

PRESS RELEASE



## Olivier Voinnet awarded 2009 EMBO Gold Medal

*French researcher establishes RNA silencing as new field  
of plant biology*

**HEIDELBERG, GERMANY, 22 APRIL 2009** – Olivier Voinnet from the CNRS Institute of Plant Molecular Biology in Strasbourg, France, is awarded the 2009 EMBO Gold Medal. The researcher receives this medal for his pioneering work on the mechanisms and roles of gene silencing via RNA in plants.

With this annual award, the European Molecular Biology Organization (EMBO) recognizes the outstanding contributions of young researchers in the molecular life sciences. The EMBO Gold Medal is widely regarded as one of the most prestigious life sciences awards in Europe, highlighting the high standards of Europe's best scientists.

"Olivier Voinnet's contributions to our understanding of gene silencing via RNA have opened up new perspectives on how the activity of genes may be controlled," said Hermann Bujard, EMBO Director. "His outstanding work reflects imaginative approaches and a broad understanding of biological processes."

The prizewinner conducts fundamental biological research with significant implications for medicine.

RNA silencing is a newly discovered and highly competitive field in molecular biology. It describes a gene regulation process that has implications for the maintenance of genome integrity, antiviral defense, and developmental patterning in many organisms. Defects in these processes can result in major human diseases including cancer.

"Olivier Voinnet is one of the most extraordinary young scientists that I have encountered," writes David Baulcombe, Professor of Botany at the Department of Plant Sciences, University of Cambridge, UK.

Already during his predoc time at Baulcombe's lab from 1996 to 2001, Voinnet's discoveries laid the foundation for his later understanding of the way plants use silencing to defend themselves against viruses, and how viruses, in turn, counteract this defense. "We did not know anything about the microRNAs or small interfering RNAs at that time," says the biologist. "Yet, with David, we managed to develop tools and model systems that ultimately were instrumental to ascertain the first biological role of RNA silencing, that is, antiviral defense".

Following the discovery of microRNA and short interfering RNA in a wide range of different organisms, one key question that has kept Voinnet busy over the past years is "how do viruses and microbes deal with those endogenous RNA molecules?" His work helped establish that pathogens commonly interfere with, or even hijack the gene silencing pathways of their hosts.

His most recent achievement was the discovery that microRNAs also control antibacterial defense by targeting genes involved in hormone responses and that, in response, bacteria produce suppressors of the miRNA pathway. "Yet another illustration of the never ending molecular arms race between hosts and parasites".

"Olivier Voinnet's discoveries represent true breakthroughs in his field. He has written several illuminating reviews recently, and participated as a speaker in many prestigious meetings. I consider him to be one of the most talented, original and effective young scientists," writes Witold Filipowicz from the Friedrich Miescher Institute for Biomedical Research in Basel, Switzerland, in his nomination letter.

Since establishing his own lab in Strasbourg in 2002, Voinnet has built up a team of 25 scientists and expanded his research to the mammalian system. “We are very interested in finding out where and how the silencing by microRNAs works in human cells,” says the gold medalist. “We are helped in this endeavor by our parallel approaches

in plant model systems, which are highly amenable to forward and reverse genetics”. Another aspect he is particularly interested in at the moment is the impact of the silencing mechanism on the evolution of organisms and of their genomes, including those of viruses.

In 2004, Voinnet was selected to benefit from the highly competitive

EMBO Young Investigator Programme and in 2007 he was elected an EMBO Member.

The prizewinner will receive the EMBO Gold Medal and an award of 10,000 euro on 30 August 2009 at *The EMBO Meeting* in Amsterdam where will give a special lecture about his research.

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Leading peer-reviewed journals – *The EMBO Journal*, *EMBO reports* and *Molecular Systems Biology* – span a broad spectrum of topics of molecular biology and reflect how science is shaping the world. A new journal, *EMBO Molecular Medicine*, publishes original research offering molecular insight into the cellular and systemic processes underlying human disease.

EMBO funding, training and networking activities impact thousands of scientists every year, promoting collaboration in all areas of molecular biology – within its 27 member states, in Europe and neighboring countries, and worldwide.

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