



NVTH Symposium – March 28-29, 2018
Golden Tulip Hotel Westduin – Koudekerke, Zeeland

Wednesday, March 28th 2018

11.30 – 12.30 Registration and Lunch

12.30 – 13.00 **Keynote Lecture I**
Karin Fijnvandraat (AMC) *'Huge impact of tiny differences'*
Moderator: Roger Schutgens (UMCU)

13.00 – 14.00 **Session I. Clinical bleeding: disorders and complications**
Moderators: Mandy Lauw (AMC) & Deeksha Khialani (LUMC)

EFFECT OF POLYPHARMACY ON BLEEDING OF RIVAROXABAN VERSUS VITAMIN K ANTAGONIST FOR TREATMENT OF VENOUS THROMBOEMBOLISM

Ingrid M. Bistervels¹, M. Gebel², A.W.A. Lensing², S. Middeldorp¹, M Coppens¹. ¹Dept. of Vascular Medicine, Academic Medical Center, University of Amsterdam, ²Bayer HealthCare, Wuppertal, Germany.

COMORBIDITIES ASSOCIATED WITH HIGHER VON WILLEBRAND FACTOR (VWF) LEVELS MAY EXPLAIN THE AGE-RELATED INCREASE OF VWF IN VON WILLEBRAND DISEASE

Ferdows Atiq¹, Karina Meijer², Jeroen Eikenboom^{3,4}, Karin Fijnvandraat⁵, Eveline P. Mauser-Bunschoten⁶, Karin P.M. van Galen⁶, Marten R. Nijziel^{7,8}, Paula F. Ypma⁹, Joke de Meris¹⁰, Britta A.P. Laros-van Gorkom⁷, Johanna G van der Bom^{11,12}, Moniek P. de Maat¹, Marjon H. Cnossen¹³, Frank W G Leebeek¹. ¹Dept. of Hematology, Erasmus University Medical Center, ²Dept. of Hematology, University Medical Center Groningen, ³Div. of Thrombosis and Hemostasis, Leiden University Medical Center, ⁴Eindhoven Laboratory for Vascular and Regenerative Medicine, Leiden University Medical Center, ⁵Pediatric Hematology, Emma Children's Hospital, Academic Medical Center, ⁶Van Creveldkliniek, University Medical Center University Utrecht, ⁷Dept. of Hematology, Radboud University Medical Center, ⁸Dept. of Hematology, Catharina Hospital, Eindhoven, ⁹Dept. of Hematology, Haga Hospital, The Hague, ¹⁰Netherlands Hemophilia Society, Leiden, ¹¹Dept. of Clinical Epidemiology, Leiden University Medical Center, ¹²Jon J van Rood Center for Clinical Transfusion Medicine, Sanquin Research, Leiden, ¹³Dept. of Pediatric Hematology, Erasmus University Medical Center-Sophia Children's Hospital.

MANAGEMENT AND OUTCOME OF BLEEDING COMPLICATIONS IN PATIENTS TREATED WITH DIRECT ORAL ANTICOAGULANTS: A PROSPECTIVE COHORT STUDY

Roisin Bavalia¹, Rahat A. Abdoellakhan², Eva N. Hamulyak¹, Barbara A. Hutten³, Marjolein P.A. Brekelmans¹, Karina Meijer², Hugo ten Cate⁴, Menno V. Huisman⁵, Marieke J.H.A. Kruip⁶, Saskia Middeldorp¹, Michiel Coppens¹. ¹Dept. of Vascular Medicine, Academic Medical Center, Amsterdam, ²Dept. of Haematology, University Medical Center Groningen, ³Dept. of Clinical Epidemiology, Academic Medical Center, ⁴Dept. of Internal Medicine, Cardiovascular Research Institute Maastricht, ⁵Div. of Thrombosis and Hemostasis, Leiden University Medical Center, ⁶Dept. of Hematology, Erasmus University Medical Center.

PERFORMANCE OF THE ISTH BLEEDING ASSESSMENT TOOL IN PREDICTING THE PRESENCE OF INHERITED PLATELET FUNCTION DISORDERS

Maike Blaauwgeers^{1,2}, Ivar van Asten^{2,3}, Suzanne Korporaal³, Albert Huisman³, Erik Beckers⁴, Marieke Kruip⁵, Michiel Coppens⁶, Jeroen Eikenboom⁷, Rienk Tamminga⁸, Rolf Urbanus³, Roger Schutgens¹. ¹Van Creveldkliniek, University Medical Center Utrecht, ²Van Creveld Laboratory, University Medical Center Utrecht, ³Dept. of Clinical Chemistry and Haematology, University Medical Center Utrecht, ⁴Maastricht University Medical Center, ⁵Erasmus University Medical Center, ⁶Academic Medical Center, ⁷Leiden University Medical Center, ⁸University Medical Center Groningen.

14.00 – 14.30 Coagulation Quiz
Quiz Masters: Henri Spronk (MUMC) & Joost Meijers (Sanquin)

14.30 – 15.00 Coffee/Tea break



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15.00 – 15.30 **Keynote Lecture II**
Coen Maas (UMCU) *'The contact pathway: factor XII and polyphosphate'*
Moderator: Hilde Kelchtermans (Synapse)

15.30 – 16.30 **Session II. Basic research: mechanisms uncovered**
Moderators: Brenda Luken (Sanquin) & Zonne Hofman (UMCU)

AP-3 DEPENDENT PROTEIN TRAFFICKING: THE ROLE OF SNARE PROTEINS IN CARGO SORTING IN ENDOTHELIAL CELLS

Ellie Karampini¹, M. Hofman¹, F.P.J. van Alphen¹, T.W. Kuijpers^{2,3}, A.B. Meijer^{1,4}, J. Voorberg¹, R. Bierings¹. ¹Dept. of Plasma Proteins, Sanquin Research and Landsteiner Laboratory, Academic Medical Center, University of Amsterdam, Amsterdam, ²Dept. of Blood Cell Research, Sanquin Research, ³Dept. of Pediatric Hematology, Immunology and Infectious Diseases, Emma Children's Hospital, Academic Medical Center, University of Amsterdam, ⁴Pharmaceutical Sciences, Utrecht Institute for Pharmaceutical Sciences, Utrecht University.

SLC44A2 DEFICIENT MICE EXHIBIT LESS SEVERITY OF THROMBOSIS IN A STENOSIS MODEL OF DVT

Julia Tilburg¹, C.X. Maracle¹, G. Zirka², L. van den Heijkant¹, P.E. Morange^{2,3}, G.M. Thomas², B.J.M. van Vlijmen¹. ¹Eindhoven Laboratory for Experimental Vascular Medicine, Div. of Thrombosis and Hemostasis, Dept. of Internal Medicine, Leiden University Medical Center, ²Aix-Marseille Univ, INSERM, INRA, C2VN, Marseille, France, ³APHM, CHU de la Timone, Laboratoire d'hématologie, Marseille, France.

UNRAVELING THE CATALYTIC ENHANCEMENT OF ACTIVATED FACTOR IX VIA FOOTPRINTING MASS SPECTROMETRY

Nadia Freato¹, E.H.T.M. Ebberink¹, F.P.J. van Alphen¹, C. van der Zwaan¹, M. Boon-Spijker¹, A.B. Meijer^{1,2}, M. van den Biggelaar¹, K. Mertens^{1,2}. ¹Dept. of Plasma Proteins, Sanquin Research, Amsterdam, ²Utrecht Institute for Pharmaceutical Sciences, Utrecht University.

FACTOR V HAS ANTICOAGULANT ACTIVITY IN PLASMA IN THE PRESENCE OF TFPIA: DIFFERENCE BETWEEN FV1 AND FV2

Peter van Doorn¹, Jan Rosing¹, Connie Duckers¹, Tilman M. Hackeng¹, Paolo Simioni², Elisabetta Castoldi¹. ¹Dept. of Biochemistry, Cardiovascular Research Institute Maastricht, Maastricht University, ²Thrombotic and Hemorrhagic Diseases Unit, Department of Medicine, University of Padua Medical School, Padua, Italy.

16.30 – 17.00 Coffee/Tea break

17.00 – 18.00 **Van Creveld Lecture**
Pieter Reitsma (LUMC) *'Coagulation is our second Nature'*
Moderator: Saskia Middeldorp (AMC)

18.00 – 18.15 Presentation NVTH Awards
Moderators: Saskia Middeldorp (AMC) & Mettine Bos (LUMC)

18.30 Dinner and party at Kontiki (beach)



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Thursday, March 29 2018

07.30 – 09.00 Breakfast

09.00 – 09.30 **Keynote Lecture III**
Henri Spronk (MUMC) *'Thromboinflammation'*
Moderator: Suzanne Korporaal (UMCU)

09.30 – 10.30 **Session III. Basic research: platelets and the vessel wall**
Moderators: Araci Rondon (LUMC) & Chantal Clark (UMCU)

MURINE GRAY PLATELET SYNDROME AFFECTS BOTH LEUKOCYTE AND PLATELET FUNCTION

Dorith A.M. Claushuis¹, Sacha F. de Stoppelaar¹, Alex F. de Vos¹, Anita E. Grootemaat², Nicole N. van der Wel², Jerry Ware³, Cornelis van 't Veer¹, Tom van der Poll^{1,4}. ¹Center for Experimental and Molecular Medicine, Academic Medical Center, University of Amsterdam, ²Electron Microscopy Center Amsterdam, Medical Biology, Academic Medical Center, ³University of Arkansas for Medical Sciences, Little Rock, USA, ⁴Division of Infectious Diseases, Academic Medical Center, University of Amsterdam.

CHARACTERIZATION OF (ANTI)COAGULATION PATHWAYS IN THROMBUS AND FIBRIN FORMATION UNDER FLOW TO PHENOTYPE HEMOSTATIC DISORDERS

Ankie J.P. van Geffen¹, Sanne L.N. Brouns¹, Frauke Swieringa^{1,2}, Richard W. Farndale³, Kenneth J. Clemetson⁴, Elisabetta Castoldi¹, Paola E. van der Meijden¹, Marijke J. E. Kuijpers¹, Rachel Cavill⁵, Johan W. M. Heemskerk¹. ¹Dept. of Biochemistry, Cardiovascular Research Institute Maastricht, Maastricht University, ²Dept. of Protein Dynamics, Leibniz Institute for Analytical Sciences, Dortmund, Germany, ³Dept. of Biochemistry, University of Cambridge, UK, ⁴Dept. of Haematology, Inselspital, University of Bern, Bern, Switzerland, ⁵Dept. of Data Science and Knowledge Engineering, Maastricht University, Maastricht.

GNE-RELATED THROMBOCYTOPENIA, A CONGENITAL THROMBOCYTOPENIA DUE TO PLATELET HYPOSIALYLATION

Ivar van Asten¹, RE.G. Schutgens², A.J. Lakerveld¹, T. Noordermeer¹, C.A. Koekman¹, G. Pasterkamp¹, A. Huisman¹, D.J. van den Heuvel³, H.C. Gerritsen³, S.J.A. Korporaal¹, M. Bierings⁴, J.J. van der Smagt⁵, R.T. Urbanus¹. ¹Center for circulatory health, Dept. of Clinical Chemistry and Haematology, University Medical Center Utrecht, Utrecht University, ²Van Creveldkliniek, University Medical Center Utrecht, ³Dept. of Molecular Biophysics, Utrecht University, ⁴Dept. of Haematology and Stem Cell Transplantation, Children's Hospital, Utrecht University, ⁵Dept. of Clinical Genetics, University Medical Center Utrecht, Utrecht University.

THE ROLE OF COAGULATION PROTEASES AND PLATELETS ON MICROVASCULAR LOSS IN ATRIAL FIBRILLATION

Sophie C. Dölleman¹, H.C. de Boer¹, A.J. van Zonneveld¹. ¹Div. of Nephrology, Einthoven Laboratory for Vascular and Regenerative Medicine, Leiden University Medical Center.

10.30 – 11.00 Coffee/Tea break

11.00 – 11.30 **Keynote Lecture IV**
Maartje van den Biggelaar (Sanquin) *'Phosphoproteomics of endothelial cell signaling'*
Moderator: Mettine Bos (LUMC)



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11.30 – 12.30 **Session IV: Basic research: from bench to bedside**
Moderators: Ingrid Dijkgraaf (MUMC) & Johana Hrdinova (Sanquin)

BLOCKING TISSUE FACTOR SIGNALING IN BREAST CANCER INHIBITS TUMOR METASTASIS

Betül Ünlü¹, Begüm Kocatürk¹, Wolfram Ruf^{2,3}, Henri H. Versteeg¹. ¹Div. of Thrombosis and Hemostasis, Einthoven Laboratory for Experimental Vascular Medicine, Leiden University Medical Center, ²Dept. of Immunology and Microbiology, The Scripps Research Institute, La Jolla, California, USA, ³Center for Thrombosis and Hemostasis, Johannes Gutenberg University Medical Center, Mainz, Germany.

TARGETED THROMBOLYTICS FOR THROMBOTIC THROMBOCYTOPENIC PURPURA

Steven de Maat¹, M. Waning¹, C. Clark¹, A. Barendrecht¹, P. Lenting², C. Maas¹. ¹University Medical Center Utrecht, Dept. of Clinical Chemistry and Haematology, ²INSERM, Unité Mixte de Recherche S1176, Université Paris-Sud, Université Paris-Saclay, France.

REDESIGNED α 1-ANTITRYPSIN AS THERAPY FOR BRADYKININ-DRIVEN DISEASE

Wariya Sanrattana¹, N. Parr¹, C. Maas¹, S. de Maat¹. ¹Laboratory of Clinical Chemistry and Haematology, University Medical Center Utrecht.

PHE174-MUTATED HUMAN FACTOR X AS BYPASSING AGENT TO THE DIRECT FXA INHIBITORS

Mark Schreuder¹, Daniel Verhoef¹, Ka Lei Cheung¹, Koen M. Visscher², Daan P. Geerke², Pieter H. Reitsma¹, Mettine H.A. Bos¹. ¹Div. of Thrombosis and Hemostasis, Einthoven Laboratory for Experimental Vascular Medicine, Leiden University Medical Center, ²AIMMS Division of Molecular Toxicology, Department of Chemistry and Pharmaceutical Sciences, VU University.

12.30 – 13.30 Lunch

13.30 – 14.00 NVTH Annual meeting

14.00 – 14.30 **Keynote Lecture V**
Michiel Coppens (AMC) *'Future of anticoagulation'*
Moderator: Karina Meijer (UMCG)

14.30 – 15.30 **Session V. Venous thromboembolism: etiology and therapy**
Moderators: Nienke van Rein (LUMC) & Bram Kremers (MUMC)

ROSUVASTATIN USE REDUCES THROMBIN GENERATION IN PATIENTS WITH VENOUS THROMBOEMBOLISM: RESULTS FROM A RANDOMIZED CLINICAL TRIAL

Fernanda A. Orsi^{1,2}, Joseph. S. Biedermann^{3,4}, Marieke J.H.A. Kruip^{3,4}, Felix J. van der Meer⁵, Frits R. Rosendaal^{2,6}, Mettine H.A. Bos^{5,6}, Frank W.G. Leebeek⁴, Suzanne C. Cannegieter^{2,5,6}, Willem M. Lijfering^{2,6}. ¹Dept. of Clinical Pathology, School of Medical Sciences, University of Campinas (UNICAMP), Campinas, Brazil, ¹Dept. of Clinical Epidemiology, Leiden University Medical Center, ³Star-Medical Anticoagulation Clinic, Rotterdam, ⁴Dept. of Hematology, Erasmus University Medical Center, ¹Div. of Thrombosis and Hemostasis, Leiden University Medical Center, ⁶Einthoven Laboratory for Vascular and Regenerative Medicine, Leiden University Medical Center.

RISK OF RECURRENT VENOUS THROMBOEMBOLISM IN PREGNANCY AND POSTPARTUM PERIOD: RESULTS FROM THE MEGA FOLLOW-UP STUDY

Luuk J.J. Scheres^{1,2}, C.W. van Klaveren¹, B. Nemeth¹, S.C. Cannegieter^{1,3}. ¹Dept. of Clinical Epidemiology, Leiden University Medical Center, ²Dept. of Vascular Medicine, Academic Medical Center, ³Div. of Thrombosis and Hemostasis, Leiden University Medical Center.



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EFFICACY AND SAFETY OF EDOXABAN IN CLINICAL SUBGROUPS: RESULTS FROM THE HOKUSAI-VTE CANCER RANDOMIZED TRIAL

Frits Mulder¹, Nick van Es¹, Noemi Kraaijpoel¹, Marcello Di Nisio², Marc Carrier³, David Garcia⁴, Michael Grosso⁵, Ajay K. Kakkar⁶, Michele F. Mercuri⁵, Saskia Middeldorp¹, Annelise Segers⁷, Peter Verhamme⁸, Tzu-Fei Wang⁹, Jeffrey I. Weitz¹⁰, George Zhang⁵, Harry R. Büller¹, Gary Raskob¹¹. ¹Dept. of Vascular Medicine, Academic Medical Center, University of Amsterdam, ²Dept. of Medicine and Ageing Sciences, University G. D'Annunzio, Chieti, Italy, ³Ottawa Hospital Research Institute, Ottawa, Canada, ⁴Dept. of Medicine, Division of Hematology, University of Washington, Seattle, USA, ⁵Daiichi Sankyo Pharma Development, Basking Ridge, NJ, USA, ⁶Thrombosis Research Institute and University College London, London, UK, ⁷ITREAS, Academic Research Organization, Amsterdam, ⁸Dept. of Vascular Medicine and Hemostasis, University Hospitals Leuven, Belgium, ⁹Dept. of Internal Medicine, Division of Hematology, The Ohio State University Wexner Medical Center, Columbus, OH, USA, ¹⁰McMaster University and the Thrombosis and Atherosclerosis Research Institute, Hamilton, Canada, ¹¹University of Oklahoma Health Sciences Center, College of Public Health, Oklahoma City, OK, USA.

LOWER-LEG INJURY LEADS TO A PROCOAGULANT STATE

Carolina E. Touw¹, Banne Nemeth¹, Inger B. Schipper², Rob G.H.H. Nelissen³, Suzanne C. Cannegieter^{1,4}. ¹Dept. of Clinical Epidemiology, Leiden University Medical Center, ¹Dept. of Surgery, Leiden University Medical Center, ³Dept. of Orthopaedics, Leiden University Medical Center, ⁴Div. of Thrombosis and Hemostasis, Leiden University Medical Center.

15.30 – 16.00

Results quiz, presentation Jeanne Stibbe bokaal, and closure
Moderators: Saskia Middeldorp (AMC) & Mettine Bos (LUMC)