

Lymphatic Forum 2017: Exploring the Lymphatic Continuum

June 8-10, 2017

Northwestern University, Chicago, IL

Meeting Program

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Lymphatic Education
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Organizers:

Guillermo Oliver, Northwestern University
Jan K. Kitajewski, University of Illinois Chicago
Susan Quaggin, Northwestern University
Stanley Rockson, Stanford University
David Zawieja, Texas A&M University
with Co-Organizer: William Repicci, LE&RN

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Funding for this conference was made possible (in part) by 1R13HL136113-01 from the National Institutes of Health. The views expressed in written conference materials or publications and by speakers and moderators do not necessarily reflect the official policies of the department of health and human services; nor does mention of trade names, commercial practices, or organizations imply endorsement by the U.S. Government.

Lymphatic Forum 2017

Exploring the Lymphatic Continuum

Thorne Auditorium,
Northwestern University
Chicago, IL, USA
June 8 – June 10, 2017

Thursday June 8th

8:50 am - 9:00am	Welcome
9:00 am - 1:00 pm	Endothelial Cells and Lymphangiogenesis (Chair: Guillermo Oliver)
9:00 am - 9:30 am	Brant Weinstein (NICHD/NIH, Bethesda, MD, USA) <i>Novel lymphatic-related cells in the brain</i>
9:30 am - 10:00 am	Stefan Schulte-Merker (Westfälische Wilhelms-Universität, Münster, Germany) <i>Intracellular uptake of macromolecules by brain lymphatic endothelial cells</i>
10:00 am - 10:30 am	Peter Carmeliet (University of Leuven, Belgium) <i>Angiogenesis revisited: role and (therapeutic) implications of endothelial metabolism</i>
10:30 am - 11:00 am	Coffee Break
11:00 am - 11:30 am	Tatiana Petrova (University of Lausanne, Switzerland) <i>Lymphatics and lymph node development</i>
11:30 am - 12:00 am	Taija Makinen (Uppsala University, Sweden) <i>Mechanisms of sprouting lymphangiogenesis</i>
12:00 pm - 12:30 pm	Mark Kahn (University of Pennsylvania, Philadelphia, PA, USA) <i>Mechanisms of postnatal lymphangiogenesis</i>
12:30 pm - 12:45 pm	Short Talk Zoltan Jakus (Semmelweis University, Budapest, Hungary) 001 - <i>Organ Specific Induction of Lymphatic Growth with Nanoparticle-Encapsulated Nucleoside-Modified VEGFC mRNA (VEGFC mRNA-LNP) Complexes In Vivo</i>
12:45 pm - 1:00 pm 12:45 pm	Poster Teaser Presentations Yixin Wang (Karolinska Institutet, Stockholm, Sweden) T16 - <i>Genetic prevention of PDGFB-dependent mural cell recruitment does not alter lymph vessel identity.</i>
12:48 pm	Yael Kenig-Kozlovsky (Northwestern University, Chicago, IL, USA) T09 - <i>Novel "Hybrid" Vessels in the Renal Vasculature and their Role in Proper Renal development and function</i>

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12:51 pm	Hyun Min Jung (NICHD/NIH, Bethesda, MD, USA) <i>T17 - Live imaging of the lymphatic vascular network using transgenic zebrafish</i>
12:54 pm	Xiaolei Liu (Northwestern University, Chicago, IL, USA) <i>T19 - Rasip1 is a novel regulator of lymphatic vasculature formation</i>
12:57 pm	Ajit Muley (Columbia University Medical School, New York, NY, USA) <i>T37 - MMP14 suppresses LEC proliferation downstream of ERK activation in lymphatic valve maturation and homeostasis</i>
1:00 pm - 3:00 pm	Lunch in the Atrium
3:00 pm - 6:00 pm	Lymphatic Physiology and Function (Chair: David Zawieja)
3:00 pm - 3:30 pm	Jens Titze (Vanderbilt University, Nashville, TN, USA) <i>Rethinking osmolyte metabolism in the skin</i>
3:30 pm - 4:00 pm	Gwendalyn Randolph (Washington University in St. Louis, MO, USA) <i>Lymphatics and fat transport</i>
4:00 pm - 4:30 pm	Michael Davis (University of Missouri-Columbia, MO, USA) <i>The initiation, conduction and coordination of lymphatic contractions</i>
4:30 pm - 5:00 pm	Joseph Rutkowski (Texas A&M Health Science Center, College Station, TX, USA) <i>Lymphatic vessel functions in chronic inflammation</i>
5:00 pm - 5:30 pm	Joshua Scallan (University of South Florida, Tampa, FL, USA) <i>Regulation of lymphatic vascular permeability</i>
5:30 pm - 5:45 pm	Short talk Alexandra Magold (University of Chicago, IL, USA) <i>002 - Primary cilia on lymphatic endothelial cells and their roles in flow sensing</i>
5:45 pm - 6:00 pm	Poster Teaser Presentations
5:45 pm	Eleftheria Michalaki (Stanford University, Stanford, CA, USA) <i>T04 - Investigating the effect of spatially varying wall shear stress on lymphatic endothelial cell alignment and transcriptional regulation</i>
5:48 pm	Giorgia Ciliberti (Goethe University Frankfurt, Germany) <i>T36 - The role of polyunsaturated fatty acid - derived epoxides and diols in angiogenesis and lymphangiogenesis</i>
5:51 pm	Veronique Angeli (National University of Singapore) <i>T41 - HDL: a novel modulator of lymphatic transport?</i>
5:54 pm	Jorge Castorena-Gonzalez (University of Missouri-Columbia, MO, USA) <i>T45 - Connexin-45 plays a critical role in the conduction and coordination of spontaneous contractions in collecting lymphatic vessels</i>

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5:57 pm **Antoine Louveau** (University of Virginia, Charlottesville, VA, USA)
T49 - Meningeal lymphatics mediate immune cells/antigen circulation and impact neuroinflammation

6:00 pm **Dinner on your own**

7:30 pm - 9:30 pm **Posters in the Atrium** – light refreshments will be served

Friday June 9th

9:00 am - 1:00 pm **Lymphatics and Disease I (Chair: Jan Kitajewski)**

9:00 am - 9:30 am **Miikka Vikkula** (de Duve institute, Université de Louvain, Belgium)
Characterization of genetic heterogeneity of primary lymphedema

9:30 am - 10:00 am **Sahar Mansour** (St. George's, University of London, United Kingdom)
Generalized lymphatic dysplasias

10:00 am - 10:30 am **Maxim Itkin** (University of Pennsylvania, Philadelphia, PA, USA)
Current status of imaging and interventions in lymphatic flow disorders

10:30 am - 11:00 am **Coffee Break**

11:00 am - 11:30 am **Elizabeth Henske** (Harvard Medical School, Boston, MA, USA)
Autophagy-dependent metabolic dysregulation in the pathogenesis of lymphangioleiomyomatosis

11:30 am - 12:00 pm **Babak Mehrara** (Memorial Sloan-Kettering Cancer Center, New York, USA)
Regulation of lymphatic function in lymphedema

12:00 pm - 12:30 pm **Frank McCormack** (University of Cincinnati, OH, USA)
Lymphatic biomarkers in lymphangioleiomyomatosis

12:30 pm - 12:45 pm **Francine Blei** (Lenox Hill Hospital, New York, NY, USA)
Clinical Presentation – Lymphatic malformations - clinical correlates to basic research

12:45 pm - 1:00 pm **David Chang** (University of Chicago, IL, USA)
Clinical Presentation – Surgical treatment of lymphedema

1:00 pm - 1:20 pm **The NIH and Lymphatic Research**
Cheryl Lapham (NIAID) and Patricia Greenwel (NIDDK) will discuss their institutes' interest in lymphatic research

1:20 pm - 3:00 pm **Lunch in the Atrium**

3:00 pm - 6:00 pm **Lymphatics and Disease II (Chair: Miikka Vikkula)**

3:00 pm - 3:30 pm **Gou Young Koh** (Institute of Basic Science/KAIST, South Korea)
Organ-specific lymphatic remodeling: intestinal lacteal and Schlemm's canal

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4:00 pm - 4:30 pm	Michael Detmar (ETH Zurich, Switzerland) <i>Mechanisms of lymphatic vessel-mediated tumor progression</i>
4:30 pm - 5:00 pm	Clinical cases (patients) <i>Lymphatic Disease: The patients speak for themselves</i>
5:00 pm - 5:30 pm	Stanley Rockson – Clinical Presentation (Stanford University) <i>Lymphatic disease: State of the art and clinical opportunity</i>
5:30 pm - 5:45 pm	Short talk Hong Chen (Boston Children's Hospital, Boston, MA, USA) <i>003 - Suppression of epsin expression limits VEGFR3 degradation and rescues diabetes triggered impairment of lymphangiogenesis</i>
5:45 pm - 6:00 pm 5:45 pm	Poster Teaser Presentations Susana Garcia-Silva (Spanish National Cancer Research Center, Madrid, Spain) <i>F15 - Modulation of the pre-metastatic lymph node niche by melanoma cells through secreted exosomes</i>
5:48 pm	Vincenza Cifarelli (Washington University in St.Louis, USA) <i>F08 - CD36 deletion causes disruption of intestinal lymphatic integrity and fatty liver in mice</i>
5:51 pm	Steven Proulx (ETH Zurich, Switzerland) <i>F44 - Outflow of cerebrospinal fluid is lymphatic-specific and reduced in aged mice</i>
5:54 pm	Peter Baluk (University of California, San Francisco, CA, USA) <i>F22 - Rapamycin induces partial regression of newly formed abnormal lymphatics</i>
5:57 pm	Amy Tian (Stanford University, CA, USA) <i>F16 - Leukotriene B4 Antagonism Ameliorates Experimental Lymphedema</i>
6:00 pm	Dinner on your own
7:30 pm - 9:30 pm	Posters in the Atrium – light refreshments will be served

Saturday June 10th

9:00 am - 1:00 pm	Novel functional roles of the lymphatic vasculature (Chair: Stanley Rockson)
9:00 am - 9:30 am	Kari Alitalo (Wihuri Research Institute / University of Helsinki, Finland) <i>Beyond brain barriers - venting the CNS</i>
9:30 am - 10:00 am	Jonathan Kipnis (University of Virginia, USA) <i>Meningeal lymphatics in neurological diseases</i>
10:00 am - 10:30 am	Martin Schwartz (Yale School of Medicine, USA) <i>Fluid shear stress signaling in lymphatic development</i>

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10:30 am - 11:00 am	Coffee Break
11:00 am - 11:30 am	Kathleen Caron (University of North Carolina, USA) <i>Lymphatic vessels in functionally-specialized vascular beds</i>
11:30 am - 12:00 pm	Helge Wiig (University of Bergen, Norway) <i>Role of the interstitium and lymphatics in salt-sensitive hypertension</i>
12:00 pm - 12:30 pm	Michael Dellinger (University of Texas Southwestern Medical Center, Dallas, TX, USA) <i>Vessels and vanishing bones: development and characterization of a mouse model of Gorham-Stout disease</i>
12:30 pm - 12.45 pm	Short talk Samia Bachmann (ETH Zurich, Switzerland) <i>004 - Organ-specific regulation of lymphatic vessel function by the autonomic nervous system (also Poster F50)</i>
12.45 pm - 1:00 pm 12:45 pm	Nano-Talks Rebecca Izen (National Institutes of Health, Bethesda, MD, USA) <i>Characterization of lymphatic vessel development in the central nervous system (Poster T15)</i>
12:50 pm	Joanne Chan (Hampton University, Hampton, VA, USA) <i>Glycolytic metabolism and VEGFR3 signaling are required for lymphangiogenesis (Poster T14)</i>
12:55 pm	Sawan Kumar Jha (University of Helsinki, Finland) <i>Mechanisms and Regulations of VEGF-C activation (Poster T30)</i>
1:00 pm - 1:10pm	Presentation of Travel and Poster Awards
1:10 pm - 3:00 pm	Lunch in the Atrium
3:00 pm - 6:00 pm	Tissue Engineering, Stem Cells and Epigenetics (Chair: Susan Quaggin)
3:00 pm - 3:30 pm	Carrie Shawber (Columbia University, New York, NY, USA) <i>Lymphatic endothelial progenitors in lymphatic pathologies</i>
3:30 pm - 4:00 pm	Melody Swartz (University of Chicago, IL, USA) <i>Inflammation-induced lymphangiogenesis: A niche for memory T cells</i>
4:00 pm - 4:30 pm	Philip Marsden (University of Toronto, ON, Canada) <i>Epigenetics and the endothelium: The role of physical fluid forces</i>
4:30 pm - 5:00 pm	Shahin Raffi (Cornell University, New York, NY, USA) <i>Sox and Ets factors balance angiocrine function of the endothelium</i>
5:00 pm - 5:30 pm	Ying Zheng (University of Washington, Seattle, WA, USA) <i>Engineering organ-specific vascular niches</i>

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5:30 pm - 5:45 pm

Short talk

Matthew Menendez (Oklahoma Medical Research Foundation, Oklahoma City, OK, USA)
005 - Emerging roles of the chromatin-remodeling SWI/SNF ATPase BRG1 in omental lymphatic development (also Poster F49)

5:45 pm - 6:00 pm

5:45pm

Nano-Talks

Somin Lee (Seoul National University, Seoul, Republic of Korea)
3D In vitro microfluidic model to reconstitute sprouting lymphangiogenesis (Poster F47)

5:50pm

Ebba Brakenhielm (Inserm U1096, Rouen University, Rouen, France)
Therapeutic stimulation of cardiac lymphangiogenesis –protein vs. gene therapy approaches post-MI (Poster F06)

5:55pm

Witold Kilarski (University of Chicago, IL, USA)
Local induction of lymphangiogenesis with engineered fibrin-binding VEGF-C promotes wound healing by increasing immune cell trafficking and matrix remodeling (Poster T22)

7:00 pm

Farewell Dinner in the Atrium