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

Funded by

Organized by
Prof. Wolfram Ostertag, Prof. Christopher H. Baum, Dr. Hannes Klump, Dr. Bernhard Schiedlmeier
Maren Geldmacher, Department of Experimental Hematology, Hannover Medical School
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LOCATION
Gilde Sporthotel Fuchsbachtal
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Web: www.gilde-sporthotel.de
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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). 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).

Deister and surrounding

Town Hall Barsinghausen
Minster Barsinghausen
TRAVEL

By Air - Transportation from/to the Airport:
The airport nearest to Barsinghausen is Hanover-Langenhagen (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).
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 or www.uesta.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.
Day 1, September 1st
Arrival – Registration
19:00 Dinner & Get-Together with Music

Day 2, September 2nd

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
<table>
<thead>
<tr>
<th>Session</th>
<th>- Signaling, Stem Cell Renewal and Differentiation (I) -&lt;br&gt;Chairs: K. R. Humphries (Vancouver) and D. A. Williams (Boston)</th>
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<tbody>
<tr>
<td>16:10 – 16:35</td>
<td>Notch signaling and directed ES cell differentiation (Sally Lowell, Edinburgh, UK)</td>
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<td>16:35 – 17:00</td>
<td>Hox genes and regulation of self-renewal and differentiation (Michael Kyba, Dallas, USA)</td>
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<td>17:00 – 17:25</td>
<td>The Cdx-Hox pathway during mesoderm patterning from embryonic stem cells (Claudia Lengerke, Tübingen, Germany)</td>
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<td>17:25 – 17:50</td>
<td>From birth to adulthood in a nutshell - hematopoietic stem cell development and HOXB4 (Hannes Klump, Hannover, Germany)</td>
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<td>17:50 – 18:15</td>
<td>Refreshment break / Wine and Cheese</td>
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<td>18:15 – 19:30</td>
<td>Poster viewing or 4-5 10-minute presentations of selected abstracts</td>
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<td>19:30 – open end</td>
<td>Dinner &amp; Bartime Discussions</td>
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**Day 3, September 3rd**

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<thead>
<tr>
<th>Session</th>
<th>- Signaling, Stem Cell Renewal and Differentiation (II) -&lt;br&gt;Chairs: I.R.Lemischka (Princeton) and L.Li (Kansas)</th>
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<tbody>
<tr>
<td>08:30 – 08:55</td>
<td>Role of Smad4 in normal hematopoiesis and Nup98-Hoxa9-induced Leukemia (Stefan Karlsson, Lund, Sweden)</td>
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<td>08:55 – 09:20</td>
<td>Adhesion protein signaling and marrow engraftment and retention (David A. Williams, Boston, USA)</td>
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<td>09:20 – 09:45</td>
<td>Canonical Wnt signaling and Hematopoietic Stem Cell biology or C/EBP Functions in hematopoiesis and leukemogenesis (Achim Leutz, Berlin, Germany)</td>
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<td>09:45 – 10:10</td>
<td>Dormant and activated stem cells during homeostasis injury (Andreas Trumpp, Lausanne, Switzerland)</td>
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<tr>
<td>10:10 – 10:40</td>
<td>Refreshment break / Coffee / Tea</td>
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<tr>
<td>10:40 – 11:05</td>
<td>Stemness in normal and malignant tissues (Atsushi Hirao, Kanazawa, Japan)</td>
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<tr>
<td>11:05 – 11:30</td>
<td>Wnt/FoxO Signaling and Neural Stem Cells (Dieter Chichung Lie, Neuherberg, Germany)</td>
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<td>11:30 – 11:55</td>
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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 4th

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)
Differentiation Plasticity of Hematopoietic Cells  
(Thomas Graf, Barcelona, Spain)  

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

Session  
- Embyrogenesis -  
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 5th  

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 cogenital 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)
13:00

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

Departure