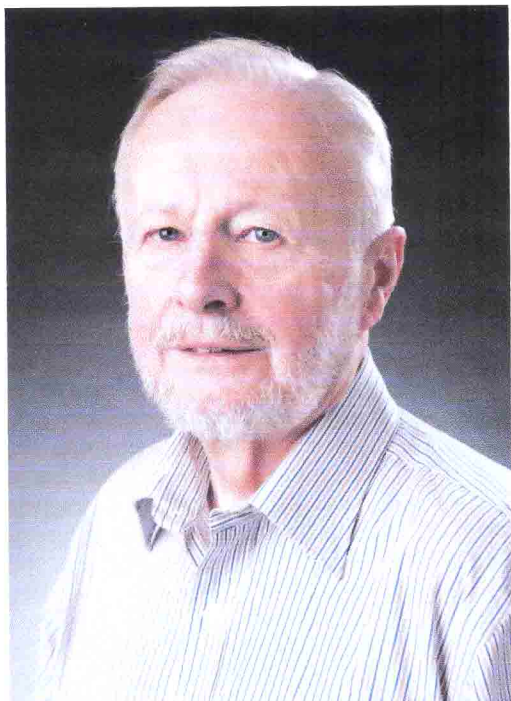


Pondělí 29. října 2018 / Monday October 29, 2018

Velká zasedací místnost děkanátu 1. LF UK, Na Bojišti 3, Praha 2  
Large meeting room of Dean's Office Building, 1. LF UK, Na Bojišti 3, Praha 2



1. LÉKAŘSKÁ  
FAKULTA  
Univerzita Karlova



#### Prem Ponka

Is Senior Investigator of Lady Davis Institute and Professor at the Departments of Physiology and Medicine of McGill University. Dr. Ponka has prominently studied how iron balance in the body and cells is regulated and how dysregulated iron and heme metabolism causes disease. Additionally, he is interested in the regulation of heme biosynthesis and erythropoiesis. He was the first to identify PIH and SIH as highly efficient intracellular chelators. Among his other most significant achievements is the original concept of tissue-specific heme synthesis regulation in hemoglobin synthesizing cells that is now widely accepted. More recently, his laboratory provided evidence for his novel hypothesis that, in erythroid cells, iron is directly delivered to mitochondria by endosomes in a “kiss and run” paradigm. He has an outstanding publication record. Most of his more than 250 papers have been published in high impact journals. His publications are extensively cited in the world literature with SCI > 11 000. For his contributions in research he received several national and international awards including Medal for Merit from Charles University and Award for Excellence in Medical Research from the Jewish General Hospital

#### 12,45 Registration for students

#### 13,00 – 13,45 Recent Advances in Erythroid Iron Homeostasis: Implications for Pathophysiology of Microcytic Anemias

*Iron is an essential micronutrient required for oxygen transfer, energy production, and cell growth. While it is necessary for life, it is highly toxic in excess, and iron balance in the body must be strictly regulated. The presentation focus on the biochemistry and molecular biology of intracellular iron metabolism and mechanisms that influences metabolism of iron in immature erythroid cells.*

#### 14,00 – 14,45 The Path of Iron from Plasma Transferrin to Hemoglobin (“...why our blood is red...” John Donne)

*An exquisite relationship between iron and heme in hemoglobin-synthesizing cells makes blood red. Erythroid cells are the most avid consumers of iron in the organism and synthesize heme at a breakneck speed. Developing red blood cells can take up iron only from the plasma glycoprotein transferrin. In erythroid cells, more than 90% of iron must enter mitochondria. Prof. Ponka will present data supporting his original hypothesis on the mechanisms of iron transport machinery within erythroid cells.*

Přednáškové odpoledne je součástí kurzu „Novinky v biomedicinském výzkumu“, který je jeden z doporučených povinně volitelných kurzů pro Ph.D. studenty oboru Biochemie a patobiochemie (Oborová rada 04) a Fyziologie a patofyziologie člověka (Oborová rada 05). Účastníci na konci kurzu získají zápočet. Kurz je sestaven z přednášek zahraničních a domácích světově uznávaných odborníků zabývajících se molekulovými mechanismy etiologie, patogeneze a terapie chorob. Vítání jsou i studenti jiných oborů a zájemci z řad vědeckých pracovníků a lékařů.

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