

XIX SCIENCE FESTIVAL
19-27th September 2015
Nencki Institute of Experimental Biology
Pasteur str. 3

FESTIVAL DEBATES

Physics, evolution, life - Debate on the occasion of the 100th birthday anniversary of prof. David Shugar - P. Durka, M. Kossut, P. Stępień, B. Lesyng, 18 IX godz.17; Faculty of Physics WU

Is the memory in the minds or between people?– K. Kaniowska, M. Kula, K. Radwańska, J. Vetulani, D. Stola, 24 IX godz. 18; POLIN Museum of the History of Polish Jews

YOUTH CLUBS

Mitochondria and mitochondrial diseases dr hab. Mariusz Więckowski 21.09.; 16.00
Mitochondria are considered as the powerhouse of the cell and they can produce the majority of cellular ATP. However, they are also involved in several other critical metabolic processes like cell growth, signal transduction, cell cycle and cell death. During the lecture it will be presented significance of mitochondria for cellular bioenergetics and oxidative stress in order to elucidate their involvement in pathogenesis of mitochondrial disorders as well as perspectives for novel diagnostic strategies.

Structure and function of the plasma membrane prof Katarzyna Kwiatkowska 22.09.; 16.00
Mechanism of interactions of lipids and proteins governing the structure of the plasma membrane will be discussed with special attention paid to the assembly of functional nanodomains of the membrane. An overview of basic molecular mechanisms of signal transduction by plasma membrane receptors will be provided.

Cytoskeleton, structure and function dr hab. Dorota Włoga 24.09.;16.00
Cytoskeleton, the intracellular network composed of three types of filaments: microtubules, microfilaments and intermediate filaments, plays an essential role in numerous cellular processes such: cell shape maintenance, intracellular transport, cell division or cell motility. Interactions of the cytoskeletal filaments with numerous accessory proteins influence their structure and function. The aim of this lecture is to convince the audience that the same cytoskeletal structures can be both dynamic and build a very stable structures in the same cell.

Secrets of cell structure Prof. dr hab. Elżbieta Wyroba 24.09.;16.00
50 years ago scientists started to reveal secrets of cell structure under the electron microscopes at very high magnification. Thanks to this modern scientific equipment ribosomes were discovered, where the proteins are synthesized and mitochondria producing energy in each living cell. Participants of this event will be informed whether is it possible to 'see' effect of mutation leading to infertility and how myelin sheaths look like and what happens when they are damaged.

THEMATIC CLUBS

Personalized medicine – choosing an appropriate drug for a particular patient dr Tomasz Wilanowski 21.01. 22.09. godz. 18.00

The lecture aims to discuss the processes responsible for the differences in the efficacy of specific drugs in different patients. In addition, it will also describe practical methods for matching a medicament for the particular patient, not only to a particular disease.

Brain fitness („Dr Neuronowski”) part I Prof. dr hab. Elżbieta Szelağ 22.09.; 18.00
The lecture is focused on innovative possibilities of amelioration human mental functions, including memory, attention, speech and language. The experimental studies conducted in the Laboratory of Neuropsychology, Nencki Institute of Experimental Biology will be presented. The special concern will address the innovative computer program “*Dr Neuronowski*”, elaborated in cooperation with the HARPO company. The program comprises a set of attractive computer games addressed improvement of cognitive function in children and elderly. “*Dr Neuronowski*” is expected on the Polish market in the near future.

Brain fitness („Dr Neuronowski”) part I”) cz. II Dr Aneta Szymaszek, Anna Dacewicz, Kamila Nowak, Anna Bombińska, Przedstawiciele HARPO Sp zoo
23.09.; 17.30

The workshop is focused on presentation of innovative therapy program – “*Dr Neuronowski*” - addressed improvement of human cognition. This therapy tool consists of ca. 100 computer games and was elaborated in the Laboratory of Neuropsychology, Nencki Institute of Experimental Biology, PAN. During the workshop, the presentation of computer games will be extended by the presentation of results obtained in our recent experimental studies in elderly volunteers, children with delayed language development, patients with post-stroke language deficits.

Regeneration in the nervous system-neuroplasticity Dr Monika Liguz-Lęcznar 24.09.; 18.00
Central Nervous System is the main control centre of the body and its disorders can have a very serious consequences, including disability. Scientists make an effort to establish a possible therapeutic strategy for the effective restoration of lost functions and neurorehabilitation. To do this, first one has to answer the question - how can we stimulate regeneration or compensation processes in the injured brain.
The lecture will address such topics as compensatory plasticity, regeneration of the nervous system, neurorehabilitation. Listeners will learn what strategies are used in the nervous system to restore lost functions and how stimulation of neuroplasticity can support those processes.

NIGHT OF THE BIOLOGIST

25.09.2014

The event is divided into several parallelly ongoing experiments. Participants will be able to attend all of the experiments in their own preferable order. The experiments are designed in a way that everyone will be able to conduct experiments on its own. The workshops include optic illusions that eludes the human brain, home way of the measuring the pH, DNA isolation as well as working with the light microscope. Participants will be able to get to know different brain regions and their function and the latest news from the science world. The youngest participants will have the possibility to create steam from colorful elixirs.

THE SCIENTIFIC WEEKEND WITH OCHOTA CAMPUS - SPINNING SCIENCE

In cooperation with the Faculty of Biology and Physic WU

Department of Physic of the Warsaw University, Pasteura str. 7; 26.09.; 9.30-15.30

The event is designed for everyone and it consists of several workshops. Each member will have a chance to personally do simple experiments that show phenomenomes in our surrounding environment and the human body. The workshops include the home way of the

measuring the pH. Participants will be able to get to know different brain regions and their function. The youngest participants will have the possibility to create steam from colorful elixirs.