

# **Fourth Weissenburg Symposium - Biriciana**

*Symposium der Nationalen Akademie der Wissenschaften -  
Leopoldina*

## **Epigenetics and the Regulation of Gene Expression**

**June 20 to 22, 2011**

**Venue of Symposium:**

**Kulturzentrum Karmeliter Kirche, Weißenburg in Bayern**

**Organized by**

**Walter Doerfler, Erlangen/Köln**

**Bernhard Fleckenstein, Erlangen**

**Ulf Pettersson, Uppsala**

**Support**

*Fritz Thyssen Stiftung, Köln*

*Nationale Akademie der Wissenschaften Leopoldina, Halle*

*Alfried Krupp von Bohlen und Halbach Stiftung, Essen*

*Institut für Virologie, Universität Erlangen-Nürnberg*

*Stadt Weißenburg in Bayern*

**This Symposium Commemorates the 30<sup>th</sup> Anniversary of the First Symposium on**

***DNA Methylation and Genome Organization:***

Cologne Spring Meeting March 4-7, 1981

**The Weissenburg Symposia:**

- 1. Medicine and Molecular Biology, May 03-06, 2001**
- 2. DNA Methylation - An Important Genetic Signal: Its Significance in Biology and Medicine, May 12-15, 2004**
- 3. Medicine at the Interface between Science and Ethics, May 30 – June 01, 2007**
- 4. Epigenetics and the Regulation of Gene Expression, June 20-22, 2011.**

**Venue of Symposium:**

It is a pleasure to inform you that we will be able to continue the tradition of the Weissenburg Symposia. Studies on epigenetic mechanisms have assumed an important role in biology and medicine. An understanding of genes and their mutations do not suffice to explain the multitude of phenomena in biology and medicine.

Weissenburg in Bayern is a town of some 17.600 inhabitants with a history dating back to the time of the Roman Empire. Biriciana was an encampment of the Roman Army (*Ala I Hispanorum Auriana*, a Spanish cavalry battalion serving the Roman Army) which protected the Roman Limes (today, World Cultural Heritage). Remnants of Roman constructions and an exquisite treasure of deity statuettes from one of the finest Roman workshops (probably Rome or Syria) remind us of Roman hegemony in the area. During the middle ages, Weissenburg was an Imperial Free City (Freie Reichsstadt).

The venue of our symposium will be a former Carmelite monastery dating to 1325 which has been commuted to the town's cultural center. Weissenburg is located close to Munich, Nuremberg, and not too far from Prague. It is part of the Naturpark Altmühltal, the largest Nature Park in Germany and close to the Franconian Lake District.

We should like to extend a cordial welcome to all of you. Please note, you do not have to register but you will have to organize your own travel and hotel accommodations: <http://www.weissenburg.info/gastgeber/> or call +49-9141-907-124.

# Program

**Monday, June 20, 2011**

**9:00 - 9:30 Introduction – Walter Doerfler, Erlangen/Köln**

**Welcome addresses:**

**Jürgen Schröppel, Oberbürgermeister Weißenburg  
Leopoldina Representative**

## **Keynote Lecture**

**9:30 – 10:00 Uta Francke, Stanford University: Epigenetic Mechanisms in Human Genetic Disorders.**

**Session I– Mechanisms of Chromatin Organization and Promoter Control.**

**Chair - Bernhard Fleckenstein, Erlangen**

**10:00 – 10:30 Gary Felsenfeld, NIH: Chromatin Boundaries, Insulators, and the Epigenetic Regulation of Gene Expression.**

**10:30 – 11:00 Rolf Ohlson, Karolinska Institutet: The Dual Epigenetic Basis of Chromatin Networks.**

**11:00 – 11:30 Coffee Break**

**11:30 – 12:00 Eric Selker, Eugene, Oregon: Use of the Fungus *Neurospora crassa* to Elucidate the Control of DNA Methylation.**

**12:00 – 12:30 Peter Becker, LMU, München: Vital Fine-tuning of Transcription through Chromatin Organization.**

**12:30 – 14:00 Lunch Break**

**Session II - Control of Gene Expression.**

**Chair - Ulf Pettersson, Uppsala**

**14:00 – 14:30 Thomas Jenuwein, MPI, Freiburg, Epigenetic Control by Histone Methylation.**

**14:30 – 15:00 Walter Schaffner, Zürich: Modulation of Transcriptional Activity by Microsatellite Repeat Variation.**

**15:00 – 15:30 Sabine Loewer, Harvard Medical School: Large Intergenic Non-coding RNAs as Novel Regulators of Reprogramming.**

**15:30 – 16:00 - Coffee Break**

**Session III - Environmental Factors Reach the Genome via DNA Methylation.**

**16:00 – 16:30 Moshe Szyf, McGill Univ., Montreal, Quebec: Early Life Adversity, DNA Methylation and Adult Health.**

**Tuesday, June 21, 2011**

**Session IV – Methylation Patterns, *de novo* Methylation and RNA-based Epigenetic Systems**

**Chair - Uta Francke, Stanford University**

**09:00 – 09:30 Howard Cedar, Hadassah, Jerusalem:** The Regulation of DNA Methylation.

**09:30 – 10:00 Boris F. Vanyushin, MGU, Moscow:** DNA Methylation in Plants: Peculiarities and Problems.

**10:00 – 10:30 Bernhard Horsthemke, Essen:** mRNA-based Cellular Inheritance and the Role of Time in Epigenetic Variation.

**10:30 – 11:00 Coffee Break**

**11:00 – 11:30 Ingrid Grummt, DKFZ, Heidelberg:** Triplex Formation between Noncoding RNA and DNA Targets DNMT3B to Regulator Elements.

**11:30 - 12:00 Anja Naumann, Erlangen:** Critical Chromatin Structure Safeguarding against Methylation Spreading into the Human FMR1 Promoter.

**Session V – 5-Hydroxymethylcytosine**

**12:00 – 12:30 Nathaniel Heintz, Rockefeller University, NYC:** 5-Hydroxymethylcytosine, Neurons and Nuclear Function

**12:30 – 13:00 Jörn Walter, Saarbrücken:** The Role and Dynamics of 5-Hydroxymethylcytosine in Epigenomic Reprogramming

**13:00 – 14:30 Lunch Break**

**Tuesday, June 21, 2011, continued**

**15:00 Group Photograph**

**15:00 – 17:30 Guided Tour (W.D.) through Weissenburg:  
Roman (~90 – 259) and Medieval Towns (1129 - ).**

**19:30 Symposium Dinner**  
By invitation

**Wednesday, June 22, 2011**

**Session VI - Epigenetics, Reprogramming, and Disease**

**Chair – Howie Cedar, Jerusalem**

**09:00 – 09:30 Rudolf Jaenisch, MIT, Cambridge, MA:** Stem Cells, the Molecular Control of Reprogramming and the Promise for Personalized Medicine.

**09:30 – 10:00 Andrew Feinberg, Johns Hopkins University, Baltimore:** The Epigenetics of Common Human Disease.

**10:00 – 10:30 Stefan Beck, University College, London:** Towards an Integrated (Epi)genetic Approach to Complex Phenotypes and Common Disease.

**10:30 – 11:00 Coffee Break**

**11:00 – 11:30 Melanie Ehrlich, Tulane Univ., New Orleans, LA.:** Normal and Dystrophic Myogenesis: Epigenetics and Gene Expression.

**11:30 – 12:00 Wolf Reik, The Babraham Institute, Cambridge, UK:** Epigenetic Reprogramming in Mammalian Development.

**12:00 – 12:30 Art Petronis, Toronto, Ontario:** Epigenomics and Complex Disease.

**12:30 – 13:00 Denise Barlow, Wien:** Transcription of the Imprinted Airn macro ncRNA is Sufficient for Gene Silencing.

**13:00 – 15:00 Lunch Break**

**Session VII – Cancer Epigenetics**

**Chair – Melanie Ehrlich, Tulane University, New Orleans, LA**

**15:00 – 15:30 Peter Jones, USC Norris Cancer Center, Los Angeles: The Cancer Epigenome.**

**15:30 – 16:00 Nicoletta Sacchi, Buffalo, NY: Epigenetic Dysregulation of Gene Networks in Cancer Cells.**

**16.00 – 16:30 Coffee Break**

**Session VIII - Epigenetics and Viral Latency**

**Chair – Peter Jones, USC Norris Cancer Center, Los Angeles**

**16:30 – 17:00 Janos Minarovits, Budapest: Epigenetic Regulation of Viral and Cellular Promoters in EBV-Infected Cells.**

**17:00 – 17:30 Armin Ensser, Erlangen: Epigenetics of Gammaherpesvirus Genomes.**

**End of Symposium**

**Thank you all for your Contributions and Have a Safe Journey Home**