**Name of the invited speaker**  
Rob Martienssen

**Position**  
Professor and Howard Hughes Medical Institute (HHMI), Gordon and Betty Moore Foundation (GBMF) Investigator

**Degree**  
Ph.D., Cambridge University

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**Main research interests (max 150 words)**

Heterochromatin and transposable elements (TEs) were both discovered in plants but make up the majority of most eukaryotic genomes. When active, TEs can disrupt genes and regulatory regions and promote chromosomal rearrangements. To suppress this mutagenic potential, surveillance systems have evolved that target active transposons; for example, small interfering RNAs (siRNAs) target transposons for post-transcriptional silencing or for the deposition of repressive chromatin modification. These modifications include DNA methylation and histone modifications, such as H3 lysine-9 methylation (H3K9me2). We are investigating the role of heterochromatin reprogramming and RNA interference in plant germ cells. These mechanisms reveal and regulate transposable elements, but they also play important roles in promoting meiosis and influencing reproductive fate.

**Selection of 3 major recent publications**


**Lab homepage**  
[http://www.cshl.edu/Faculty/martienssen-rob-professor.html](http://www.cshl.edu/Faculty/martienssen-rob-professor.html)