

Laudatory speech for Prof. Dr. Ralf Bartenschlager

by Prof. Dr. Peter Palese

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The second recipient of the Robert Koch Award is Ralf Bartenschlager.

After his school leaving examination (German *Abitur*) in Mannheim, where he was also born, he first completed a period of training with the police. For four years, Ralf Bartenschlager worked in the police service, starting in the barracks before undergoing further training to become a higher ranking police officer. This training took him to the criminal investigation department by way of the commercial division and then also to the murder squad. The latter fascinated him, above all due to the process of securing evidence, which is so important in murder cases. This is perhaps the “most scientific” aspect of police work, and his interest in forensic science can already been seen as a sign of Ralf Bartenschlager’s future career in science. At any rate, in the early 1980s, he decided to enrol at the University of Heidelberg, where he began to study biology using his own hard-earned money. Through a work placement in a laboratory and a seminar, Ralf gained access to the laboratory run by Heinz Schaller, who had also come to science in an unconventional way (for many years, Heinz Schaller had been a chemical laboratory technician at BASF). In Schaller’s laboratory, Ralf learned the precise scientific approach, the ability to work quantitatively and the art of planning consistently successful experiments. His doctoral thesis on the “Structural and functional characterisation of the P-protein of the Hepatitis B viruses” was awarded the prize for the best dissertation by the Society for Molecular Biology Research in Heidelberg. Already, his second thesis – with him as the main author – was published in the award-winning EMBO Journal.

After completing his doctorate, Ralf again chose an unconventional path. He switched to the “dark side” and moved to the industrial sector, to Hoffman-La Roche in Basel, for his postdoctoral work. There, he had the clever foresight to establish a programme for Hepatitis C. Precisely during this period, the first HIV Protease Inhibitor was being developed by Roche, and Ralf discovered that the Hepatitis C virus also has a protease, NS3. This discovery catapulted Ralf to the top of the Hepatitis C field.

He remained true to the Hepatitis C virus and after leaving Basel built up a highly effective, independent research group together with Volker Lohmann and other young colleagues at the University of Mainz. With Volker Lohmann, he again achieved a breakthrough with the successful development of the first reliable Hepatitis C virus replicon system. This work paved the way for the replication of Hepatitis C viruses in tissue culture. Together with Takaji Wakita, Ralf then succeeded in developing the first self-replicating infection system for the Hepatitis C virus. The replication of the Hepatitis C virus in tissue cultures was an important step, which made it possible to make a detailed study of the molecular structure of this virus, and to find new anti-viral substances in order to fight the Hepatitis C virus at many different levels. There is no doubt that the development of anti-Hepatitis C drugs would not have succeeded so rapidly without Ralf.

Since 2014, Ralf has again been working in Heidelberg, where he continues to make excellent progress. He is Professor for Molecular Virology at the University of Heidelberg, as well as heading the “Virus-induced Carcinogenesis” division at the German Cancer Research Centre.

In recent years, he has begun work on a new field: the dengue viruses. There is currently no vaccine available against this group of viruses, and also no anti-viral substances. Once again, Ralf has taken the right approach: he first learns as much as he can about the virus itself by conducting outstanding basic research. Once the virus has yielded its secrets, he then makes a targeted search for an antidote for the pathogen. Maybe politicians on both sides of the Atlantic could also take Ralf Bartenschlager’s philosophy to heart?

The scale of Ralf’s scientific productivity is impressive. Over the last five years alone, he and his colleagues have published over 100 papers.

Ralf has been awarded many prizes. These include the Robert Koch Research Fellow Award at the start of his scientific career, as well as the Bill Prusoff Award and the Lautenschläger Research Award. Ralf Bartenschlager is also a member of the Nationale Akademie der Wissenschaften Leopoldina.

The future is highly promising, full of surprises and opportunities.

THE SKY IS THE LIMIT, RALF!