

Press Release, September 3, 2018

## Using the Body's Own Fat to Promote Health – How Brown Adipose Tissue Burns Extra Calories

Schering Stiftung awards Friedmund Neumann Prize 2018 to Alexander Bartelt for his outstanding work on brown adipose tissue



Photografer: Steffen Hartmann

A promising therapeutic option for metabolic disorders is the activation of brown adipose tissue. The biochemist and molecular biologist Dr. Alexander Bartelt, principal investigator at the Institute for Cardiovascular Prevention at the Ludwig-Maximilians-Universität (LMU) Munich, has developed and continually advanced this concept. In his young career, he has already been able to show that the activation of brown adipose tissue can significantly reduce harmful blood fats and sugars. Moreover, he has been able to identify new intracellular mechanisms that control the function and activity of brown adipose tissue.

For his outstanding research, Dr. Alexander Bartelt is awarded this year's **Friedmund Neumann Prize**. The Schering Stiftung awards the 10,000-euro prize to young scientists who have done outstanding basic research in human biology, organic chemistry or human medicine and who have already developed a distinctive scientific profile since completing their dissertation. The award aims to make visible excellent scientific achievement and help young scientists establish themselves in their field of research.

Dr. Bartelt was nominated for the Friedmund Neumann Prize by **Prof. Dr. Jörg Heeren**, Heisenberg Professor of Immunometabolism at the University Medical Center Hamburg-Eppendorf. "Alexander Bartelt's excellent achievements are based on scientific curiosity, which, together with his brilliant mind and the application of innovative technologies, has led to pathbreaking works in the field of metabolism research. His widely cited studies have not only contributed to a better biological understanding of brown adipose tissue; they have also shown the therapeutic relevance of this fascinating tissue for treating metabolic disorders such as type 2 diabetes," says Heeren.

### Award Ceremony of the Friedmund Neumann Prize

**September 26, 2018, 5:30 p.m.**

Leibniz Hall at the Berlin-Brandenburg Academy of Sciences and Humanities

Markgrafenstr. 38 | 10117 Berlin

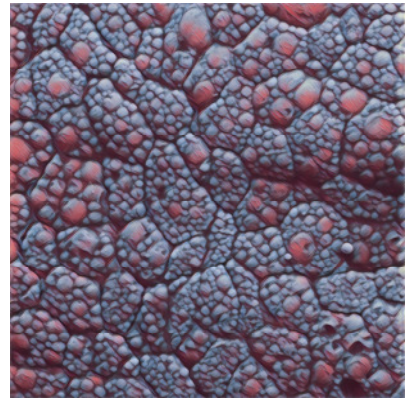
Registration is possible until September 19 at [www.scheringstiftung.de/Preisverleihung2018](http://www.scheringstiftung.de/Preisverleihung2018).

The award ceremony features a musical performance by students of the **Al-Farabi Music Academy** and the Jordanian pianist **Karim Said**. The Al-Farabi Music Academy started in Berlin in the fall of 2016 under the aegis of Daniel Barenboim and under the direction of the internationally renowned musicians Felix Krieger and Saleem Ashkar. The Academy makes it possible for music-loving children and youth, both refugee and local, to become part of an orchestra or a choir. The experience of making music in a group and thriving together on stage strengthens their self-confidence and promotes their potential and social learning. The Al-Farabi Music Academy is a program of the German Children and Youth Foundation in cooperation with the State of Berlin, the Spandau District Authority, and the Schering Stiftung.

On the occasion of the award presentation, Alexander Bartelt will present and discuss his research with students of the Lise Meitner School in Berlin on September 27.

### Background Information

Brown adipocytes are specialized fat cells that are activated by cold and burn calories to produce heat. This ability makes brown fat cells an attractive therapeutic target for the treatment of metabolic diseases. The work of Alexander Bartelt has transformed our understanding of brown fat metabolism and its impact on obesity, diabetes, and atherosclerosis. Results from his studies in preclinical animal models demonstrate that brown fat activity is a key regulator of whole body lipid and carbohydrate turnover. Activation of brown fat by overnight cold exposure reduced excess blood lipids and promoted weight loss. The elucidation of the exact molecular mechanism makes it now possible to design strategies channelling excess calories into brown fat. In recent years, Dr. Bartelt's research has focused on mechanisms that protect brown fat cells from cellular stress that arises during states of extreme metabolism and respiration. In his current research he is investigating the function and therapeutic potential of the transcription factor Nfe2l1, a cold-inducible switch of brown adipocyte function, for obesity and related cardiovascular pathologies.



Electron micrographs of brown fat tissue, color-changed picture  
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**Dr. Alexander Bartelt** has been a principal investigator at the Institute for Cardiovascular Prevention at the Ludwig-Maximilians-Universität (LMU) Munich since 2018. His research is dedicated to understanding the molecular basics of obesity, diabetes, and atherosclerosis. Dr. Bartelt received his Diploma in Biochemistry and Molecular Biology (with honors) from the University of Hamburg, Germany, in 2007. During his PhD at the University Medical Center Hamburg-Eppendorf, he pioneered brown fat metabolic research with Prof. Jörg Heeren and embarked on researching the immunometabolism of brown fat tissue during his postdoctoral training at the Harvard T.H. Chan School of Public Health, Boston, USA, with Prof. Gökhan Hotamisligil.

### More Information

More information and images are available at <https://scheringstiftung.de/en/presse/>.

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