

LMU

KLINIKUM

DER UNIVERSITÄT MÜNCHEN

CAMPUS INNENSTADT

DR. VON HAUNERSCHES
KINDERSPITAL



2nd International Klaus Betke Symposium on Pediatric Hematology

Neutrophil Granulocytes and Mitochondria
6 and 7 March 2015

SCIENTIFIC PROGRAM





Die Hector Fellow Academy wurde 2013 von Ehrensena-
tor Dr. h.c. Hans-Werner Hector ins Leben gerufen. Das
Academy-Programm bietet renommierten Wissenschaft-
lern einen Rahmen, in dem sie erfolgreich zusammenar-
beiten können und ihre Expertise aussichtsreichen Nach-
wuchswissenschaftlern zur Verfügung stellen.

Die Academy ist eine Fördermaßnahme der Hector Stif-
tung II und stärkt die Aktivitäten rund um die Hector Fel-
lows.

Durch eine starke Vernetzung der Hector Fellows – von der Hector Stiftung ausge-
zeichnete herausragende WissenschaftlerInnen – sollen universitäre Synergien geför-
dert und gemeinsame Forschungsarbeiten in neuen wissenschaftlichen Fragestellun-
gen gefördert werden.

We thank our supporters for their contribution!



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Dear guests, colleagues and friends,

*on behalf of all members of the Dr. von Hauner Children's Hospital I welcome you to
the second International Klaus-Betke Symposium 2015!*

*Two years ago, we initiated this interdisciplinary conference in an attempt to bring
together physicians and scientists engaged in pediatric research. Our first meeting
focused on red blood cells, this year's symposium addresses neutrophil granulocytes
and their relevance to the hematopoietic and immune system. I am particularly gra-
teful to the Hector Fellow Academy that inspired us to build novel bridges between
hematology and the science of mitochondria.*

*Several lines of investigations have highlighted the relevance of mitochondria for the
development and function of neutrophil granulocytes – this symposium is the first
focus-meeting assembling researchers from these two disciplines!*

*A second highlight of this symposium is the official inauguration of a new Else-Krüner-
Fresenius Research School on Pediatric Immunology. It is only via these creative alli-
ances that pediatric medicine can be further developed.*

*I thank all speakers and the audience for their contributions as well as all supporters,
in particular the Hector Fellow Academy, for their generous help!*

I wish you all a pleasant and inspiring meeting!


Prof. Dr. Christoph Klein



Fri, March 6, 2015

- 2.00 p.m.** *Musical introduction*
Benedetto Marcello: Oboe Concerto in c minor, 3rd movement
Dimitri Schostakowitsch: Waltz 2 from Jazzsuite
Gioachino Rossini: Variations for Clarinet and Small Orchestra in C major
Verena Richter (Saxophone), **Maruan Sakas** (Piano)
- 2.15 p.m.** Welcome address – **Christoph Klein**
- 2.20 p.m.** Round Table Discussion on Translational Science: „Klinische Forschung – quo vadis?“
Inauguration der Else Kröner Fresenius Clinical Research School
- 3.05 p.m.** Laudatory speech – **Dietrich Niethammer**
- 3.30 p.m.** Dr. August von Hauner Award to **Karl Welte** (Tübingen University)
- 3.45 p.m.** *Musical interlude*
Macedonian Folk Song
Astor Piazzolla: Oblivion
Pedro Itturalde: Pequeña Czardas
Verena Richter (Saxophone), **Maruan Sakas** (Piano)
- 4.00 p.m.** *Reception*
- 5.00 p.m.** **Joshua D. Milner**: „Defects in the innate effector cells in congenital diseases of atopy“
- 5.30 p.m.** **Nikolaus Pfanner**: „Biogenesis of mitochondria: from proteomics to functional mechanisms“
- 6.00 p.m.** Farewell

Sat, March 7, 2015

- 8.15 a.m.** *Coffee & Croissants*
- SESSION 1**
- 8.30 a.m.** **Bodo Grimbacher**: „Human CTLA4 deficiency and beyond“
- 9.00 a.m.** **Jean Donadieu**: „Clinical Challenges of severe congenital neutropenia“
- 9.30 a.m.** Best Abstract Presenters
- 10.00 a.m.** *Coffee break*
- SESSION 2**
- 10.30 a.m.** **Christoph Klein**: „Congenital defects of neutrophil granulocytes“
- 11.00 a.m.** **Barbara Conradt**: „Physiological functions of mitochondrial dynamics in *C. elegans*“
- 11.30 a.m.** **Peter Rehling**: „Mechanisms of respiratory chain assembly and its implications for mitochondrial disorders“
- 12.00 noon** **Tina Wenz**: „Friend or foe – Mitochondrial signaling at the interface of bioenergetics and immune response“
- 12.30 p.m.** *Lunch*

SESSION 3

- 2.00 p.m. **Kaan Boztug:** „Novel genetic etiologies of severe congenital neutropenia and their molecular pathophysiology“
- 2.30 p.m. **Frederic Geissman:** „Monocytes, neutrophils and possible mechanisms for vascular inflammation“
- 3.00 p.m. **Taco Kuijpers:** „Mechanisms of fungal killing by human neutrophils“
- 3.30 p.m. **Attila Mócsai:** „Diverse roles of neutrophils in the inflammation process“

4.00 p.m. *Coffee break*

SESSION 4

- 4.30 p.m. **Sophie Hambleton:** „A novel metabolic immunodeficiency“
- 5.00 p.m. **Niels Borregaard:** „Lessons from a patient with severe juvenile periodontitis“
- 5.30 p.m. **Steven M. Holland:** „GATA2 Haploinsufficiency: A complex immunohematologic disease“
- 6.00 p.m. Summary, Final Remarks, Farewell

Niels Borregaard

The Granulocyte Research Laboratory
Department of Hematology, Rigshospitalet
University of Copenhagen, Denmark

Kaan Boztug

Research Center for Molecular Medicine (CeMM) of the
Austrian Academy of Sciences,
Vienna, Austria

Barbara Conradt

Cell and Developmental Biology
Ludwig Maximilian University Munich
Munich, Germany

Jean Donadieu

Service d'Onco-Hémato-Immunologie Pédiatrique
Hôpital Armand-Trousseau
Paris, France

Frederic Geissman

Centre for Molecular & Cellular Biology of Inflammation
King's College London
London, UK

Bodo Grimbacher

Center for Chronic Immunodeficiency
Universitätsklinikum Freiburg
Freiburg, Germany

Sophie Hambleton

Primary Immunodeficiency Group
Institute of Cellular Medicine Medical School
Newcastle University, UK

SPEAKER

Steven M. Holland

National Institute of Allergy and Infectious Diseases
Bethesda, USA

Christoph Klein

Dr. von Hauner Children's Hospital
Ludwig Maximilian University Munich
Munich, Germany

Taco Kuijpers

Academic Medical Center Amsterdam
Emma Kinderziekenhuis AMC
Amsterdam, The Netherlands

Joshua D. Milner

National Institute of Allergy and Infectious Diseases
Bethesda, USA

Attila Mócsai

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Peter Rehling

Department of Cellular Biochemistry
Georg-August-University
Göttingen, Germany

Tina Wenz

Institute for Genetics, CECAD Cologne
University of Cologne
Cologne, Germany

DR. AUGUST VON HAUNER MEDAL TO PROFESSOR KARL WELTE



Prof. Dr. med. Karl Welte

Prof. Dr. Karl Welte receives the Dr. August von Hauner Medal for his cutting-edge work as pediatrician and researcher.

After his training in pediatrics in Berlin and Frankfurt he accomplished groundbreaking scientific work at the Memorial Sloan Kettering Cancer Center in New York. For the first time he isolated Interleukin-2 and G-CSF,

two growth factors with fundamental importance for immunology and haematology. Also after his return to Germany he always supported a strong link between clinic and research in his positions as senior physician, clinical director and finally as senior professor at Hannover Medical School– he sustainably shaped the research of mechanisms of blood formation and the development of leukaemia as well as therapy research in paediatric haematology and oncology. Professor Welte founded the special DFG (German Research Foundation) research field “cytokines-receptors and cytokines-depending signal paths” as well as further scientific networks. His research group published scientific papers in renowned scientific journals like the New England Journal of Medicine, Nature Medicine, Nature Genetics, Journal Experimental Medicine and many others. In his clinic he paved the way for a growing academic spirit with great success.

His work has been acknowledged by various awards like the “Johann-Georg-Zimmermann Preis”, the “Prix Galien de la Recherche Pharmaceutique” and the “Deutsche Krebshilfe Preis”. This year, the Dr. August von Hauner Medal honours a dedicated physician and researcher who always maintained his scientific curiosity and his sense for humanism and thus strongly influenced the field of paediatrics.

In order to remember **Dr. August von Hauner**, founder of Dr. von Hauner Children's Hospital built in 1846, the Dr. August von Hauner Medal is awarded biennially to an outstanding personality who strongly influenced the field of pediatrics by working as a „physician-scientist“.





Else Kröner Fresenius Clinical Research School Munich

The **Else Kröner Fresenius Clinical Research School Munich (EKFS)** is an excellence programme for outstanding doctors and scientists.

The Else Kröner Forschungskolleg aims to develop the translational research in paediatrics and medicine beyond its location in Munich.

Currently two fellows at Dr. von Hauner Children's Hospital within the Else Kröner Fresenius Clinical Research School are working on following research projects:



Dr. Alexandra Puchwein-Schwepcke

Project: *Structural characterisation of the wild type und mis-sense-induced variations of Glutaryl-CoA-Dehydrogenase (GCDH) for the determination of the molecular phenotype as well as studies of possible pharmacological chaperones for stabilization of misfolding of proteins of Glutaric Aciduria type 1*



Sebastian Hesse

Project: *Differentiation of induced pluripotent stem cells into neutrophils to elucidate the pathogenesis of severe congenital neutropenia*

Klaus Betke, 1914 born in Munich, received his Dr. med. at the University of Berlin in 1940 for his thesis titled, "Assoziationen bei genuiner und symptomatischer Epilepsie." In 1953, he habilitated at the Albert-Ludwigs-University Freiburg with his work titled "Human haemoglobin in the fetal and mature forms." In 1962, he was appointed to the Chair of Pediatrics in Tübingen. Betke then succeeded Alfred Wiskott (1898-1978) at the Ludwig-Maximilians-University Munich. From 1967 until 1983, he held the position of Director and Professor of the Children's Hospital, Children's Clinic, and Pediatric Surgery at the Dr. von Hauner Children's Hospital of LMU Munich.



Prof. Dr. Dr. h.c. Klaus Betke
(* 30.10.1914; † 26.06.2011)

Betke was highly esteemed in the field of pediatrics in Germany. In 1966 he became an honorary member of the Gynecology and Pediatrics section of the German Academy of Sciences Leopoldina. From 1968 until 1971, Betke was a member of the Science Council. In 1981, he was awarded the Bavarian Order for Science and Art. He was a member of both the Bavarian Academy of Sciences and Academy of Finland.

Betke has been a long-time member of the German Society of Pediatrics and an honorary member since 1991. In 1983, the German Society of Pediatrics awarded him the Otto Heubner Prize, the most important award of the German Society of Pediatrics and Adolescent Medicine (Deutsche Gesellschaft für Kinder- und Jugendmedizin). He has also received the Bavarian Order of Merit. Additionally, he is an honorary member of the University of Regensburg and has received honorary doctorates from the medical faculty of the Ruhr University in Bochum.

Klaus Betke was a passionate pediatrician. He brought forward the development of the pediatric sub-disciplines and thus formed the field of pediatrics in Germany sustainably.

