

# **4<sup>th</sup> International StKB Future Workshop on Hemo- and Cell Therapy**



## **Paradigm Shifts in Transfusion Medicine**

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### **Platelet microRNA Profiles and the Effect of Pathogen Reduction on Platelet Function**

**April 20<sup>th</sup>, 2012  
Johannes Gutenberg-University  
Mainz, Germany**

# *Program*

## Paradigm Shifts in Transfusion Medicine

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### Platelet microRNA Profiles and the Effect of Pathogen Reduction on Platelet Function

**Time** April 20<sup>th</sup>, 2012

**Place** Lecture Hall, Building 505H  
Department of Surgery  
University Medical Center  
Johannes Gutenberg-University, Mainz, Germany

**Start** 13:00 h



**Dear Sir or Madam,**

**Dear Colleagues,**

The 4<sup>th</sup> International StKB Future Workshop on Hemo- and Cell Therapy will present the three currently-debated **paradigm shifts in Transfusion Medicine** and the contrast between component-centric and patient-centric approaches to meeting patient transfusion needs. It will explore how each paradigm shift represents a different philosophy about how we can best meet patients' needs and how the paradigms can eventually complement one another to benefit our patients. Because pathogen reduction (PR) could be the most immediate paradigm shift, the Workshop will also explore whether PR can affect the proteomic equipment of platelets and whether further research is needed in this regard before PR is further adopted for routine use.

### **1. Paradigm Shifts in Transfusion Medicine**

The three currently-debated "paradigm shifts" are: patient blood management (PBM), multicomponent apheresis, and pathogen reduction (PR). PBM minimizes allogeneic-donor exposures and transfusion complications through enforcement of restrictive transfusion guidelines, correction of anemia and minimization of blood loss through various methods (including pharmacologic alternatives to transfusion), as well as recovery of the patient's own blood. Multicomponent apheresis collects red blood cells along with platelets and/or plasma during the same donor apheresis procedure and minimizes allogeneic donor exposures (and transfusion complications) through transfusion of all of the components collected during the same procedure to the same transfusion recipient. PR inactivates transfusion-transmitted pathogens to eliminate the most common transfusion-transmitted infection (platelet transfusion-associated sepsis) and to protect the blood supply from the next major pathogen to emerge in the future. PBM and multicomponent apheresis shift the focus of transfusion medicine from component-centric to patient-centric, concentrating on how to best meet the needs of each *individual* patient rather than a country's *total* supply needs. Thus, they transfer decision-making from centralized blood-*procurement* agencies to decentralized blood-*management* programs that operate close to the patient and the clinician. PR builds upon our existing component-centric infrastructure to minimize the infectious risks of transfusion and to make each component safer for the recipient.

### **2. Platelet microRNA Profiles and the Effect of Pathogen Reduction on Platelet Function**

Data from the last two years have shown that platelet microRNAs—small non-coding RNA species that play a role in the post-transcriptional gene regulation for the majority of human genes—are potential regulators of platelet function. PR intercalates chemicals into DNA and RNA to inhibit cell replication, and it may thus inactivate the double-stranded precursors of platelet microRNAs. If PR really alters platelet microRNA profiles, and if proteins synthesized by platelets during storage affect platelet function, the function of pathogen-reduced platelets might be reduced by PR. Comparisons of platelet microRNA profiles (and ideally the proteome) of pathogen-reduced versus non-pathogen-reduced platelets, over 1-7 days of storage following PR, are needed to show whether this is (or is not) the case.

The invited speakers from the USA, Canada, Sweden, The Netherlands, Switzerland, and Germany will present their views on the paradigm shift(s) currently advocated in Transfusion Medicine, the principles of pathogen reduction of platelets, recent findings on platelet microRNAs, clinical experiences with pathogen-reduced platelets, potential adverse reactions to the treated platelets, and preliminary results of direct comparisons of the microRNA profiles of pathogen-reduced versus non-pathogen-reduced platelets.

We look forward to a stimulating debate.

See you in Mainz on April 20<sup>th</sup>, 2012!

Walter E. Hitzler  
President of the StKB  
Professor and Director, Transfusion Center,  
Johannes Gutenberg University Mainz, Germany

Eleftherios C. Vamvakas  
Co-Chair, 4th StKB Future Workshop  
Professor and Vice-Chair, Dept. of Pathology  
Cedars-Sinai Medical Center, Los Angeles, USA

# 4<sup>th</sup> International StKB Future Workshop Hemo- and Cell Therapy

April 20<sup>th</sup>, 2012; Lecture Hall, Building 505H, Department of Surgery,  
University Medical Center, Johannes Gutenberg University, Mainz, Germany

## Paradigm Shifts in Transfusion Medicine

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### Platelet microRNA Profiles and the Effect of Pathogen Reduction on Platelet Function

Chairs: W.E. Hitzler, Mainz, Germany; E.C. Vamvakas, Los Angeles, USA

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|----------------------|--|
| 13:00-13:05 h        | <b>Walter E. Hitzler, Mainz, Germany</b><br>Introduction   |
| 13:05-13:45 h        | <b>Eleftherios C. Vamvakas, Los Angeles, USA</b><br>Paradigm Shifts in Transfusion Medicine  |
| 13:45-14:25 h        | <b>Paul M. Ness, Baltimore, USA</b><br>Quality Platelet Transfusion: For the Patient and the Component   |
| 14:25-15:05 h        | <b>Patrick Provost, Quebec, Canada</b><br>Current Status of Platelet microRNAs   |
| <b>15:05-15:30 h</b> | <b>Coffee Break</b>  |
| 15:30-15:55 h        | <b>Behrouz Manosouri-Taleghani, Bern, Switzerland</b><br>Swiss Experience after Nationwide Implementation of Pathogen Reduction of Platelet Concentrates in July 2011                              |
| 15:55-16:20 h        | <b>Jaroslav G. Vostal, FDA, Bethesda, USA</b><br>Ultraviolet B Light–exposed human Platelets mediate acute Lung Injury in a two-event Mouse Model of Transfusion                                   |
| 16:20-16:40 h        | <b>Pieter van de Meer, Amsterdam, NL</b><br>Clinical Effectiveness of pathogen-reduced Platelet Concentrates in Hemato-oncology Patients.  |
| 16:40-17:00 h        | <b>Majid Osman, Linköping, Sweden</b><br>Pathogen Reduction and Irradiation of Platelets –preliminary Results of direct Comparisons of the microRNA profiles of treated versus untreated platelets |
| 17:00-17:20 h        | <b>Hans-Gert Heuft, Hannover, Germany</b><br>Patient Blood Management (PBM) – Platelet Concentrates at Hannover Medical School   |
| <b>17:20-18:00 h</b> | <b>Discussion</b>  |

## Speakers:

Priv.-Doz. Dr. med. Hans-Gert Heuft, Leitender Oberarzt, Institut für Transfusionsmedizin, Medizinische Hochschule Hannover, Carl-Neuberg-Str. 1, 30625 Hannover, Germany

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Rockville, MD 20852-1448, USA. Email: [jaroslav.vostal@fda.hhs.gov](mailto:jaroslav.vostal@fda.hhs.gov)

## General Information and Registration:

- ✓ **Organization** by the Arbeitsgemeinschaft der Ärzte staatlicher und kommunaler Bluttransfusionsdienste (StKB).
- ✓ As the capacity of lecture hall is limited, the **organizers** of the 4<sup>th</sup> International StKB Future Workshop Hemo- and Cell therapy **recommend** early registration before February, 1st, 2012.
- ✓ Please enroll to the Workshop per email: [hitzler@uni-mainz.de](mailto:hitzler@uni-mainz.de) or by **Fax 0049 (0)6131 17473211**.
- ✓ **Registration fees:**
  - Before February 1<sup>st</sup>, 2012:  
**20 EURO for StKB members, 50 EURO for non-members**
  - After February 1<sup>st</sup>, 2012:  
**40 EURO for StKB members, 100 EURO for non-members.**
- ✓ In case of early registration, hotel rooms at a reduced price can be provided.
- ✓ **Die Veranstaltung wird von der LÄK Rheinland-Pfalz als ärztliche Fortbildungsveranstaltung anerkannt.**

## How to find the Workshop:



### From Frankfurt Airport to Mainz:

At the best **by taxi** (driving time approx. 30 min) or **by train** to the Mainz Central Station (approx. 30 min).

### In Mainz:

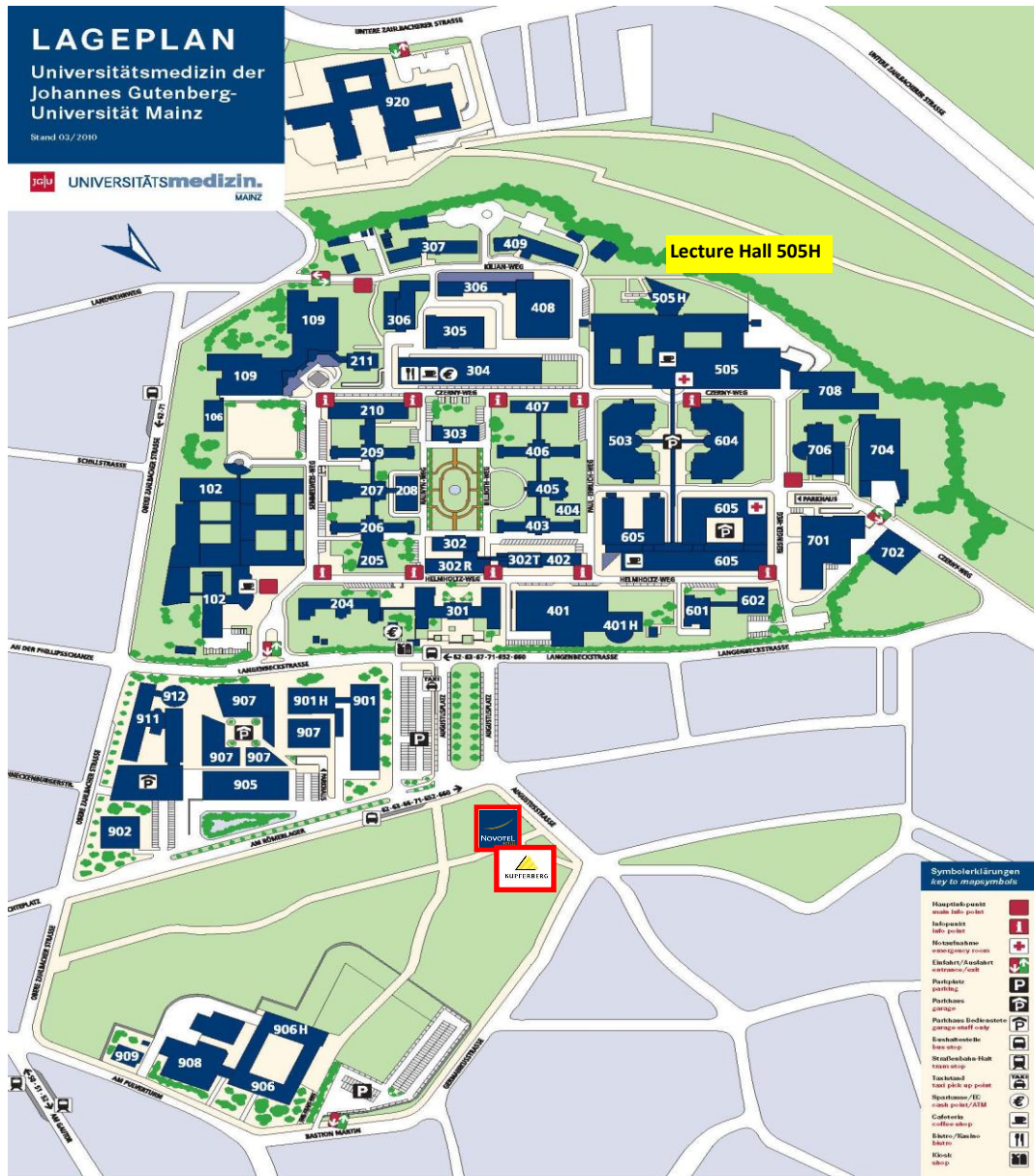
**By taxi** to University Medical Center “Universitätskliniken”

**By bus** from the Mainz Central Station: Take line 67. Get off at the stop called “Universitätsmedizin”.

**If you use a car**, follow the labeling Center of Town (“Zentrum”) and “Universitätskliniken”.

## Site Plan:

- Lecture Hall, Building 505H, Department of Surgery, University Medical Center of the Johannes Gutenberg-University, Mainz, Germany
- Novotel (Hotel)
- Kupferberg



## Sponsoring Industry (13.09.2011):

- Abbott GmbH & Co.KG, Max-Planck-Ring 2, 65205 Wiesbaden, Germany
- BAG Health Care GmbH, Amtsgerichtsstraße 1-7, 35423 Lich, Germany
- CaridianBCT, Parkring 6, 85748 Garching, Germany
- Fresenius Kabi Deutschland GmbH, Else-Kröner-Straße 1, 61352 Bad Homburg, Germany
- Immucor Medizinische Diagnostik GmbH, Adam-Opel-Straße 26, 63322 Rödermark, Germany
- Maco Pharma International GmbH, Robert-Bosch-Strasse 11, 63225 Langen, Germany
- Roche Diagnostics Deutschland GmbH, Sandhofer Straße 116, 68305 Mannheim, Germany