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Zagreb, 12. srpnja 2016.

IRB će ugostiti ugledne europske znanstvenike

Dvodnevna radionica o dinamici citoskeletona u sklopu europskog projekta INTERBIO

U sklopu radionice 'Dynamics of the Cytoskeleton' koja će se održati 14. i 15. srpnja na Institutu Ruđer Bošković (IRB), deset uglednih znanstvenika s vodećih europskih institucija održati će vrhunska predavanja iz područja strukture, regulacije i dinamike aktinskog citoskeleta i mikrotubula.

Stanični skelet je sustav vlaknastih proteina koji čini osnovu unutrašnje organizacije i podlogu pokretljivosti eukariotskih stanica. Radi se o vrlo dinamičnoj strukturi, čiji se elementi mogu **razgraditi i ponovno izgraditi unutar jedne minute**.

Ispravno funkcioniranje citoskeleta nužno je za **pravilno odvijanje ključnih staničnih procesa** kao što su stanična dioba te kretanje i polarizacija stanica. Zbog toga su nepravilnosti i anomalije svojstava staničnog skeleta **ključni u razvoju mnogih ozbiljnih bolesti**. Istraživanjem citosekleta i razloga zbog kojih dolazi do takvih anomalija znanstvenici mogu doći do **vrijednih informacija o uzrocima određenih bolesti**.

U sklopu dvodnevnog programa predavači će dati pregled svojih najnovijih istraživanja temeljnih mehanizama regulacije citoskeleta, te njihovog utjecaja na fiziologiju stanica, tkiva i čitavih organizama.

Među brojnim uglednim imenima sudionici će imati prilike čuti i predavanja **prof. dr. sc. Geerta J.P.L. Kopsa** sa Centra za medicinu Sveučilišta u Utrechtu, **prof. dr. sc. Briana Stramera** sa Kraljevskog sveučilišta u Londonu (King's College), **prof. dr. sc. Laurenta Blanchoina** sa Instituta za bioznanosti i biotehnologiju u Grenobleu, Francuskoj, te **dr. sc. Marina Barišića** sa Istraživačkog centra Danskog društva za rak u Kopenhagenu.

Radionica se organizira **u sklopu projekta INTERBIO** kojeg u stopostotnom iznosu od **1.599.950,00 kuna** financira Europska unija i to u sklopu Operativnog programa Razvoj ljudskih potencijala, a u okviru Europskog socijalnog fonda.

Zahvaljujući ovom europskom projektu Institut Ruđer Bošković zaposlio je četvero mladih istraživača kako bi 15 mjeseci radili na inovativnim i međunarodno relevantnim istraživanjima u staničnoj biologiji pod vodstvom vrhunskih mentora dr. sc**. Ive Tolić** i dr. sc. **Igora Webera**.

KORISNE POVEZNICE:
PROGRAM RADIONICE: https://interbio.irb.hr/dynamics-of-the-cytoskeleton/
O PROJEKTU INTERBIO: https://interbio.irb.hr/o-projektu/

DODATNE INFORMACIJE:

Dr. sc. Marin Barišić
https://www.linkedin.com/in/marin-barisic-5a347a5
https://www.researchgate.net/profile/Marin_Barisic3

Marin Barisic earned his Diploma in Molecular Biology at the University of Zagreb in Croatia, and his PhD in Molecular Cell Biology and Oncology at the Innsbruck Medical University in Austria. After finishing his Postdoc at the Institute for Molecular and Cell Biology in Porto, Portugal, he started his own research group as a Junior Group Leader in the Cell Division Laboratory at the Danish Cancer Society Research Center (DCRC) in Copenhagen, Denmark. **His work in the Cell Division Lab is based on investigation of molecular mechanisms behind chromosomal and cytoskeletal dynamics - the processes which aberrations during the cell cycle often facilitate tumorigenesis.**

Prof. dr. sc. Geert J.P.L. Kops
http://groups.mcr.umcutrecht.nl/kops/home/

The main aim of our research is to understand how the cell division process gives rise to two genetically identical daughter cells. We are particularly interested in the processes that ensure correct chromosome segregation during mitosis. **This is not only fascinating from a molecular cell biological perspective (how does a cell do that?) but also has implications for health and disease: errors in chromosome segregation is a major cause for birth defects and embryonic lethality in humans, and the most common genetic alteration in human tumors is aberrant chromosome numbers, aka aneuploidy**. Aneuploidy furthermore shows strong correlations with tumor aggressiveness, therapy resistance, and tumor recurrence, and as such with poor overall prognosis for the patient.

Dr. sc. Brian Stramer
http://www.stramerlab.com/

Cell migration is a widely researched and clinically relevant process that, with a greater understanding, may allow us to control a number of pathologies - arguably the most significant being cancer metastasis. However, cell motility has primarily been investigated using cell culture models, which involves watching cells move on artificial 2-dimensional substrates. While these in vitro assays have been useful, there will always be questions surrounding the physiological relevance of studying cell movement ex vivo. Drosophila macrophages (also known as hemocytes) can be live imaged during their embryonic dispersal which allows us to begin extrapolating our understanding of cell motility to cells within a living organism. **One of the interests of the laboratory is to understand how hemocytes maintain their even spacing within the embryo.** We have shown that during their migration, hemocytes are undergoing contact inhibition of locomotion. This process of collision and subsequent repulsion is an instructive migratory cue that allows the cells to maintain space within the embryo. We are now investigating the cytoskeletal machinery and cellular recognition mechanisms that allow hemocytes to undergo this process with such reproducibility.

Dr.sc. Laurent Blanchoin
http://www.cytomorpholab.com/

The reproducible shape and spatial organization of organs imply the existence of physical rules directing the assembly of complex biological structures. Organ shape and function depend on cell architecture and polarity, which are both supported by cell cytoskeleton networks. The formation of controlled and reproducible geometrical structures relies on the self-organization properties of these networks. Our aim is to unravel the physical processes underlying cytoskeleton self-organization processes and to formulate the rules directing their spatial organization.