

***Mechanisms of early differentiation:  
embryogenesis, myogenesis (cardiac differentiation) and  
hematopoiesis / lymphopoiesis”  
Barsinghausen / Germany, September 1-5, 2008***

*Funded by*



*Organized by*

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**LOCATION**

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## ABOUT BARSINGHAUSEN

Barsinghausen is a small town with 36 000 inhabitants in the administrative district of Hanover. It is situated on a height between 43m (Groß Munzel) up to 363 m (Deisterkamm) next to the **Deister** which has wonderful hiking trails (see also next page). The city also has an old coal-mine, the so-called **Klosterstollen**, which is active for over 100 years and is open for visitors ([www.klosterstollen.de](http://www.klosterstollen.de)). If you are interested to visit the mine, please give us a note as soon as possible. (We must gather groups of at least 15 persons, entrance fee: 8€ / person).

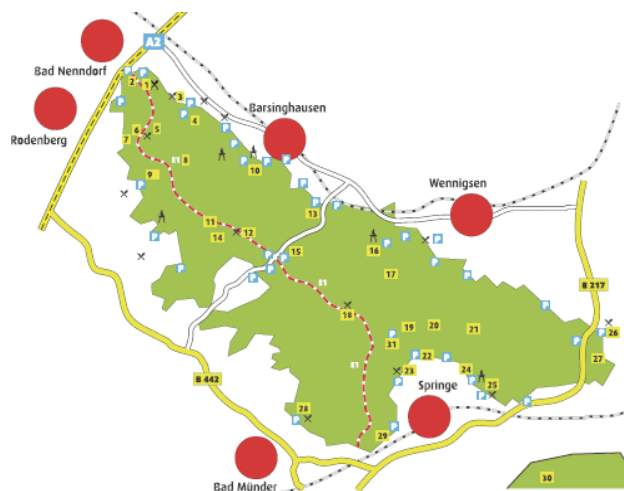


Town Hall Barsinghausen



Minster Barsinghausen

## Deister and surrounding



## TRAVEL

### **By Air - Transportation from/to the Airport:**

The airport nearest to Barsinghausen is Hanover-Langenhagen ([www.hanover-airport.de](http://www.hanover-airport.de)), which is about a 30 minute drive from Barsinghausen. We will organize a bus shuttle from the airport to the conference at Sporthotel Fuchsbachtal.

### **By Train and Public Transport:**

Hannover central station is one of the busiest railway stations in Germany. Major german cities/airports can be reached with the high-speed train ICE in shortest time. (average journey times: Berlin: 1:30 hrs ; Hamburg: 1:15 hrs ; Frankfurt airport 2:30 hrs). Ticket reservations can be done via the internet portal of the Deutsche Bahn ([www.bahn.de](http://www.bahn.de)).

From Hanover central station, Barsinghausen can easily be reached by public transport in about 30 minutes by the suburban train, which is very comfortable. For detailed informations and the timetables either go to [www.bahn.de](http://www.bahn.de) or [www.uestra.de](http://www.uestra.de).

### **By Car**

If you come by car you have to take highway A2 (Autobahn A2). Get off the highway at the slip-road called "Bad Nenndorf/Barsinghausen" (if you are coming from West) or "Wunstorf-Kolenfeld" (if you are coming from East). The route to Barsinghausen is signposted continuously. If you take slip-road "Bad Nenndorf", turn right at the first traffic light (crossroad Wilhelm-Hess-Str./ Rehrbrinkstraße) in Barsinghausen and follow Rehrbrinkstraße. If you are coming from "Wunstorf/ Kohlenfeld", follow the L392 to the center of Barsinghausen. There, the L392 is renamed to "Rehrbrinkstraße". 500 meters after the traffic light, you will have to make a right turn into "Bergstraße" which you have to follow to the end. That will take you directly to the front of the meeting hotel.

## PRELIMINARY PROGRAMME

**Day 1, September 1<sup>st</sup>**                      Arrival – Registration

19:00                      *Dinner & Get-Together with Music*

**Day 2, September 2<sup>nd</sup>**

08:45 – 09:05              **Welcome Address** by the Organizers

09:05 – 09:50                                      **Opening Talk**  
Chair: W. Ostertag (Hanover)  
What is a Stem Cell? (Norman N. Iscove, Toronto, Canada)

**Session**                                      **Units of Regeneration and Reproduction  
- Stem Cell Identity and Its Niche (I) –**  
Chairs: A. Miyajima (Tokyo) and H. R. Schöler (Münster)

09:50 – 10:15              Isolation and characterization of liver stem cells  
(Atsushi Miyajima, Tokyo, Japan)

10:15 – 10:45                                      *Refreshment break / Coffee / Tea*

10:45 – 11:10              A new model for development of Hematopoietic Stem Cell or  
Induction of quiescent stem cells  
(Shin-Ichi Nishikawa, Kobe, Japan)

11:10 – 11:35              The hierarchy of mesenchymal stem cells  
(Nina Drize, Moscow, Russia)

11:35 – 12:00              Multipotent adult progenitor cells: an update on their  
origins and potency (Catherine M. Verfaillie, Leuven, Belgium)

12:00 – 14:00              *Lunch Break*

**Session**                                      **- Stem Cell Identity and Its Niche (II) -**  
Chairs: S-I. Nishikawa (Kobe) and E.L. Matunis (Baltimore)

14:00 – 14:25              Stem cell niche and expansion  
(Linheng Li, Kansas City, USA)

14:25 – 14:50              *In vitro* Reconstruction of the Hematopoietic Stem Cell  
Niche (Kateri A. Moore, Princeton, USA)

14:50 – 15:15              Regulation of Stem Cells in the Drosophila Testis Niche  
(Erika L. Matunis, Baltimore, USA)

15:15 – 15:40              Stem cell Niches in Plants (Thomas Laux, Freiburg, Germany)

15:40 – 16:10                                      *Refreshment break / Coffee / Tea*

**Session****- Signaling, Stem Cell Renewal and Differentiation (I) -**

Chairs: K. R. Humphries (Vancouver) and D. A. Williams (Boston)

- 16:10 – 16:35 Notch signaling and directed ES cell differentiation  
(Sally Lowell, Edinburgh, UK)
- 16:35 – 17:00 Hox genes and regulation of self-renewal and differentiation  
(Michael Kyba, Dallas, USA)
- 17:00 – 17:25 The Cdx-Hox pathway during mesoderm patterning from  
embryonic stem cells (Claudia Lengerke, Tübingen, Germany)
- 17:25 – 17:50 From birth to adulthood in a nutshell - hematopoietic stem cell  
development and HOXB4  
(Hannes Klump, Hannover, Germany)
- 17:50 – 18:15 *Refreshment break / Wine and Cheese*
- 18:15 – 19:30 Poster viewing or 4-5 10-minute presentations of  
selected abstracts
- 19:30 – open end *Dinner & Bartime Discussions*

**Day 3, September 3<sup>rd</sup>****Session****- Signaling, Stem Cell Renewal and Differentiation (II) -**

Chairs: I.R.Lemischka (Princeton) and L.Li (Kansas)

- 08:30 – 08:55 Role of Smad4 in normal hematopoiesis and Nup98-Hoxa9-in-  
duced Leukemia (Stefan Karlsson, Lund, Sweden)
- 08:55 – 09:20 Adhesion protein signaling and marrow engraftment and retention  
(David A. Williams, Boston, USA)
- 09:20 – 09:45 Canonical Wnt signaling and Hematopoietic Stem Cell biology or  
C/EBP Functions in hematopoiesis and leukemogenesis  
(Achim Leutz, Berlin, Germany)
- 09:45 – 10:10 Dormant and activated stem cells during homeostasis injury  
(Andreas Trumpp, Lausanne, Switzerland )
- 10:10 – 10:40 *Refreshment break / Coffee / Tea*
- 10:40 – 11:05 Stemness in normal and malignant tissues  
(Atsushi Hirao, Kanazawa, Japan)
- 11:05 – 11:30 Wnt/FoxO Signaling and Neural Stem Cells  
(Dieter Chichung Lie, Neuherberg, Germany)
- 11:30 – 11:55 n.n.

11:55 – 12:20 Stem Cell Fate Regulation (Ihor R. Lemischka, Princeton, USA)

12:30 – 14:30 *Lunch Break*

**Session - Pluripotent Cells -**

Chairs: H. R. Schöler (Münster) and T. Graf (Barcelona)

14:30 – 14:55 Pathway of germ cell pluripotency  
(Karim Nayernia, Newcastle, UK)

14:55 – 15:20 Induction of pluripotency in adult somatic and germline stem cells  
(Hans R. Schöler, Münster, Germany)

15:20 – 15:45 Transcription Factor – Induced Pluripotency (Holm Zaehres)

15:45 – 16:15 *Refreshment break / Coffee / Tea*

**Session - Applied Stem Cell Biology / Regeneration -**

Chairs: C. H. Baum (Hanover) and A. R. Zander (Hamburg)

16:15 – 16:40 Hematopoietic Stem Cell Manipulation/Therapeutic Gene Transfer  
(Christopher Baum, Hanover, Germany)

16:40 – 17:05 High-level erythroid-specific gene expression in primary human  
and murine hematopoietic cells with self-inactivating lentiviral  
vector (Punam Malik, Cincinnati, USA)

17:05 – 17:30 Engineering the specificity of effector and regulatory lymphocytes  
(Zelig Eshhar, Rehovoth, Israel)

17:30 – 18:00 *Refreshment break / Coffee / Tea*

18:00 – 18:25 Therapy with MSC's – new developments  
(Axel Zander; Hamburg, Germany)

18:25 – 18:50 Novel pluripotent cell sources for cardiorespiratory regeneration  
(Ulrich Martin, Hanover, Germany)

18:50 – 19:15 Therapeutic and Research Potential of Human Stem Cells  
(Stephen L. Minger, London, UK only 3.-5.09.)

19:30 – *open end Dinner & Bartime Discussions*

**Day 4, September 4<sup>th</sup>**

**Session - Stem Cells and Cancer –**

Chairs: A. Trumpp (Lausanne) and C. E. Stocking (Hamburg)

08:30 – 08:55 Normal and malignant hematopoietic differentiation and  
self-renewal (Claus Nerlov, Monterotondo, Italy)

08:55 – 09:20 The MADS Transcription Factors MEF2C in Hematopoiesis and Leukemia (Carol E. Stocking, Hamburg, Germany)

09:20 – 09:45 Specific targeting of cancer stem cells (Hinrich Abken, Cologne, Germany)

09:45 – 10:15 *Refreshment break / Coffee / Tea*

**Session - Stem Cell Regulation: Cell Cycle and Cell Division -**  
Chairs: H. Nakauchi (Tokyo) and B. Schiedlmeier (Hanover)

10:15 – 10:40 Silencing: Hibernation of hematopoietic stem cells in the bone marrow niche (Hiromitsu Nakauchi, Tokyo, Japan)

10:40 – 11:05 Quiescent Hematopoietic Stem Cells in Hypoxic niche (Toshio Suda, Tokyo, Japan)

11:05 – 11:30 The Self-Renewal Program in Normal and Leukemic Hematopoietic Stem Cells (Keith R. Humphries, Vancouver, Canada)

11:30 – 11:55 HOXB4 governs extrinsic and intrinsic pathways associated with self renewal and differentiation of adult mouse HSC/HPC (Bernhard Schiedlmeier, Hannover, Germany)

12:00 – 13:30 *Lunch Break*

**Session - Cell Polarity and Cell Division -**  
Chair: A. Hirao (Kanazawa)

13:30 – 13:55 Cell Polarity and Asymmetric Cell Division of Human Hematopoietic Stem and Progenitor Cells (Bernd Giebel, Düsseldorf, Germany)

13:55 – 14:20 Tracking of stem cell behavior at the single cell level: New tools for old questions (Timm Schroeder, Munich, Germany)

**Session - Chromatin Remodeling, Transdifferentiation -**  
Chairs: B. Göttgens (Cambridge) and T. Graf (Barcelona)

14:20 – 14:45 Transcription factor networks and interaction in the genome (Frank Grosveld, Rotterdam, Netherlands)

14:45– 15:10 Transcriptional networks in blood stem cells (Berthold Göttgens, Cambridge, UK)

15:10 – 15:40 *Refreshment break / Coffee / Tea*

15:40 – 16:05 Chromatin Configuration, Remodeling and Cell Fate Decisions (Constanze Bonifer, Leeds, UK)

16:05 – 16:30 Chromatin organisation during cell fate specification in Arabidopsis (Silvia Costa, Dundee, UK)

16:30 – 16:55 Differentiation Plasticity of Hematopoietic Cells  
(Thomas Graf, Barcelona, Spain)

16:55 – 17:25 *Refreshment break / Coffee / Tea*

## Session

### - Embryogenesis -

Chairs: T. Braun (Bad Nauheim) and A. Gossler (Hanover)

17:25 – 17:50 Single origin of all blood cells (Igor M. Samokhvalov,  
Kobe, Japan)

17:50 – 18:15 Development and regeneration of contractile tissues  
(Thomas Braun, Bad Nauheim, Germany)

18:15 – 18:40 Myogenic differentiation or Cardiac Organogenesis  
(Achim Gossler, Hannover, Germany)

18:40 – 19:05 Cell adhesion molecules in the embryonic neural cell  
microenvironment (Charles Constant, Edinburgh, Scotland)

19:05 – 19:30 n.n.

19:30 *Dinner & Bartime Discussions*

## Day 5, September 5<sup>th</sup>

### Session

### - Signaling, Differentiation -

Chairs: R. Grosschedl (Freiburg) and E. R. Stanley (New York)

08:30 – 08:55 How are differentiated cells derived and how do they function  
(Richard E. Stanley, New York, USA)

08:55 – 09:20 Factors ruling differentiation of precursor cells: what could we  
learn from congenital disorders of hematopoiesis?  
(Julia Skokowa/Karl H. Welte Hannover, Germany)

09:20 – 09:45 B-cell differentiation and factors ruling immune cells  
(Rudolph Grosschedl, Freiburg, Germany)

09:45 – 10:15 *Refreshment break / Coffee / Tea*

10:15 – 10:40 Locus specific diversification of immunoglobulin genes  
(Jean-Marie Buerstedde, Munich, Germany)

10:40 – 11:05 Transgenic mice with sporadic immunogenic tumors  
(Gerald Willimsky, Berlin, Germany)

11:05 – 13:00 Round table: **Ethical Aspects of Advanced Cell Engineering**  
Chair: S. L. Minger (London)



Christopher H. Baum (Hannover, Germany), Natalia G. Stepanova (Moscow, Russia), Stephen L. Minger (London, UK), Karim Nayernia (Newcastle/UK) & others

13:00

**Concluding Talk**  
“Where is the field heading to?”  
(Christopher Baum, Hanover, Germany)

**Departure**