



Leibniz-Institut für Altersforschung
Fritz-Lipmann-Institut e.V. (FLI)



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New Leibniz ScienceCampus to boost age research in Jena

Interdisciplinary project “Regenerative Aging” wins competition

Jena. The Leibniz Institute for Age Research – Fritz Lipmann Institute (FLI) will receive funding from the Leibniz Association to set up a Leibniz ScienceCampus at the Jena University Hospital (UKJ). The Leibniz ScienceCampus will focus on “Regenerative Aging” and will initially be funded for four years with a total support of € 0.8 million. The ScienceCampus is one of six new projects of this kind in Germany and is co-financed by the ProExcellenz Initiative of the State of Thuringia.

“The ScienceCampus and the ProExcellenz Initiative will create synergies and added value that will turn Jena into a visible beacon of aging research both nationally and internationally” says Prof. Lenhard Rudolph, Director of the FLI. “This was made possible by the close cooperation with the Friedrich Schiller University (FSU) and the Jena University Hospital.” The FSU founded the interdisciplinary Jena Center for Aging Research (ZAJ) in 2013, and in early 2014, together with the FLI, it was awarded funding by the State of Thuringia’s ProExcellenz Initiative 2. Thanks to these two sources of funding, a total of 4.78 million is now available for the large-scale interdisciplinary research project dedicated to improving regeneration in old age.

The research at the ScienceCampus Regenerative Aging will focus on the molecular origins of stem cell aging, age-related decline in regeneration, and organ maintenance. Over the course of the biological aging process, there is a continual decline in the ability of tissues to regenerate. This leads to progressive deterioration in the functioning of organs and is an important trigger for age-related dysfunction and disease. The molecular mechanisms in stem and differentiated cells that occur as tissues age have as yet been inadequately researched, and we do not yet fully understand these processes. What we do know is that the reduced ability of stem and differentiated cells to divide with increased age contributes to the decline in the tissue’s regenerative ability. Scientists believe that the reduced ability to divide is caused by altered signals both inside and outside the cells. Such signals also regulate the self-preservation and functioning of stem cells in tissue. These molecular mechanisms will be the primary focus of the researchers’ work.

Three new junior research groups are being set up at the Jena Center for Aging Research within the framework of the ProExcellenz Initiative 2. The groups will focus on various aspects of stem cell aging and molecular dysfunction. In addition to the genetics of stem cells and of aging tissue, one of the research topics at the Leibniz Institute for Age Research will be immune response to molecular damage. The ScienceCampus Regenerative Aging, which has now been given the go-ahead, will constitute a bridge between academic theory and its practical applications in hospitals. It will be located at the Jena University Hospital (UKJ) and make “cell differentiation in aging tissues” a topic for translational research. Incorrect cell differentiation frequently occurs in aging tissue, leading to functional deterioration. One example of this is the faulty generation of fat cells in bone marrow and

the associated anemia that occurs in old age. Prof. Andreas Hochhaus, Director of the Department of Hematology and Oncology at UKJ, says: “If we manage to correct faulty cell differentiation in old age, it will be possible to maintain organ functions over a longer period.” Prof. Klaus Benndorf, Dean of the Faculty of Medicine and Scientific Director of UKJ, points out that “these working groups will raise the profile of biomedical research into aging in Jena, making the city increasingly attractive for internationally renowned scientists.”

Jena was one of nine other ScienceCampuses to win the competition organised by the Leibniz Association, one of six that are newly installed. The Leibniz ScienceCampuses reflect the pro-active strategy pursued by the Leibniz Association, which seeks to bring about regional cooperation between academic and non-university research, thus strengthening the German research system. These endeavors are intended to lead to regional inter-institutional and interdisciplinary entities that can hold their own among the international competition in a specific research area and that are able to generate innovation and make their findings available to society.

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Leibniz Institute for Age Research – Fritz Lipmann Institute (FLI)

In 2004 the Leibniz Institute for Age Research – Fritz Lipmann Institute (FLI) in Jena became the first German research institute to dedicate its activities to biomedical age research. Currently, more than 330 members of staff from 30 nations are conducting research into the molecular mechanisms underlying aging processes and age-related diseases. For more information visit

www.fli-leibniz.de.

The Leibniz Association

The Leibniz Association brings together 89 independent research institutions whose focuses include natural sciences, engineering, environmental sciences, economics, geography, social sciences, and the humanities. Leibniz institutes address issues of social, economic and ecological relevance. They pursue both pure and applied research, maintain scientific infrastructure, and provide research-based services. The Leibniz Association makes knowledge available to policymakers, scientists, the business community and the general public. Leibniz institutes collaborate intensively with universities, – in the form of Leibniz ScienceCampuses (thematic partnerships between university and non-university research institutes), for example – as well as with industry and with other partners at home and abroad. They are subject to an independent evaluation procedure that is unparalleled in its transparency. Due to the importance of the institutions for the country as a whole, they are funded jointly by the federal government and the German states. The Leibniz institutes employ about 17,500 people, including 8,800 scientists. The total budget of the institutes is approximately €1.5 billion. For more information visit

www.leibniz-gemeinschaft.de.