**Day 1 | Thursday, November 19, 2015**

<table>
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<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>8:00</td>
<td>Registration Open, Metropolitan East/West at The Liaison Hotel</td>
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<tr>
<td>8:30</td>
<td>Welcome – Amy Akers, Angioma Alliance</td>
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**SESSION I | PATHOBIOLOGY OF CCM PART 1 – LESION GENESIS & VASCULAR BIOLOGY**

Moderator – Doug Marchuk, Duke University

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<tr>
<th>Time</th>
<th>Title</th>
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<tr>
<td>8:45</td>
<td>micro-CT Imaging of Cerebral Cavernous Malformations (CCM) in Mouse Models</td>
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<td>Xiangjian Zheng, Sydney Medical School, University of Sydney</td>
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<td>9:05</td>
<td>Nogo-B receptor deficiency causes cerebral cavernous malformations-like defects during blood vessel development in mice</td>
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<td>Robert Miao, Children's Research Institute, Medical College of Wisconsin</td>
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<td>9:25</td>
<td>Toward a unifying pathogenic mechanism for CCM disease: Identification of defective autophagy as a key feature of CCM disease pathogenesis</td>
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<td>Eliana Trapani, University of Torino</td>
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<td>9:45</td>
<td>COFFEE BREAK</td>
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<td>10:00</td>
<td>Regulation of B1 integrin-Klf2-mediated angiogenesis by CCM proteins</td>
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<td>Cecile Otten, University of Potsdam</td>
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<td>10:20</td>
<td>KLF4 is a key determinant of development and progression of Cerebral Cavernous Malformations</td>
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<td>Noemi Rudini, FIRC Institute of Molecular Biology</td>
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<td>10:40</td>
<td>CCM1/2 complex controls endothelial integrity by regulating the balance between ROCK1 and ROCK2 activities</td>
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<td>Eva Faurobert, INSERM U823, Grenoble</td>
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<tr>
<td>11:00</td>
<td>Discussion</td>
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<td>11:45</td>
<td>LUNCH, The Hill at The Liaison Hotel</td>
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<td>INVITED TALK – Orphan Drug Regulatory Process in the US</td>
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<td>Timothy Coté, Coté Orphan LLC LLC</td>
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**SESSION II | DRUG DEVELOPMENT & CLINICAL TRIALS: PLANNING, PROGRESS AND UPDATES**

Moderator – Elisabeth Tournier-Lasserve, INSERM Paris

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<th>Time</th>
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<tbody>
<tr>
<td>1:20</td>
<td>Development of BA-1049 for treatment of recurrent bleeding in CCM</td>
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<td>Lisa McKerracher, BioAxone BioSciences Inc</td>
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<td>1:40</td>
<td>Propanalol treatment of cavernous malformations with symptomatic hemorrhage</td>
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<td>M. Yashar Kalani, Barrow Neurological Institute</td>
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<td>2:00</td>
<td>Randomized simvastatin trial in CCM1-CHM</td>
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<td>Leslie Morrison &amp; Blaine Hart, University of New Mexico</td>
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<td>2:20</td>
<td>Atorvastatin Therapy in Cerebral Cavernous Malformation (AT-CCM): A Proof of Concept Phase I/II Trial</td>
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<td>Maged D. Fam, University of Chicago</td>
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<td>2:40</td>
<td>Vitamin D3 and Tempol for CCM - an Update</td>
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<td>Christopher Gibson, Recursion Pharmaceuticals</td>
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<td>3:00</td>
<td>Discussion</td>
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<td>3:20</td>
<td>COFFEE BREAK</td>
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3:30 **INVITED TALK** – *Fasudil as a Novel Therapeutic for Parkinson’s Disease*
Jeff MacKeigan, Van Andel Research Institute

4:15 **END OF DAY 1 REGULAR SESSIONS**

**POSTER SESSION & WELCOME DINNER | JOHNNY’S HALF SHELL RESTAURANT**

**JOHNNY’S HALF SHELL – 400 NORTH CAPITOL STREET, NW, WASHINGTON, DC**

5:30 *Endothelial cells derived from induced-pluripotent stem (iPS) cells as a model for CCM*
Adriana Beltran, University of North Carolina at Chapel Hill

*Development of ROCKII selective BA-1049 for treatment of cerebral cavernous malformations*
Lisa Bond & Thomas Carsillo, BioAxone Biosciences

*Origin of the Common Hispanic Q455X/KRIT1 Founder Mutation Causing Cerebral Cavernous Malformation Type 1*
Hélène Choquet, University of California San Francisco

*Familial Cerebral Cavernous Angiomas: molecular diagnostic improvement through MLPA*
Maria Sole Cigoli, Niguarda Ca’ Granda Hospital

*Targeting Vascular Malformations Using the Zebrafish as a Discovery Model*
Joanne Chan, Hampton University

*The C. elegans CCM-3 regulatory network*
Benjamin Lant, The Hospital for Sick Children

*Inhibition of Rho-kinase in CCM3+/- mice suggests involvement of CCM3 in the Rho-kinase pathway during disease progression*
Autumn Rorrer, Duke University Medical Center

*A cerebral Cavernous Malformation Phenotyping and Human Tissue Research Core Unit*
Robert Shenkar, University of Chicago

*Endothelial cell genetic disruptions and CCM pathology*
Taline Shishoian, University of California Los Angeles

*Vascular Permeability and Quantitative Susceptibility Magnetic Resonance Imaging as Biomarkers of Clinical Activity in Longitudinal Follow-up of CCM Patients*
Hussein Zeineddine, University of Chicago

6:30 **DINNER, Johnny’s Half Shell Restaurant**

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Day 2 | Friday, November 20, 2015

8:00  
Angioma Alliance Updates - Connie Lee, Angioma Alliance

SESSION III | PATHOBIOLOGY OF CCM PART 2 – SIGNALING

Moderated by Anne-Claude Gingras, Lunenfeld-Tanenbaum Research Institute

8:15  
Recent Structural Studies on CCM Proteins
Titus Boggon, Yale University School of Medicine

8:35  
Heart of Glass is a Physical Nexus for Rap1 Signaling in Cardiovascular Function
Bart-Jan de Kreuk, University of California San Diego

8:55  
ICAP1/KRIT1 Signaling Regulation Through Cellular Localization
Kyle Draheim, Yale University

9:15  
Discussion

9:30  
COFFEE BREAK

SESSION IV | CLINICAL STUDIES

Moderated by Leslie Morrison, University of New Mexico

9:40  
Automated Small Lesion Counting Algorithm for Cerebral Cavernous Malformation
Xiaowei Zou, University of California San Francisco

10:00  
Spinal cord cavernous malformations in a CCM1 population
Mary Bartlett & Blaine Hart, University of New Mexico

10:20  
Seasonal Variation in ICH/FND in Patients with Intracerebral cavernous malformation
Kelly Flemming, Mayo Clinic

10:40  
Peripheral Plasma Vitamin D and Non-HDL Cholesterol Reflect the Severity of Cerebral Cavernous Malformation Disease
Romuald Girard, University of Chicago

11:00  
Discussion

11:20  
LUNCH & TRAINEE NETWORKING SESSION, The Hill at The Liaison Hotel

12:45  
INVITED TALK – From CCM proteins to preclinical and clinical trials
Elisabeth Tournier-Lasserve, INSERM Paris

SESSION V | DISCUSSION PANEL

How Animal Models and Cell-Specific Data are Informing Therapeutic Approaches

Moderator – Issam Awad, MD

1:30  
Mark Kahn – Introduction and Overview

1:40  
Kevin Whitehead – Role of endothelial cells

1:50  
Angeliki Louvi – Role of neural cells

2:00  
Joanne Chan – Role of pericytes

2:10  
Brent Derry – Role of nonautonomous signaling

2:20  
Open Discussion

3:00  
END OF 2015 CCM SCIENTIFIC MEETING