

Evi X. Stavrou, M.D.

Case Western Reserve University School of
 Medicine Louis Stokes Cleveland VAMC
 Dpt. of Internal
 Medicine Hematology-
 Oncology
exs300@case.edu

 GRADUATE EDUCATION

- Doctor of Medicine. Summa cum laude Semmelweis University Budapest, Hungary September 1996 – September 2002

 POST GRADUATE EDUCATION

- Tutor, First Department of Anatomy, Histology and Embryology Semmelweis University, Budapest, Hungary September 2002 – June 2004
- Categorical Intern, Internal Medicine Johns Hopkins University/Sinai Program in Internal Medicine Baltimore, Maryland. June 2005 – June 2006
- Categorical Resident, Internal Medicine Johns Hopkins University/Sinai Program in Internal Medicine Baltimore, Maryland. June 2006 – June 2008
- Fellow, Hematology Oncology University Hospitals of Cleveland/Case Western Reserve University Cleveland, Ohio. July 2008 – June 2011

 ACADEMIC APPOINTMENTS

April 2016: The Oscar D. Ratnoff Designated Professor in Medicine and Hematology

July 2015 - Present: Director, Anticoagulation Clinic, Louis Stokes Cleveland Department of Veterans Affairs Medical Center

July, 2013 - Present: Assistant Professor of Medicine (tenure track), Department of Medicine, Case Western Reserve University, Cleveland, Ohio

September, 2011 - Present: Staff Physician, Division of Hematology-Oncology, Louis Stokes Cleveland Department of Veterans Affairs Medical Center

2011 – 2013: Instructor of Medicine, Department of Medicine, Case Western Reserve University, Cleveland, Ohio

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CERTIFICATIONS

- USMLE Step 1, August 2001
- USMLE Step 2 Clinical Knowledge, August 2003
- USMLE Step 2 Clinical Skills. July 2004
- ECFMG Certification, December 2004
- USMLE Step 3, August 2007
- American Board of Internal Medicine, August 2008
- American Board of Internal Medicine, Hematology, October 2012

MEMBERSHIP IN SCIENTIFIC SOCIETIES

- Member
American Society of Hematology
2008 - Present
- Member
Hemostasis & Thrombosis Research
Society 2010 - Present
- Member
International Society on Thrombosis and Haemostasis
2013 - Present

HONORS AND AWARDS

- Medical school scholarship
Cyprus Ministry of
Education 1996-2002
- Winner. Physiology
Competition Semmelweis
University Budapest, Hungary
1998
- Winner. Anatomy Competition
Semmelweis University
Budapest, Hungary
1998
- Winner. Public Health Competition
Semmelweis University
Budapest, Hungary
2000
- Winner. Pharmacology Competition
Semmelweis University
Budapest, Hungary
2000
- Distinction in Diploma Thesis in Biochemistry "Fibrinogen Structure and Fibrinolysis in

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Physiology and Pathology". Department of Biochemistry. Mentor: Prof. Krazimir Kolev
Semmelweis University
Budapest, Hungary
2002

- Medical degree, summa cum laude
Semmelweis University
Budapest, Hungary
2002
- Distinction. Hungarian Medical State Examination
Budapest, Hungary
2002
- Excellence in Professionalism and Humanism Award
Johns Hopkins University/Sinai Program in Internal Medicine
Baltimore, Maryland
June 2007
- Outstanding Performance Award in the Area of Ambulatory Internal Medicine
Johns Hopkins University/Sinai Program in Internal Medicine
Baltimore, Maryland
June 2008
- Excellence in Professionalism and Humanism Award
Johns Hopkins University/Sinai Program in Internal Medicine
Baltimore, Maryland
June 2008
- Leukocyte Factor XII Influences Wound Healing
Research Award, 2nd place, Faculty Category
Department of Medicine Research Day
University Hospitals Case Medical Center
Cleveland, Ohio
May 2012
- Thrombosis Protection In K1b1^{-/-} (Prekallikrein KO) Mice Is Mediated By Increased Renal
Mas Receptor, Plasma Prostacyclin, and Aortic Sirt1
Fang C, Stavrou EX, Wang Y, Grobe N, Simon DI Schmaier AH
Invited Oral Session. American Society of Hematology Annual Meeting, December 2013
Featured in Best of ASH, Thrombosis and Hemostasis Section, 2013
- Hematology and Oncology Faculty Award for Excellence in Fellow Education
University Hospitals Case Medical Center and Case Western Reserve University School
of Medicine
2013-2014

PROFESSIONAL SERVICE

- Invited Reviewer
Journal of Thrombosis and Haemostasis
2011 - Present

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- Associate Editor
Frontiers in
Hematology 2014 –
- Co-Chairman
SSC Scientific Subcommittee on Factor XI and the Contact System
International Society on Thrombosis and Haemostasis (ISTH)
2014 –

SERVICE ON HOSPITAL COMMITTEES

- Blood and Tissue Management
Committee Louis Stokes Cleveland VA
Medical Center Cleveland, Ohio
2015 –

ACADEMIC LECTURES AND INSTITUTIONAL TEACHING RESPONSIBILITIES

- Introduction to Platelet Disorders
University Hospitals Case Medical Center, Benign Hematology Lecture
Series August, 2011
- Factor XII: Cross-Talk Between Thrombosis and Inflammation
University Hospitals Case Medical Center, Hematology-Oncology Grand Rounds
January, 2012
- Factor XII: Cross-Talk Between Thrombosis and
Inflammation Cancer Center In Progress Seminar
January, 2012
- Clinico-Pathologic Correlation: Liver Disease and Coagulopathy
Louis Stokes Cleveland VA Medical Center, Dpt. of Internal Medicine Lecture Series
January, 2012
- Hematology Board Review
Internal Medicine PGY-3 Board Review Series, University Hospitals Case Medical
Center March, 2012
- Clinico-Pathologic Correlation: Work-up of Eosinophilia
Louis Stokes Cleveland VA Medical Center, Dpt. of Internal Medicine Lecture Series
May, 2012
- Hemostasis and Coagulation
Benign Hematology Lecture Series, University Hospitals Case Medical Center
November, 2012
- Factor XII: An Important Regulator of Coagulation and Leukocyte Function
Hematology-Oncology Grand Rounds, University Hospitals Case Medical
Center January, 2013
- Introduction to Coagulation and Hypercoagulable States: Relevance in Retinal
Disease Optometry Rounds, Louis Stokes Cleveland VA Medical Center
March, 2013
- Hematologic Manifestations in HIV infection: Thrombocytopenia and
Thrombosis Infectious Disease Rounds, Louis Stokes Cleveland VA Medical
Center
April, 2013
- Introduction to Thrombosis and Anticoagulation
Invited Speaker, Fifth Annual Anticoagulation Symposium, Cleveland Clinic
May, 2013

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- Mentoring and Being Mentored
Hematology-Oncology Fellows Conference, University Hospitals Case Medical Center
August, 2013
- Immune Thrombocytopenia In Pregnancy
Benign Hematology Lecture Series, University Hospitals Case Medical Center

August, 2013
- Introduction to Coagulation Disorders
Benign Hematology Lecture Series, University Hospitals Case Medical Center
October, 2013
- Factor XII: An Important Regulator of Leukocyte Function
Hematology-Oncology Division Research Conference, University Hospitals Case Medical Center
February, 2014
- Clinico-Pathologic Correlation: Hypercoagulable States
Louis Stokes Cleveland VA Medical Center, Dpt. of Internal Medicine Lecture Series
March, 2014
- Venous and Arterial Thrombosis
Louis Stokes Cleveland VA Medical Center, Dpt. of Surgery, Section of Vascular Surgery
Lecture Series
May, 2014
- Invited speaker: Congenital Bleeding Disorders
MS2 Hematology Lecture Series, Case Western Reserve University School of Medicine 2014 & 2015
- Normal Coagulation
Louis Stokes Cleveland VA Medical Center, Dpt. of Medicine Lecture Series
October, 2014
- Hemostasis and Coagulation
Benign Hematology Lecture Series, University Hospitals Case Medical Center
February, 2015
- Factor XII: An Important Regulator of Leukocyte Function
Hematology-Oncology Division Research Conference, University Hospitals Case Medical Center
March, 2015
- Medical Device-Induced Thrombosis
Louis Stokes Cleveland VA Medical Center, Dpt. of Medicine Lecture Series
May, 2015
- Anticoagulation Reversal Strategies
Louis Stokes Cleveland VA Medical Center, Dpt. of Medicine Lecture Series
May, 2015
- Hemostasis and Coagulation
Benign Hematology Lecture Series, University Hospitals Case Medical Center
October, 2015
- Benign Hematology, Fellow Didactic Continuity
Clinic Louis Stokes Cleveland VA Medical Center
Bimonthly, effective: January, 2012 - Present
- Group Leader: Anemia and Coagulopathy
MS3 Didactics, Case Western Reserve University School of Medicine
2011 - Present

RESEARCH SUPPORT

Ongoing Research Support

Evi X. Stavrou, M.D.

- American Heart Association
Scientist Development Grant, RES #: 205148
Title: Leukocyte XII Modulates Venous Thrombosis and Inflammation
Dates: 07-01-2015 to 06-30-2018
The aims of the AHA-SDG proposal are to 1) characterize leukocyte XII and its function and 2) characterize the *in vivo* role of leukocyte XII on sterile wound healing and venous thrombosis.
- VA Research & Education Foundation, VA Protocol #: 13-041-MS-013
Title: Rethinking wound healing: studies of a novel collagen scaffold and its impact on the inflammatory response
Dates: 09-16-2015 to 09-15-2016
The overall objective of this proposal is to evaluate the properties of a unique collagen scaffold and its ability to improve the rate of wound healing. There is no overlap with the present application.

Completed Research Support

- Hemostasis & Thrombosis Research Society
Mentored Research Award (MRA), RES #: 120531
Title: Novel Factor XII Functions
Dates: 07-01-2012 to 06-30-2015
The overall objective of this proposal is to determine the role of Factor XII in inflammation and injury repair.

PEER - REVIEWED PUBLICATIONS

- Stavrou E, Lazarus HM. Thrombotic Microangiopathy in Haematopoietic Cell Transplantation: An Update. *Mediterr J Hematol Infect Dis*. 2010;2(3):e2010033. PMC3134219.
- Adams GN, Larusch GA, Stavrou E, Zhou Y, Nieman MT, Jacobs G, Cui Y, Lu Y, Jain MK, Mahdi F, Shariat-Madar Z, Okada Y, D'Alecy LG, Schmaier AH. Murine prolylcarboxypeptidase depletion induces vascular dysfunction with hypertension and faster arterial thrombosis. *Blood* 2011; Apr 7;117(14):3929-37. PMC3083303.
- Xu-Cai YO, Shen J, Chen S, Zhou Y, Larusch GA, Stavrou E, Schmaier AH, Wu Q. Factor XII gene mutation in the Hageman family. *J Thromb Haemost*. 2011 Nov;9(11):2329-31. PMC3206169.
- Fang C, Stavrou E, Schmaier AA, Grobe N, Morris M, Chen A, Nieman MT, Adams GN, LaRusch GA, Zhou Y, Bilodeau ML, Mahdi F, Warnock M, Schmaier AH. Angiotensin-(1-7) and Mas Decrease Thrombosis in Bdkrb2^{-/-} Mice by Increasing NO and Prostacyclin to Reduce Platelet Spreading and GPVI Activation. *Blood* 2013; 121(15):3023-32. PMC3624945.
- Adams GN, Stavrou EX, Fang C, Merkulova A, Alaiti MA, Nakajima K, Morooka T, Merkulov S, LaRusch GA, Simon DI, Jain MK, Schmaier AH. Prolylcarboxypeptidase Promotes Angiogenesis and Vascular Repair. *Blood* 2013; 122(8):1522-31. PMC3750346.
Editorial Comment. *Blood*, 2013;122: 1337-1338
Journal Cover. *Blood*, 2013, August 22, 2013, Volume 122 (8)
- Björkqvist J, Nickel KF, Stavrou EX, Renné T. *In vivo* activation and functions of the protease factor XII. *J Thromb Haemost*. 2014 Nov;112(5):868-75. PMID: 25187064.
- Stavrou EX, Fang C, Merkulova A, Alhalabi O, Grobe N, Antoniak S, Mackman N, Schmaier AH. Reduced thrombosis in K1kb1^{-/-} mice is mediated by increased Mas receptor, prostacyclin, Sirt1 and KLF4 and decreased tissue factor. *Blood*. 2015 Jan

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22;125(4):710-9. PMID: 4304115.

Editorial Comment. *Blood*, 2015;125:589-590

Journal Cover. *Blood*, 2015, January 22, 2015, volume 125(4)

- Sala-Cunill A, Björkqvist J, Senter R, Guilarte M, Cardona V, Labrador M, Nickel KF, Butler L, Luengo O, Kumar P, Labberton L, Long A, Di Gennaro A, Kenne E, Jämsä A, Krieger T, Schlüter H, Fuchs T, Flohr S, Hassiepen U, Cumin F, McCrae K, Maas C, Stavrou E, Renné T. Activation of the Plasma Contact System in Anaphylaxis- Insight to Severe Mast Cell- Mediated Allergic Reactions. *J Allergy Clin Immunol*. 2015 Apr;135(4):1031-43.e6. PMID: 25240785.
- Maji D, Suster MA, Stavrou E, et al. Monitoring time course of human whole blood coagulation using a microfluidic dielectric sensor with a 3D capacitive structure. In *Proc. 37th Annu. Int. IEEE Eng. Med. Biol. Conf. (EMBC'15)*, pp. 5904-5907, Milan, Italy, August 2015.
- Nickel KF, Ronquist G, Langer F, Labberton L, Fuchs TA, Bokemeyer C, Sauter G, Graefen M, Mackman N, Stavrou EX, Ronquist G, Renné T. The polyphosphate-factor XII pathway drives coagulation in prostate cancer-associated thrombosis. *Blood*. 2015 Sep 10;126(11):1379-89. PMC4566812.
- Worm M, Köhler EC, Panda R, Long A, Butler LM, Stavrou EX, Nickel KF, Fuchs TA, Renné T. The factor XIIa blocking antibody 3F7: a safe anticoagulant with anti-inflammatory activities. *Ann Transl Med*. 2015 Oct;3(17):247. PMID: 26605293.
- Kenne E, Nickel KF, Long AT, Fuchs TA, Stavrou EX, Stahl FR, Renné T. Factor XII: a novel target for safe prevention of thrombosis and inflammation. *J Intern Med*. 2015 Dec;278(6):571-85. PMID: 26373901.
- Labberton L, Long AT, Gendler SJ, Snozek C, Stavrou EX, Nickel KF, Maas C, Blankenberg S, Hernandez JS, Renné T. A flow cytometry-based diagnostic assay for procoagulant platelet polyphosphate. (Submitted to PlosOne on April 1, 2016).
- Labberton L, Kenne E, Long AT, Nickel KF, Hernandez JS, Stavrou EX, Renné T.
- Neutralizing Procoagulant Polyphosphate In Vivo Provides Safe Thromboprotection. (Accepted with revisions, April 14, 2016, *Nat Commun*).
- Gittleman HR, Merkulova A, Alhalabi O, Stavrou EX, Veigl ML, Barmholtz-Sloan JS, Schmaier AH. A Cross-Sectional Study of KLKB1 and PRCP Polymorphisms in Patient Samples with Mild Cardiovascular Disease. *Frontiers in Medicine*. 2016 April 29; 3(17).

REVIEW ARTICLES, BOOK CHAPTERS

- Stavrou E, McCrae KR. Immune Thrombocytopenia in Pregnancy. *Hematol Oncol Clin North Am* 2009;23:1299-1316. PMC2784425.
- Stavrou E, Schmaier AH. Factor XII: what does it contribute to our understanding of the physiology and pathophysiology of hemostasis & thrombosis. *Thromb Res* 2010;125:210-5. PMC2851158.
- Stavrou E, Schmaier AH Factor XII Deficiency (Hageman factor deficiency). In: *Handbook of Hemostasis and Thrombosis: Practical Guidelines in Clinical Management*. Eds: Saba HI, Roberts H. 2012.
- Stavrou EX, Schmaier AH Venous and Arterial Thrombosis. In: *Cellular and Molecular Pathobiology of Cardiovascular Disease*. Eds: W.B. Saunders Company. 2013.

PRESENTATIONS

Scientific Abstracts:

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- Stavrou E, Kumar PP. A unique case of POEMS syndrome associated with sarcoidosis. Poster presentation. American College of Physicians, Maryland Chapter. May 2006.
- Fang C, Schmaier A, Stavrou E et al. Bradykinin B2 Receptor Knockout Mice Are Protected From Thrombosis By A Platelet Spreading Defect. Poster presentation. American Society of Hematology Annual Meeting, December 2010.
- Adams GN, Larusch G, Stavrou E et al. Prolylcarboxypeptidase Deficiency Is a Risk Factor For Arterial Thrombosis and Hypertension. Invited Oral Session. American Society of Hematology Annual Meeting, December 2010.
- Stavrou E, LaRusch GA, Fullana MJ et al. Factor XII Promotes Leukocyte Inflammation and Its Deficiency Results in Faster Wound Healing. Invited Oral Session. 53rd ASH Annual Meeting, December 2011.
- Stavrou E, Larusch GA, Fullana MJ, et al. Deficient Leukocyte Factor XII Promotes Wound Healing. Poster Presentation. Department of Medicine Research Day, University Hospitals Case Medical Center, May 2012.
- Stavrou E, Fullana M, Larusch GA et al. Leukocyte Factor XII: A Critical Regulator of WBC Function. Poster Presentation. 14th Biennial Midwest Platelet Conference, October 2012.
- Stavrou E, Fullana MJ, Larusch GA, et al. Leukocyte Factor XII Mediates Inflammation and Its Deficiency Promotes Wound Healing. Invited Oral Session. 54th ASH Annual Meeting, December 2012.
- Stavrou E, Fang C, Larusch GA, et al. Identification of Leukocyte Factor XII: A critical regulator of WBC function. Invited Oral Session. XXIV Congress of the International Society on Thrombosis and Haemostasis, July 2013.
- Fang C, Stavrou E, Merkulova A, et al. Thrombosis Protection In *Klkb1^{-/-}* (Prekallikrein KO) Mice Is Mediated By Increased Renal Mas Receptor, Plasma Prostacyclin, and Aortic Sirt1. Invited Oral Session. 55th ASH Annual Meeting, December 2013.
- Stavrou EX, Fang C, Merkulova A, et al. Contact Activation Murine KOs: Unexpected Findings When Characterizing Mechanisms Related to Thrombosis Protection. Invited Oral Session. 60th ISTH Scientific and Standardization Committee (SSC) annual meeting, June 2014.
- Suster MA, Gurkan UA, Stavrou E, et al. Toward a miniaturized dielectric coagulometer for point-of-care monitoring of blood coagulation disorders. Poster presentation. *Napa Institute Workshop on Enabling Future Health Care: the Role of Micro and Nano Technologies*, Napa, CA, August 2015.
- Suster MA, Maji D, Kucukal E, Stavrou E, et al. Toward a miniaturized dielectric coagulometer for monitoring blood coagulation disorders at the point-of-care. Invited Oral Session. *NIH-IEEE 2015 Strategic Conference on Healthcare Innovations and Point-of-Care Technologies for Precision Medicine*, Bethesda, MD, November 2015.
- Stavrou EX, Fang C, Merkulova A, et al. Leukocyte XII Regulates Venous Thrombosis Risk. Invited Oral Session. 57th ASH Annual Meeting, December 2015.
- Stavrou EX, Fang C, Bane KL, et al. Contact Activation and Inflammation. Invited Oral Session. 62nd ISTH Scientific and Standardization Committee (SSC) annual meeting, May 2016.

Invited Presentations:

- Plenary Speaker. Leukocyte FXII: A Newly Recognized Component In The Inflammatory Process. Department Of Medicine Research Day, May 2013.
- Invited Speaker. Bleeding disorders. American Society of Hematology Review. Cleveland Clinic Foundation, January 2014.
- Invited Speaker. Bleeding disorders. American Society of Hematology Review. Cleveland Clinic Foundation, January 2015.
- Invited Speaker. Novel Factor XII Functions. Department of Pharmacology Seminar. Case Western Reserve University, November 2015.