

PAUL EHRLICH-STIFTUNG

Chairman of the Scientific Council



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**The 2015 Paul Ehrlich and Ludwig Darmstaedter Prize awarded for pioneer work in cancer immunotherapy**

*The prize-winners have made cancer immunotherapy a hot topic in medicine. James P. Allison is unleashing the immune system, while Carl H. June is using modified T cells to beat leukemia. Both strategies are paying off clinically.*

**FRANKFURT am MAIN.** Two American scientists, James P. Allison and Carl H. June, will today receive the Paul Ehrlich and Ludwig Darmstaedter Prize in the Paulskirche in Frankfurt. Both give the patient's own immune system the lasting ability to fight cancer, Allison against late stage melanoma, June against leukemia. The two scientists have made the mobilization of the body's own defenses a therapeutic option to which ever more people owe their survival. "In immunotherapy, it's not the tumor but the immune system that is targeted. This marks a new therapeutic principle in oncology," wrote the Scientific Council of the Paul Ehrlich Foundation, in explaining its decision. Allison is Professor at the University of Texas MD Anderson Cancer Center in Houston, while June is Professor at the Perelman School of Medicine at the University of Pennsylvania in Philadelphia. The Paul Ehrlich and Ludwig Darmstaedter Prize is among the most prestigious international awards granted in the Federal Republic of Germany in the field of medicine. The Prize will be presented by Professor Harald zur Hausen, Chairman of the Scientific Council.

Allison and June use T cells for immunotherapy. Allison targets what is now termed an “immune checkpoint”. Normally, an immune response weakens quickly so as not to cause the body collateral damage. T cells have their own molecular brakes for this purpose. Allison investigated this braking effect and concluded that by blocking this effect he could bring about a longer and more sustained immune reaction to cancer. The blocking is achieved by means of a therapeutic antibody, which has been approved under the name Yervoy® (ipilimumab). In late stage melanoma, durable responses of at least ten years occur in about 22% of patients. In explaining checkpoint inhibition, Allison says: "We don't attack the tumor cells directly. We unleash the T cells to effectively attack many types of cancer in humans. That's the big difference to conventional chemotherapy."

Carl June uses the patient's own T cells as a therapeutic agent by combining their killer properties with the "tracking" attributes of an antibody. June takes blood from the patients, isolates the T cells and equips them with an antibody-like protein that leads the T cells directly to the cancer cells. The protein is known as CAR, and the treatment is therefore called CAR therapy. Until now June has treated mainly patients whose leukemia has been resistant to therapy. Some patients show no signs of the disease even years later. CAR therapy is still a niche treatment, but various drug companies are working on bringing it into broad clinical use. "The biggest challenge now is to use CARs against solid tumors, not only against leukemia," says June. One of his next targets is pancreatic cancer.

### **Short biography of Professor James P. Allison**

James Allison (age 66) was born in Alice, Texas in 1948 and studied biology at the University of Texas. In 1985 he was appointed Professor of Immunology and Director of the Cancer Research Laboratory at the University of California Berkeley. In 2004 he was appointed to head the immunology program of the Memorial Sloan Kettering Cancer Center in New York and as the Director of the Ludwig Center for Cancer Immunotherapy. In 2012 Allison returned to Texas, to the UT MD Anderson Cancer Center in Houston where he is professor and has various other functions. Allison has received dozens of awards, including the three million dollar Breakthrough Prize in Life Sciences, the Tang Prize in Biopharmaceutical Sciences, the Szent-Györgi Prize for Progress in Cancer Research, the Canada Gairdner International Award and the Louisa Gross Horwitz Prize. Allison is a member of several scientific and medical societies, for example the American National Academy of Sciences and the Howard Hughes Medical Institute and has published more than 200 scientific papers.

### **Short biography of Professor Carl H. June**

Carl June (age 61) was born in Denver, Colorado in 1953. He studied biology at the United States Naval Academy in Annapolis and medicine at Baylor College of Medicine in Houston. He had graduate training at the WHO in Geneva and post doctoral training at the Fred Hutchinson Cancer Research Center in Seattle. June is a specialist in Internal Medicine and Medical Oncology. From 1986 to 1999 he was Professor at the Uniformed Service University

for the Health Services in Bethesda and from 1975 to 1996 a doctor in the US Navy. From Bethesda he moved to a professorship at the University of Pennsylvania School of Medicine, where he is professor and head of various programs. June has received numerous scientific awards, including the Bristol-Myers Squibb Freedom to Discover Award, the William B. Coley Award of the Cancer Research Institute, the Ernest Beutler Prize of the American Society of Hematology, the Steinman Award for Human Immunology Research and the Taubman Prize for Excellence in Translational Medical Science. June is a member of the American Academy of Arts and Sciences and has published more than 350 papers.

### **The Paul Ehrlich and Ludwig Darmstaedter Prize**

The Paul Ehrlich and Ludwig Darmstaedter Prize is traditionally awarded on Paul Ehrlich's birthday, March 14, in the Paulskirche, Frankfurt. It honors scientists who have made significant contributions in Paul Ehrlich's field of research, in particular immunology, cancer research, microbiology, and chemotherapy. The Prize, which has been awarded since 1952, is financed by the German Federal Ministry of Health, the Deutsche Bank Foundation in the Stifterverband für die Deutsche Wissenschaft e.V., the German association of research-based pharmaceutical company vfa e.V. and specially earmarked donations from companies. The prizewinner is selected by the Scientific Council of the Paul Ehrlich Foundation.

### **The Paul Ehrlich Foundation**

The Paul Ehrlich Foundation is a legally dependent foundation which is managed in a fiduciary capacity by the Association of Friends and Sponsors of the Goethe University, Frankfurt. The Honorary Chairman of the Foundation, which was established by Hedwig Ehrlich in 1929, is the German Federal President, who also appoints the elected members of the Scientific Council and the Board of Trustees. The Chairman of the Scientific Council is Professor Harald zur Hausen, and the Chair of the Board of Trustees is Dr. Rolf-E. Breuer. Professor Wilhelm Bender, in his function as Chair of the Association of Friends and Sponsors of the Goethe University, is Member of the Scientific Council. The President of the Goethe University is at the same time a member of the Board of Trustees.

### **Further information**

You can obtain selected publications, the list of publications and a photograph of the laureates from the Press Office of the Paul Ehrlich Foundation, c/o Dr. Hildegard Kaulen, phone: +49 (0)6122/52718, email: [h.k@kaulen.wi.shuttle.de](mailto:h.k@kaulen.wi.shuttle.de) and at [www.paul-ehrlich-stiftung.de](http://www.paul-ehrlich-stiftung.de).

