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### MPIB Scientists Receive EMBO Awards

The European Molecular Biology Organisation EMBO stands for Europe-wide cutting-edge research in life sciences. EMBO supports young talented researchers in their career and systematically stimulates national and international scientific exchange. Now the organisation has acknowledged the outstanding research work of three scientists at the Max Planck Institute of Biochemistry (MPIB): **Esben Lorentzen** and **Frank Schnorrer** received the EMBO Young Investigator Award, **Jürg Müller** was elected as an EMBO member.

Today, EMBO has selected two scientists at the MPIB as EMBO Young Investigators. As of January 2012, **Esben Lorentzen** and **Frank Schnorrer** will each receive an annual financial award of 15,000 euros for three years. Furthermore, EMBO supports the young scientists with a mentoring program, various courses and symposia, as well as the possibility of intensive networking with other national and international researchers. The EMBO Young Investigator Programme was launched in 2000 in order to honor and support the best European young scientists in molecular biology.

#### **Delivery Service for Cilia**

Tiny hair-like structures (cilia) are found on the surface of most cells, where they serve to move the cell, process external signals and coordinate the correct arrangement of the inner organs. To do this, cilia have to be supplied with the right building blocks. This complex process is known as Intraflagellar Transport (IFT). Errors in the IFT can lead to defects in the cilia's architecture as well as to diseases with mental and physical disorders. With his research group "Structural Biology of Cilia" **Esben Lorentzen** investigates how the IFT works in detail. By means of X-ray crystallography, he was already able to decipher the structure of a part of the IFT complex and there is more to follow. The results could help to prevent defects in the cilia's architecture and diseases.

#### **Flying Power Packs**

The fruit fly *Drosophila melanogaster* has different types of muscles and thus can fulfil various behaviors such as crawling, running or, of course, flying. With the aid of targeted gene modifications, **Frank Schnorrer** and his colleagues in the research group "Muscle Dynamics" investigate how the muscles of the fruit fly develop at the right place in the body and build their contractile apparatus. By performing more than 25,000 flight tests, the scientists could identify about 2,000 genes that have a function in the fly's muscles. Many of the identified genes are supposedly needed for normal muscle function in humans, too. Given that genetic changes often lead to degenerative muscle diseases such as muscular dystrophy, the results could also be of medical importance.



### **Jürg Müller Is New EMBO Member**

The organisation EMBO recently elected 46 scientists from 14 countries to life-long EMBO members – among them Jürg Müller from the MPIB. With it, EMBO appreciates the scientists' outstanding contribution to cutting-edge research in the life sciences. Every year, the altogether 1,500 EMBO members select many talented scientists whose career then is supported by EMBO, and in this way have a big influence on the future of life sciences. The members of EMBO belong to the best European researchers and are regarded as leading scientists in their field.

Depending on the cell type and the developmental status, only a fraction of the cell's genetic material is used, the rest is inactive. With his research group "Chromatin Biology" **Jürg Müller** aims to answer the following questions: What decides about which genes are used? What is the mechanism of this regulation? Using genetic, biophysical and biochemical methods, the scientists discovered that proteins of the Polycomb and Trithorax group modify the genetic material chromatin and in this way affect the activity of genes. Now they want to dissect the mechanism by which these modifications silence or activate genes over many cell generations. The results could also be medically important because, in humans, errors in the Polycomb and Trithorax system are associated with cancer. [UD]

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