

*aberrations have long been implicated in cancer, and mutations in centrosome proteins cause human genetic diseases such as microcephaly, ciliopathies and dwarfism. To better understand these disease conditions, we have focused on the centrosome/cilium complex in cells. Together with my team of research assistants at our Cytoskeleton Research Lab, and funding support from the ERC, we are focusing on understanding*

*these centriolar satellites. Although centriolar satellites in these processes were described more than 50 years ago by electron microscopy studies, the relationship between these structures and the centrosome/cilium complex is not known and, I believe, has so far been underrated. There are about 300-400 centriolar satellites in each cell and we will be working hard to fully understand their impact on cell cycle health and disease.*



## EUROPEAN RESEARCH COUNCIL (ERC) GRANTS

— The European Research Council (ERC), set up to support high quality research in Europe through large-scale funding schemes, supports individual researchers of any nationality and age pursuing frontier research, especially where their research projects propose pioneering and unconventional ideas in new and emerging fields. Koç University is the most successful higher education institution in Turkey in bids for ERC grants, presently hosting 6 of the 12 active ERC-funded projects in Turkey.

— Dr. Elif Nur Fırat-Karalar at Koç University's Department of Molecular Biology and Genetics is the most recent faculty at Koç University to be awarded the prestigious ERC grant. Her research project, titled "Dissecting the structure and function of centriolar satellites: Key regulators of the centrosome/cilium complex." won an ERC Starting Grant of EUR 1.5 million over five years. The ERC grant helped establish Dr. Fırat-Karalar's Cytoskeleton Research Laboratory at Koç University. The long term goal of the lab's research team is to elucidate the function and regulation of the centrosome/cilium complex in mammals, which have

crucial roles at the cellular and organismal level. The project takes an innovative approach to understanding the underlying cellular causes and mechanisms involved in a variety of diseases such as cancer, kidney diseases, blindness, mental retardation and obesity. The successful completion of Dr. Fırat-Karalar's project could lead to the development of new diagnostic and therapeutic approaches for these diseases.

## ERC-funded active projects by Koç University faculty:

**Kerem Pekkan** MECHANICAL ENGINEERING

2012 ERC Starting Grant and 2015 ERC Proof of Concept Grant

"Bioengineering Prediction of Three-dimensional Vascular Growth and Remodeling in Embryonic Great-vessel Development."

**Özgür Barış Akan** ELECTRONIC AND ELECTRONICS ENGINEERING

2014 ERC Consolidator Grant

"MINERVA: Communication Theoretical Foundations of Nervous System Towards Bio-Inspired Nanonetworks and ICT-Inspired Neuro-Treatment,"

**Hakan Ürey** ELECTRONIC AND ELECTRONICS ENGINEERING

2014 ERC Advanced Grant and 2015 ERC Proof of Concept Grant

"WEAR 3D: The Development of New Display Technologies for Augmented Reality and Three-Dimensional Applications."

**Sedat Nizamoglu** ELECTRICAL AND ELECTRONICS ENGINEERING

2014 ERC Starting Grant

"Novel Nanoengineered Optoelectronic Biointerfaces."

**Cory Dunn** MOLECULAR BIOLOGY AND GENETICS

2015 ERC Starting Grant

"Deciphering and Reversing the Consequences of Mitochondrial DNA Damage."

**Elif Nur Fırat-Karalar** MOLECULAR BIOLOGY AND GENETICS

2015 ERC Starting Grant

"Dissecting the Structure and Function of Centriolar Satellites: Key Regulators of the Centrosome/Cilium Complex."

**Alp Atakan** ECONOMICS

2015 ERC Consolidator Grant

"Market Selection, Frictions, and the Information Content of Prices."

**M.Erdem Kabadayı** HISTORY

ERC Starting Grant

Industrialisation and Urban Growth from the mid-nineteenth century Ottoman Empire to Contemporary Turkey in a Comparative Perspective, 1850-2000