

ROBERT - KOCH - STIFTUNG e . V .

Laudationes

for

Dr. Michael Schindler
Hamburg
Postdoctoral Award for Virology

Dr. Tanja Schneider
Bonn
Postdoctoral Award for Microbiology

Dr. Koji Tokoyoda
Berlin and Chiba, Japan
Postdoctoral Award for Immunology

by Prof. Dr. Drs. h. c. Jörg Hacker

Vorsitzender:
Dr. H. Erlen
Stellv. Vorsitzender des Aufsichtsrats
Bayer-Schering-Pharma AG

Stellv. Vorsitzender:
Prof. Dr. Drs. h. c. J. Hacker
Präsident der Deutschen Akademie
der Naturforscher Leopoldina

Schatzmeister:
K.-P. Müller
Vorsitzender des Aufsichtsrats
Commerzbank AG

Schriftführer:
Dr. W. Weninger
eh. Mitglied des Vorstands
Bayer AG

Beisitzer:
Min. Dirigent F.- J. Bindert, BMG
Prof. Dr. Dr. h. c. S.H.E. Kaufmann
Direktor am Max-Planck-Institut
für Infektionsbiologie

[Check against delivery.]

Madam state secretary,
your excellencies,
dear Mr. Erlen,
dear Mr. Stock,
ladies and gentlemen,
dear colleagues,

on May 27th of this year, we commemorated the 100th anniversary of Robert Koch's death with a series of events. There was one event that I particularly enjoyed. It was the presentation colloquium of the post-doctorate Robert Koch prize winners. Many former prize winners came to Berlin for this event to discuss their latest research work and to comment on the science and research environment in Germany from their point of view.

For over a decade, each year the Robert Koch Foundation has presented its post-doctorate prizes to three outstanding young scientists whose post-doctoral research has been particularly successful. Some of the award winners are currently or still in the post-doc phase, while others are already assistant professors or associate professors. The prize winners of the recent years have continued their successful careers and some of them have already been appointed to professorships. The symposium of post-doctorate prize winners in May 2010, on the 100th anniversary of Robert Koch's death, once again highlighted the excellence of the former prize winners.

Each year, three scientific associations, the German Society for Immunology, the German Society for Hygiene and Microbiology and the Society for Virology, draw up a ranked shortlist with the names of up to three young scientists. These associations represent the fields of immunology, microbiology and virology. Their proposals are reassessed by the members of the Scientific Advisory Council and are generally confirmed. Thus, the award winners are selected by the scientific associations and the Robert Koch Foundation and are in their view the best and most original researchers in their age group who have published their work in leading journals.

This year, the Robert Koch post-doctorate prizes for young scientists go to
Dr. Michael Schindler, Hamburg, for virology,
Dr. Tanja Schneider from Bonn for microbiology and
Dr. Koji Tokoyoda, Berlin and Tokyo, for immunology.

Research into the Human Immunodeficiency Virus (HIV), and diseases caused by it, in particular the AIDS condition, is a highly-topical subject in infection biology, which also has implications for government health policy. Dr. Michael Schindler's research focuses on this area. In recognition of his work on HIV pathogenesis and the evolution of lentiviruses, he is awarded the 2010 post-doctorate prize. Dr. Schindler's work on the function of the lentiviral proteins vpu and nef is seminal. His comprehensive analyses of various HIV and SIV isolates allowed him to show the determinants which have contributed to the development of the pandemic HIV1 virus. His publications also prove that manipulation of cellular immune activation via immunodeficiency viruses are a key factor in the occurrence of AIDS.

Dr. Schindler was born in Ulm in 1978. He is married and has two children. After studying biology at the University of Ulm, he wrote his doctoral thesis under the guidance of our colleague Prof. Kirchoff at the Institute for Virology, then already focusing on HIV pathogenesis. He also completed his post-doc work at the Institute of Virology in Ulm. Since 2007, he has been the head of the junior research group on virus pathogenesis at the Heinrich Pette Institute for Experimental Virology and Immunology in Hamburg. Dr. Schindler is an exceptionally active and successful scientist. At just 32 years of age, he has already authored and co-authored over 30 scientific publications which were published in renowned international journals such as "Cell", "Plos Pathogens" and "Cell Host and Microbe". Recently he has also focused on the host factors for viral infections, analysing protein interactions. He has also expanded his research field to include hepatitis C virus pathogenesis. In presenting the prize to Dr. Schindler, the Robert Koch Foundation is recognising an exceptional scientist whose work is sure to continue to produce outstanding results in future.

We all know that antibiotics are among the most beneficial drugs known to medicine. These substances can keep bacterial infections in check. However, over the last few years, we have been faced with multi-resistant bacteria, which have developed a resistance to a range of antibiotics, making many of them partly irrelevant. We need new antibiotics to successfully combat these pathogens. Dr. Tanja Schneider's work focuses on the development of new antibiotics. She is awarded the 2010 Robert Koch post-doctorate prize for microbiology.

Dr. Tanja Schneider was born in Euskirchen in 1975 and studied biology in Bonn from 1995 to 2001. She received her doctoral degree there in 2004 and has worked as a research fellow in Professor Sahl's laboratory since then. Dr. Schneider's work has long centred on the development of new antibiotics. Her research succeeded in proving that there are specific inhibitors for cell wall synthesis of gram-positive micro-organisms. In a lead-authored article in the journal "Science" she reported on the effect of a fungal defensin-like peptide, which disrupts the assembly of cell walls of staphylococci by inhibiting a lipid precursor molecule. This is a breakthrough in the development of new, antimicrobial active ingredients. Dr. Schneider has published a total of 13 articles in highly respected journals. She has presented her work at multiple top national and international conferences. Dr. Schneider's work unreservedly merits this award, and I am sure that she will continue to make important contributions to combating infectious diseases.

The question of the functioning of immunological memory is as old as immunology, the study of defence against infection, itself. Dr. Koji Tokoyoda, the recipient of the Robert Koch post-doctorate prize for immunology, worked on topical problems in the field of immunology. Dr. Tokoyoda was born in Japan in 1975. From 1997 to 1999, he studied biology in Tokyo and received his doctoral degree from the University of Osaka in Osaka, Japan, in 2002. After a period as a post-doctoral fellow in Kyoto, Dr. Tokoyoda came to the German Rheumatism Research Centre as a visiting researcher in 2005. He stayed there for four years, completing his exceptionally successful and important work primarily at this renowned institute. Since 2009, Mr. Tokoyoda has worked as an independent assistant professor at Chiba University in Tokyo.

Dr. Tokoyoda's work focused largely on determining the immune cells responsible for the immunological memory, and how these immune cells are embedded in the bodies of mammals. He concentrated on T-lymphocytes in particular as they are key components of

the immunological memory. It was initially unclear whether these T-lymphocytes circulate in the body to find antigens, or whether they are localised in specific cells. Dr. Tokoyoda was able to prove that the T-lymphocytes are localised in the bone marrow stromal cells which produce interleukin 7. This data shows that the stroma forms a niche where immune cells can survive. Based on the data, Dr. Tokoyoda derived a new concept for the organisation of immune cells and the structure of the immunological memory. Dr. Tokoyoda's work has thus contributed to our fundamental understanding of the immune system, and is also relevant for clinical immunology. Dr. Tokoyoda documented his research in 14 publications, including articles in the Journal "Nature Review Immunology", and three articles in "Immunology", the most important journal in the field of immunology. He lead-authored two of these articles. Dr. Tokoyoda's work has catapulted him into the highest echelons of international immunology. I am certain that we have not heard the last of his research.