damages can lead to necrotic or apoptotic cell death by activating specific intracellular signalling pathways. The aim of the PhD project is identifying novel signalling pathway elements or other drug targets that can be used for developing new therapeutic strategies in oxidative stress related diseases.		

Dr. Kovács, Krisztina krisztina.kovacs@aok.pte.hu	Department of Biochemistry and Medical Chemistry	**Effects of PARP inhibitors and cytostatic agents on tumorous cell lines**
The treatment of cancerous diseases in most cases is not solved, the mortality still shows high incidency. We use different cytostatic agents as well as biological thearpies in combination with PARP inhibitors.We use FDA accepted PARP inhibitors and molecules with PARP inhibitory effect in research phase. We use primary cell lines as well as tumorous cell lines where we detect the effectiveness of our therapies at DNA, RNA and protein levels. Testing new componds could prove new therapeutic approaches in cancer therapies.		

Dr. Nagy, Péter peter.nagy@oncol.hu	Department of Biochemistry and Medical Chemistry	**Redox signaling in cancer**

Reactive oxygen species (ROS) are a chemical class of molecules that have generally been considered as deleterious entities because in higher quantities they can damage cellular macromolecules contributing to chronic conditions, such as the emergence of cancer. Therefore, cells have an arsenal of small molecule antioxidants and antioxidant enzymes to protect themselves from oxidative damage. A paradigm shift in the field was introduced by the discovery of the NADPH-oxidases (NOX enzymes), which are dedicated to produce ROS in a variety of cells and tissues. This raised the question whether cells actually need ROS for their normal functions, and if they do, in which processes could they be useful. Today it is generally accepted that ROS indeed play pivotal roles in a variety of cellular functions including defense against invading pathogens or regulation of signal transduction or metabolic pathways. Hence it is now widely accepted that for healthy cellular physiology a delicate redox balance is required. Reactive cysteine residues represent the primary targets of ROS. In thiol proteins, redox reactions of functional Cys residues at the active site represent the underlying molecular mechanisms of their functions. In other proteins oxidation/reduction of distant regulatory Cys residues can lead to the alteration of protein functions, protein-protein interactions, subcellular localizations or transcriptional regulations. Hydrogen-peroxide (H2O2) has emerged as the major oxidizing agent in redox-signaling events by triggering the reversible oxidation of redox-regulated proteins, including phosphatases, kinases and transcription factors. In recent years it has been shown that the Peroxiredoxin family of proteins serve as central hubs in redox signaling by scavenging >95% of endogenous H2O2 and transducing the redox signal by relaying H2O2-derived oxidizing equivalents on to other proteins. In addition, we and others have demonstrated that enzyme-regulated endogenous persulfidation events, which are novel oxidative Cys modifications, are highly prevalent in cellular systems playing vital roles in a variety of cellular functions. These discoveries introduced the Reactive Sulfur Species (RSS) concept to redox biology, which is now one of the most heavily investigated direction in the field. Importantly, an altered redox/persulfidation status have been observed in different cancers. Furthermore, redox regulation and redox signaling as well as sulfane sulfur species play key roles in tumorigenesis and the response to cancer therapeutics. Therefore, our research group is focused on how an altered ROS- and/or RSS-status in cancer cells can reprogram signaling or metabolic events, with the aim to discover novel cancer therapies.

B-130/1993 Investigating functional protein dynamics using biophysical methods — Program leader: Dr. Nyitrai, Miklós

Dr. Bugyi, Beáta beata.bugyi@aok.pte.hu	Department of Biophysics	**Investigations of protein-protein interactions in the organization of the sarcomeric thin filaments**

During muscle development, de novo formed myosin and actin filaments assemble into the greatly organized sarcomeric structure critical for muscle function. Although sarcomerogenesis clearly involves the formation of novel actin filaments, it has so far been poorly understood how these filaments form. Two key steps of filament formation are nucleation and elongation. However, in muscle cells the essential actin nucleation and elongation factors, regulating actin filament formation, have not been clearly identified, and the mechanism that ensures sarcomeric thin filament assembly remained mysterious. Recently, we found that DAAM family formins, well known actin nucleation and elongation factors in nonmuscle cells, also play an essential role in sarcomerogenesis, whereas others identified the SALS protein as a key regulator of thin filament elongation. The major objective of our research is to investigate the molecular and cellular mechanisms of thin filament assembly during sarcomerogenesis by the detailed analysis of the functions of DAAM family formins and SALS.

We aim to use the combination of genetic, cellular and in vitro assays (fluorescence spectroscopy, fluorescence microscopy, reconstituted biomimetic approach) to reveal the functional properties of these proteins, and to explore their molecular interactions with each other and with the known regulators of thin filament formation. We expect that the complex approach proposed will help us to gain deeper insights into the mechanism of myofibrillogenesis, especially into the mechanism of thin filament formation and the integration of the actin and myosin filament systems.

Dr. Lőrinczy, Dénes denes.lorinczy@aok.pte.hu	Department of Biophysics	**Thermodynamic (differential scanning calorimetry, DSC) investigation of the intermediate states of ATP hydrolysis cycle (in rabbit psoas muscle)**
Glycerinated psoas muscle fiber is a good biochemical and mechanical model of the intact muscle. The ATP-hydrolysis cycle runs on ms time scale, so we need a very rapid technics to investigate it. We can make a long-living intermediate states with the help of different phosphate analogues with life time which fits to the measuring time of other techniques (e.g.: EPR and DSC). This way we are able to investigate the molecular dynamic and thermal stability of these states for the better understanding of muscle function.		

Dr. Lőrinczy, Dénes denes.lorinczy@aok.pte.hu	Department of Biophysics	**Conformational changes of skeletal and cardiac actin/myosin under the effect of toxic agents (phalloidin and jasplaklinolide) and free radicals. A DSC approach**
Glycerinated psoas muscle fiber is a good biochemical and mechanical model of the intact muscle. The muscle model and the intermediate states of ATP-hydrolysis cycle depend strongly on the environmental effects. Some of these stabilise the structure (e.g.: toxins) while the free radicals influence the function too through the damage of the structure. UV irradiation of hydrogen peroxide produces free radicals and these will be used to monitor the structural and functional consequences of pathological hydrolysis cycle.		

Dr. Lőrinczy, Dénes denes.lorinczy@aok.pte.hu	Department of Biophysics	**DSC investigation of various cartilages, external knee-ligaments, reconstruction of shoulder/muscle and ligaments in human and animal samples**
Our aim is to clarify the molecular background of the damages in physiological function and in case of external loading or injury in the above mentioned samples. This way we could help to understand the molecular background of pathological processes, to develop and check new surgical techniques as well as the rehabilitation after the surgery (in cooperation with Clinic of Traumatology).		

Dr. Lőrinczy, Dénes denes.lorinczy@aok.pte.hu	Department of Biophysics	**Monitoring the consequences of different surgical procedures by DSC**
Our aim is to clarify the molecular background of the damages in physiological function and in case of external loading or injury in the different organs. This way we could help to understand the molecular background of pathological processes, to develop and check new surgical techniques as well as the rehabilitation after the surgery. To support an experimental surgery background (in cooperation with the Department of Surgical Research and Techniques).		

Dr. Lőrinczy, Dénes denes.lorinczy@aok.pte.hu	Department of Biophysics	**Measuring service in the development of probiotoc dairy products, food-physics research joined to these problems/PhD project direction**
The aim is to develop easy spreadable and youghurt type probiotic products to improve the misfunction of digestive system, to reduce the osteoporose, to sustain better Ca/P ratio (in cooperation with Dairy Research Milker Kft.).		

Dr. Lukács, András andras.lukacs@aok.pte.hu	Department of Biophysics	**Functional dynamics of photoactive flavoproteins revealed by ultrafast spectroscopy**
Nature has many elegant ways for sensing the light, using photoactive proteins like rodhopsins, xanthophins, photototropins or flavoproteins having very distinct pathways to regulate the photoresponse. In the frame of this project we are investigating the molecular processes of blue light sensing in cryptochromes – blue light sensors involved in regulation of circadian rhythm as well as magnetoreception in brids – and BLUF domain proteins – transcriptional antirepressors in photosynthetic bacteria. As the primary steps of the photocycle of these proteins are very fast – ranging from femtoseconds up to hundreds of picoseconds – we are using ultrafast spectroscopy in order to elucidate the mechanism.		

Dr. Nyitrai, Miklós miklos.nyitrai@aok.pte.hu	Department of Biophysics	**The investigation of protein function and conformation by using biophysical methods**
The actin cytoskeleton plays essential roles in many cellular functions. The appropriate time and space control of these processes is critical for most of the cell functions, and manifested by more than 60 families of actin-binding proteins. The scientific questions of the students joining our research group will be centred around the many - yet unknown - details of these regulatory mechanisms. One of the major components of this education will be the understanding of the known mechanisms and analysing the corresponding part of the literature. As part of the process the students are expected to attend national and international conferences and workshops. After defining the research questions we will apply biochemical and molecular biology methods to purify the chosen proteins. The investigations will be carried out by using various biophysical methods, including many assays in fluorescence spectroscopy (both steady-state and time dependent), fluorescence microscopy (conventional, confocal, fluorescence lifetime imaging), calorimetry and rapid kinetic methods. The concept will be to find and describe molecular mechanisms in in vitro experiments, and then correlate them to functions and interactions in living cells. Considering the nature of these research topics the projects are available and suggested for students with background in either medical or natural sciences.		

Dr. Szabó-Meleg, Edina edina.meleg@aok.pte.hu	Department of Biophysics	**Investigation of the formation and function of membrane nanotubes as direct intercellular communication pathways**
Membrane nanotubes are long, temporary membrane protrusions, providing more than physical connections between cells. Membrane nanotubes are described as direct communication pathways between certain cells (T-lymphocyte, neuran cells, kidney cells, myeloid cells, some cancer cells) transporting different matters or chemical signals. In the last few years nanotubes have quickly gained interest demonstrating a capability of spreading diseases among cells avoiding activation of the immune system. Viruses, prions, different cell organelles, membrane surface proteins, lipids have been identified to migrate between cells using membrane nanotubes. Our aim is to reveal molecular processes and interactions in the formation and function of membrane nanotubes.		

Dr. Talián, Csaba Gábor gabor.c.talian@aok.pte.hu	Department of Biophysics	**Functional investigation of tropomyosin isoforms**
The members of the actin-binding tropomyosin family display a high structural similarity. While their expression is strictly regulated in space and developmental state, several isoforms are always present in the same cell type, and little is known about their division of labour. Tropomyosins can influence the stability and dynamics of actin filaments; however, their actual biological significance may be the modification of association and function of other actin-binding proteins. The aim of the present research in our institute is to in vitro express tropomyosin isoforms in order to reveal their interactions with other actin-binding partners, like gelsolin, cofilin, twinfilin, caldesmon, myosins etc. The measurements will be carried out after fluorescent labelling by spectroscopy methods and light microscopy. We also intend to express fluorescent proteins even in living neurons. The Ph.D. student will have the opportunity to acquire substantial expertise in various methods from protein cloning through molecular biology techniques to the above mentioned measurement procedures.		

Dr. Ujalusi, Zoltán zoltan.ujfalusi@aok.pte.hu **Dr. Hild, Gábor** hild.gabor@aok.pte.hu	Department of Biophysics	**Examination of the intracellular pathomechanism of contrast materials**
Some routinely applied intravascular contrast agents penetrate in cells and modify the structure of the actin cytoskeleton. The molecular mechanism and further effects of this process is unknown. Our research is focused on these important molecular issues and the possible pathological effects using wide variety of spectroscopic devices and microscopes. Ph.D. students can acquire many other technics as well that are not strongly related to their own research and they are expected to take active part in teaching at the Department of Biophysics.		

B-131/1993 Intracellular signal transduction pathways Program leader: Dr. Sétáló, György

Dr. Pap, Marianna marianna.pap@aok.pte.hu	Department of Medical Biology	**Investigation of endoplasmic reticulum stress in different tumor cell lines**
The endoplasmic reticulum (ER) has an essential role in the synthesis, folding and processing of secretory proteins. The ER is armed with a quality control system to ensure that only properly folded proteins leave the ER lumen. Accumulation of the unfolded/misfolded proteins activates the unfolded protein response, which can lead to the apoptosis of the cell. ER stress has a role in the development of several diseases, including cancer. Its selective induction might be a promising target of the p53-negative tumors. We analyze the role and mechanism of ER stress and try to find drugs which can induce ER stress in different cancer cell lines.		

Dr. Sétáló, György gyorgy.setalo.jr@aok.pte.hu	Department of Biology	**Studying the differentiation and apoptosis of rat pheochromocytoma (PC12) cells**
Rat pheochromocytoma (PC12) cells don't require the presence of nerve growth factor (NGF) for their survival. Upon treatment with the peptide, however,		

they differentiate into a sympathetic neuron-like phenotype. The main transducer of the underlying signals is the extracellular signal-regulated kinase cascade. In the complete absence of trophic support the cells die by apoptosis. Our goal is a better characterization of these signaling processes. Our experiments are carried out using immunoblots and confocal laser scanning fluorescence microscopy.

Dr. Sétáló, György gyorgy.setalo.jr@aok.pte.hu	Department of Biology	**Studying signal transduction of cell survival, differentiation and cell death in in vitro cell and tissue culture systems**
The signal transduction of biological phenomena listed in the title are being investigated in immortalized cell lines and organotypic tissue cultures with special emphasis on its possible alterations induced from a therapeutic perspective. Our applied research methods are primarily of immunological nature (blotting and fluorescence microscopy)		

B-1/2013 Analytic techniques in biochemistry and molecular biology — Program leader: Dr. Gallyas, Ferenc

Dr. Bock-Marquette, Ildikó ildiko.bock-marquette@aok.pte.hu	Department of Biochemistry and Medical Chemistry	**New perspectives in discovering novel molecular mechanisms of cellular and organ regeneration, sport therapy and performance enhancement**
The lack of physical exercise, the lifestyle of our century, leads to significant increase of numerous cardiovascular and locomotor diseases worldwide. Prevention became a critical task of the scientific and medical society. It is obvious to all, regular training not only ensures health, but may also reverse pathological processes of disease by beneficially enhancing cellular and organ regeneration. Therefore, the primary aim of our current study is to screen and detect the influence of various sport activities on the human body at physiological, cellular and molecular levels. Our goal is to establish a collection of naturally existing secreted small molecules (peptides, micro RNAs, ect.,) and to investigate their effects on tissue regeneration and repair.		

Dr. Bock-Marquette, Ildikó ildiko.bock-marquette@aok.pte.hu	Department of Biochemistry and Medical Chemistry	**Integrated approach identifying small molecules that promote tissue repair and regeneration**
Heart failure is a consequence of an injured or diseased heart undergoing pathological remodeling to match cardiac output with the metabolic needs of the body. 8 million people are confirmed with heart failure in Europe and the USA combined. With few exceptions the prognostic benefits of current treatments are limited, resulting in high rates of morbidity and mortality. Regulatory pathways involved in cardiac development may have utility in reprogramming cardiomycytes to aid in cardiac repair. As an alternative to stem cell therapy we hypothesize that small, secreted peptides or their derivatives together with other small molecules such as microRNAs are alternatives for tissue repair stimulation. These molecules are believed to modulate the activation of resident cardiac stem/progenitor cell populations. A systematic approach to understanding the signaling mechanisms actuated by such proteins will benefit the design of novel therapeutic agents to promote cardiac repair and regeneration in adults and children.		

Dr. Márk, László laszlo.mark@aok.pte.hu	Department of Biochemistry and Medical Chemistry	**Mass spectrometry-based biomarker discovery**
In this study, qualitative and quantitative analyses of pathological biomarkers will be carried out. The results from clinical samples and model animals help to understand the molecular pathomechanism of the disease. Additionally, the better understand of molecular networking give the possibility for faster diagnosis and for a novel therapeutic approach.		

Dr. Márk, László laszlo.mark@aok.pte.hu	Department of Biochemistry and Medical Chemistry	**In-vitro and in-vivo imaging mass spectrometry**
Imaging mass spectrometry (IMS) is a new developed technique that enables the evaluation of molecular signals direct in situ from the tissue surface or thin sections. MALDI and LAESI IMS are label-free techniques with the ability to visualize the distribution of even hundreds of biomolecules in a single measurement, maintaining the morphological integrity of the intact tissue by avoiding homogenization		

Dr. Márk, László laszlo.mark@aok.pte.hu	Department of Biochemistry and Medical Chemistry	**Clinical proteomics, lipidomics, metabolomics**
All pathological process based on a complex networking of numerous biomolecules. Proteins, lipids and their metabolites are of a vital importance in medical sciences. In this study, the molecular interactions and chemical modifications of the resulted biomolecules will be determined by high-resolution accurate mass MS techniques.		

Dr. Márk, László laszlo.lark@aok.pte.hu	Department of Biochemistry and Medical Chemistry	**Medical Applications of Multimodal Imaging Investigations**
Matrix-assisted laser desorption ionization (MALDI) imaging mass spectrometry (IMS) is a new developed technique that enables the evaluation of molecular signals direct in situ from the tissue surface or thin sections. MALDI IMS is a label-free technique with the ability to visualize the distribution of even hundreds of biomolecules in a single measurement, maintaining the morphological integrity of the intact tissue by avoiding homogenization.		

Dr. Szabó, Éva szabo.eva.dr@pte.hu	Department of Biochemistry and Medical Chemistry	**Role and instrumental analysis of fatty acids in various diseases**
Polyunsaturated fatty acids are important components of membrane-building lipids and have several important physiological functions also. They are not only involved in the formation of membrane fluidity, but they can also be precursors to a number of secondary messenger molecules. It has been known for a long time period that in various diseases (e.g. diabetes, atherosclerosis, asthma, celiac disease) the lipid composition and fatty acid content of not only the plasma, but also different cells can change, which can be a cause or an effect. The body's fatty acid supply can be affected not only by nutrition, but also by certain life situations (e.g., pregnancy). Several studies have also reported beneficial short- and long-term effects of fatty acid supplementation in certain diseases. The aim of the candidate is to investigate fatty acid supply in various diseases (eg diabetes) and during pregnancy. The fatty acid composition of biological samples is examined by analytical methods on analytical instruments.		

Dr. Turzó, Kinga turzo.kinga@pte.hu	Department of Dentistry, Oral and Maxillofacial Surgery	**Investigation of the biointegration of medical and dental implants**
With the increase of the time of life of humans the need for biomaterials replacing parts of human body or organs is increasing. Therefore the study of the biointegration of alloplastic materials and development of biocompatible materials is one of the most important research fields of biomedical sciences. A new emerging field of science, the biological surface science is also connected to the field of alloplastic materials and biointegration of dental implants. Our studies relate to replacements of body structures in case of which the biological function requires significant load-bearing capability. Example for that are dental implants and artificial hip-joint replacements. It is well known that dental implants are one of the most frequently used biomaterials. These are generally made from titanium (Ti) and its alloys as they present high corrosion resistance and biocompatibility. Their biological integration and selective biocide nature depends on -among others- the surface structure of the material. Therefore our research focuses on the surface aspects of these materials using the tools of biological surface science (XPS, SEM, contact angle measurements). We will identify some important trends and directions in the surface modifications of titanium (Ti) dental implants targeting the improvement of their bio/osseointegration. Beside this we have performed studies on the effect of fluoride containing prophylactic gels and solutions on titanium probes and on the effect of decontaminating agents used for the treatment of periimplantitis on titanium dental implants. Our research group started its activity in the field of the biointegration of alloplastic materials 19 years ago. Aspects of successful bio- and osseointegration of titanium dental implants and different surface modifications (physico-chemical and biochemical) of these implants to improve bio(osseo)integration will be studied. Newly developed (e.g.: composites) materials will be compared to titanium, in respect of their mechanical and surface properties. In vitro cell culture experiments will be performed to study their biocompatibility and in vivo animal experiments to test their bio- and osseointegration.		

B-449/1999 Human Molecular Genetics Program leader: Dr. Melegh, Béla

Dr. Melegh, Béla melegh.bela@pte.hu	Department of Human Genetics	**Human Molecular Genetics**
The PhD program combines two main complementary directions: investigations of „Rare Diseases”, which includes mainly monogenic diseases and studying polygenic diseases affecting larger populations. The research activity involves collaboration works among universities, national and European partners. In both areas it is notable that the Department has a remarkable Biobank, with numerous samples from these diseases. Our Biobank is part of the European network (BBMRI), the collection of the rare disease Biobank contains over 10000 samples. Neuromuscular diseases is part of the laboratories original research field. Our Biobank enables research on diseases which affect larger populations, such as inflammatory bowel disease, stroke, autoimmune diseases, metabolic syndrome, polygenic variants of coronary disease. As a related area our research work is spread on the investigation of pharmacogenetically and pharmacogenomically important polymorphisms as part of personalized medicine. Part of this course is the research of enzymes and transporters, which take part in drug metabolism. OCTN2, which plays a role in carnitine transport is also part of the course, because other than resulting in systemic carnitine deficiency it can lead to several diseases. The study of the carnitine system as part of mitochondrial studies is a traditional field of research in our department and as such is part of the PhD program.		

Dr. Berenténé, dr. Bene, Judit melegh.bela@pte.hu	Department of Human Genetics	**Genomic, transcriptomic and metabolomic investigations of the pathogenesis of genetically determined disorders**
Based on the results of the Human Genome Project and ENCODE Project the sequence and more than 80 % of the function of the human genome has been revealed. Although this information contributes to the understanding of several biochemical and signaling pathways, however, the pathogenesis of several diseases have not been clarified. Due to the explosive spread of the modern, principally new genetic, genomic methods, such as next-generation sequencing, nowadays it has become possible to annotate other genes involved in the development of the variable disease phenotype in a certain disorder using whole genome sequencing (WGS). The introduction of this technology has also led to a breakthrough in transcriptional research. In contrast to earlier hybridization-based gene expression studies where the sequence has to be known a priori, RNA sequencing allows the identification of novel transcripts and splicing variants. Several congenital disorders are caused by a genetic defect that can impair the metabolism of one or more biochemically detectable metabolites: it may cause increase in levels or accumulation of some metabolites in tissues, while decreases in other metabolites.The investigations of the pathogenesis of genetically determined disorders with modern Genomic, transcriptomic and metabolomic methodology will be the scope of the PhD project.		

B-2/2008 Evidence based medicine Program leader: Dr. Decsi, Tamás

Dr. Lohner, Szimonetta lohner.szimonetta@pte.hu	Department of Paediatrics	**The impact of clinical research results on preventive and therapeutic medical decisions**
Clinical trials are designed and conducted to help physicians make the most appropriate therapeutic decisions. However, in practice, this translation process is often biased. Within the PhD theme, sources of bias are examined from a scientific perspective, with the aim of formulating practice-oriented responses on how to eliminate specific kinds of bias. The theme includes, but is not restricted to the following questions: What impact do non-published or partially published trial data have on clinical decision-making? How are harms defined in clinical trials and how and to what extent does information on harm appear in scientific publications? How can the conflict of interest between industry and academia in designing, conducting, analyzing and publishing studies be resolved? How scientific information generated in Hungarian clinical trials is spreading as compared to trial results from other European countries and to what extent it gets incorporated into international professional guidelines? How can we deal with bias when conducting evidence summaries for clinicians? Is it enough to measure intermediate markers in order to make well-founded conclusions about the effectiveness of a therapy?		