

Supported by:



10.000 €



15.000 €



15.000 €



5.000 €



10.000 €



15.000 €

# Function of von Willebrand factor in primary and secondary hemostasis

Physics, Biology and Medicine

September 13th – 15th, 2015

Hamburg, Germany

## Invited Speakers

J. Eikenboom (LUMC)  
E. Westein (Monash)  
T.A. Springer (Harvard)  
A. Alexander-Katz (MIT)  
A.M. Randi (IC)  
M.T. Auton (Mayo Clinic)  
Z.M. Ruggeri (Scripps)  
B. Furie (Harvard)  
J.A. Kremer Hovinga (Inselspital)

## Invited Speakers

W.E. Thomas (UW)  
P.J. Lenting (INSERM)  
C.V. Denis (INSERM)  
K.T. Preissner (JLU)  
J. Oldenburg (UKB)  
D.F. Hansen (UCL)  
C.-H. Kiang (Rice)  
A.J. Reininger (Baxter)  
C. Kleinschnitz (UKW)

and all members of the DFG SHENC research group FOR 1453

The congress has been accredited by the "Ärztchamber Hamburg" with a maximum of 18 CME credits.

Venue: Hotel Hafen Hamburg  
Seewartenstr. 9  
20459 Hamburg, Germany  
phone: +49 (0)40 / 31 11 3-0

## Topics

- VWF as a single molecule under stress (theory and experiments)
- Collective phenomena (theory and experiments)
- Thrombus formation
- Tumor and thrombosis
- TTP and ADAMTS13
- Hemophilia

## Welcome to the 1<sup>st</sup> International SHENC Symposium on function of von Willebrand factor in primary and secondary hemostasis.

Dear colleagues,

It is our great pleasure and privilege to invite you to join the 1<sup>st</sup> International SHENC Conference.

There has been a tremendous surge in VWF research over the past decade resulting in many novel findings and new applications. SHENC, as an interdisciplinary research group investigating von Willebrand factor under shear flow, has experienced that the synergistic effects of an interdisciplinary research approach highly promote progress and efficiency in research.

We are delighted to offer the opportunity to benefit from interdisciplinary exchange with a panel of international highly recognized speakers, who have generously agreed to share their expertise.

We expect fruitful discussions with clinicians, biochemists, theoretical and applied physicists as well as structural biologists who work on primary and secondary hemostasis from all over the world.

Looking forward to meeting you in Hamburg in September 2015,



**Prof. Dr. Reinhard Schneppenheim**  
and the organizing committee.



Shear flow regulation of hemostasis –  
bridging the gap between nanomechanics and clinical presentation

Schedule	Scientific program
<b>September 13th, 2015</b>	
4:00-8:00 pm	Registration
6:00-8:00 pm	Welcome and get-together
<b>September 14th, 2015</b>	
9:00-10:30 am	<b>Collective networks under flow – I –</b>
Chair: R.R. Netz	<b>M.F. Schneider:</b> From single molecules to collective networks. Towards a physical foundation of thrombosis. <b>E. Westein:</b> Bio-mechanics of thrombus formation under complex shear stress conditions. <b>A. Alexander-Katz:</b> Why is VWF so special? A physics journey into blood plugging.
11:00-12:30 pm	<b>Collective networks under flow – II –</b>
Chair: M.F. Schneider	<b>R.R. Netz:</b> Collective effects of catch and slip bonds under shear. <b>A.J. Reininger:</b> Is bigger better? The function of ultralarge VWF multimers visualized in whole blood flow. <b>G. Gompper:</b> Margination of von Willebrand factor and platelets in capillary blood flow.
12:30-2:30 pm	<b>Lunch and scientific poster presentations</b>
2:30-4:00 pm	<b>Structure and function</b>
Chair: C. Baldauf	<b>T.A. Springer:</b> VWF, Jedi knight of the bloodstream. <b>J. Eikenboom:</b> A nanoscopic view on von Willebrand factor structures. <b>M. Wilmanns:</b> Mechanisms of molecular elasticity in stretchable filament proteins.
4:30-6:00 pm	<b>Mechanics</b>
Chair: G. Gompper	<b>M. Benoit/P. Hinterdorfer:</b> Inter- and intramolecular interactions of VWF studied on the single molecule level. <b>C.-H. Kiang:</b> Mechanical activation of multimeric forms of von Willebrand factor. <b>F. Gräter:</b> Molecular mechanisms of force-sensing in VWF.
<b>September 15th, 2015</b>	
9:00-10:30 am	<b>VWF interactions</b>
Chair: F. Gräter	<b>W.E. Thomas:</b> Regulation of binding of the VWF A1 domain to platelet GPIb in flow conditions. <b>D.F. Hansen:</b> Solution structure of the major factor VIII binding region on von Willebrand factor. <b>M.T. Auton:</b> Misfolding the platelet hook of von Willebrand factor fishing lines.
11:00-12:30 pm	<b>VWF in hemostasis</b>
Chair: S.W. Schneider	<b>C.V. Denis:</b> Von Willebrand factor clearance mechanisms. <b>K.T. Preissner:</b> Extracellular nucleic acids as new risk factors for thrombosis. <b>B. Furie:</b> Thrombus formation in vivo: regulation by thiol isomerases.
12:30-1:30 pm	<b>Lunch</b>
1:30-3:00 pm	<b>VWF in disease</b>
Chair: R. Schneppenheim	<b>A.M. Randi:</b> Von Willebrand factor regulates angiogenesis. <b>C. Kleinschnitz:</b> Plasmatic coagulation factors in ischemic stroke: pathophysiological role and therapeutic targets. <b>Z.M. Ruggeri:</b> Dissecting von Willebrand factor functions in hemostasis and thrombosis.
3:30-5:00 pm	<b>Clinical aspects of VWF</b>
Chair: J.O. Rädler	<b>P.J. Lenting:</b> FVIII/VWF: a highly dynamic relationship. <b>J. Oldenburg:</b> Perspectives of immune tolerance therapy in patients with hemophilia and inhibitors. <b>S.W. Schneider:</b> The impact of VWF in tumor thrombophilia and progression.
5:00-6:30 pm	<b>VWF in TTP</b>
Chair: U. Budde	<b>R. Schneppenheim:</b> Pathophysiology of VWF. <b>J.A. Kremer Hovinga:</b> TTP – the consequence of lacking VWF size regulation. <b>J.O. Rädler:</b> Destabilized recombinant VWF as substrate for highly sensitive ADAMTS13 assays.