Facts 2017
Personnel: approx. 320
Total budget: approx. 24.5 million euros
External funding: approx. 8.0 million euros
Legal form: foundation of public law

Education and training at DIfE
Scientific training
The institute makes a special effort to support its junior scientists. In addition, DIfE supervises bachelor and master theses, and offers a comprehensively structured graduate training for doctoral students to complement the scientific and experimental training in the individual departments. Young researchers have the possibility to participate in workshops of the Potsdam Graduate School of the University of Potsdam and in advanced training courses of the Universities of Berlin.

Occupational training
DIfE offers apprenticeship training in four different occupations. School graduates, preferably with Abitur (university entrance qualification), can train to become biological laboratory technicians, animal keepers (for research or hospital facilities), IT system electronics technicians, or office managers. Depending on the occupation, training takes three to three and a half years. Interested persons should contact the personnel department at: jobs@dife.de.

“Theoria cum praxi”
Gottfried Wilhelm Leibniz

Science for the benefit and well-being of mankind

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Selected research highlights

Plant-based diets can prevent inflammation

Overweight is often linked to a low-grade, chronic inflammatory process that increases the risk of cardiovascular diseases, type 2 diabetes, and cancer. Scientists of the DIfE have assessed 29 research reports examining the effects of a plant-based diet on the levels of inflammatory markers in overweight individuals. This analysis showed, in comparison with a control diet, that the level of the inflammatory marker C-reactive protein (CRP) was lowered by an average of 0.55 mg/l and the level of interleukin-6 by 0.25 ng/l.

Diabetes drug may improve bone fat-induced defects of fracture healing

One of our new studies shows that gliptins – well known from diabetes treatment – may oppose the detrimental effects of fat cell accumulation in the bone marrow to improve bone healing in older, overweight patients. In future studies, the scientists aim to investigate how specific diets and food components can be used to support bone healing. In addition, the results of the study already show that people can do a lot for their bone health by following a balanced diet and by maintaining a healthy body weight, as the composition of the diet directly affects bone stem cells.

Intermittent fasting optimizes energy metabolism and protects against type 2 diabetes

The association of obesity with type 2 diabetes has been recognized for decades, and the major basis for this link is the ability of obesity to engender insulin resistance in muscle, liver and fat cells. Intermittent fasting counteracts this process, but why? As our researchers showed in obese mice, intermittent fasting reduces the amount of harmful liver fats and improves energy metabolism of the muscles. Their findings help to understand the molecular processes that lead to type 2 diabetes and provide a scientific basis for the development of new therapeutic strategies.

Aging affects the micronutrient content of the blood

On the basis of data from a European study involving 2,118 men and women, DIfE scientists have reported that older people have higher blood levels of vitamin E and lower levels of certain carotenoids, compared to younger people. These age-related differences were independent of country, sex, season, cholesterol level, body mass index, smoking status, fruit and vegetable consumption, and vitamin supplementation. The findings indicate that aging affects the micronutrient levels in the blood, so these results may be useful for improving age-related dietary recommendations in the future.

High-protein diets reduce liver fat

According to a nutritional study of the DIfE on older individuals with type 2 diabetes, high-protein diets reduced liver fat by up to 48 percent within six weeks. In addition, the scientists observed similar, highly significant improvements in glucose metabolism and the levels of lipids, uric acid, and CRP, an inflammation marker. Surprisingly, it did not matter whether the diet was mainly based on plant or on animal protein.

Mind-reading computers: Brain activity patterns reveal what a person is tasting

In cooperation with the Charité – Universitätsmedizin Berlin, DIfE scientists have been able to use neuronal activity patterns to predict whether a person tastes something sweet, salty, sour or bitter. They also observed that taste signals from the tongue are transmitted to the brain much faster than originally expected. These signals provide the initial neuronal information and thus contribute to the total taste impression, in which other senses are also involved. The findings provide for the first time a deeper insight into the temporal sequences of taste signal processing in the brain and how signals for basic tastes are processed.