



PROGRAM OVERVIEW

Saturday, May 30, 2015

3:30 – 4:00 pm	Introductory remarks
4:00 – 5:00 pm	Ebashi Lecture: David MacLennan, University of Toronto
5:00 – 6:30 pm	Poster Flash
6:30 – 8:00 pm	Dinner (dinner served 6:30 – 6:50 pm, attendees may stay in cafeteria until 8:00 pm)

Sunday, May 31, 2015

7:30 – 7:50 am	Breakfast served (attendees may stay in cafeteria until 9:00 am)
9:00 – 10:40 am	Session 1 – Calmodulin
10:40 – 11:00 am	Break
11:00 – 12:40 pm	Session 2 – Breakthrough CryoEM structures of RyRs
12:50 – 2:30 pm	Lunch (lunch served 12:50 – 1:10 pm, lunch break lasts until 2:30 pm)
2:30 – 4:10 pm	Session 3 – Imaging/Detecting Ca Signals
4:10 – 4:30 pm	Break
4:30 – 6:30 pm	Poster Session #1
6:30 – 8:00 pm	Dinner

Monday June 1, 2015

7:30 – 7:50 am	Breakfast served (attendees may stay in cafeteria until 9:00 am)
9:00 – 10:40 am	Session 4 – Interesting CaBP structures: Ca ²⁺ -gated membrane proteins
10:40 – 11:00 am	Break
11:00 – 12:40 pm	Session 5 – Membrane associated CaBPs
12:50 – 2:30 pm	Lunch (lunch served 12:50 – 1:10 pm, lunch break lasts until 2:30 pm)
2:30 – 4:10 pm	Session 6 – S100 proteins
4:10 – 4:30 pm	Break
4:30 – 6:30 pm	Poster Session #2
6:30 – 8:00 pm	Dinner (dinner served 6:30 – 6:50 pm, attendees may stay in cafeteria until 8:00 pm)

Tuesday, June 2, 2015

7:30 – 7:50 am	Breakfast served (attendees may stay in cafeteria until 9:00 am)
9:00 – 10:40 am	Session 7 – CaBP reengineering and design
10:40 – 11:00 am	Break
11:00 – 12:40 pm	Session 8 – Store-operated calcium entry (SOCE): players and mechanisms
12:50 – 2:30 pm	Lunch (lunch served 12:50 – 1:10 pm, lunch break lasts until 2:30 pm)
2:30 – 4:10 pm	Session 9 – Immune Response
4:10 – 4:30 pm	Break
4:30 – 5:30 pm	Closing Plenary Lecture: Richard Tsien, New York University
5:30 – 7:00 pm	Free Time
7:00 – 10:00 pm	Banquet (Dinner is only provided for those attending the banquet.)

Wednesday, June 3, 2015

7:30 – 7:50 am	Breakfast served (attendees may stay in cafeteria until 8:45 am)
8:45 – 10:25 am	Session 10 – Calcineurin
10:25 – 10:45 am	Break
10:45 – 12:25 pm	Session 11 – Neurological Diseases
12:25 – 12:45 pm	Awards and Closing Remarks
12:45 pm	Box lunches available for takeaway



MEETING INFORMATION

All sessions, meals and poster sessions will take place on the Vanderbilt University campus. Limited parking is available in the Terrace Garage. A campus map and driving directions are available on page 9 of this program, and a list of taxi services are listed on page 10. Accommodations are in the Moore House on the Kissam Quad. Sessions and breaks will take place in Featheringill Hall. Poster sessions and meals are in Rand Hall/Sarratt Student Center. Dinner on Sunday night will be served in the Kissam Center on the Kissam Quad. The banquet will be held in the Student Life Center.

MEALS

Please note that breakfast, lunch and dinner served in Rand Hall must commence within 20 minutes of the designated start time. Diners may stay in the facility as long as they like once the meal has been served.

POSTER FLASH DETAILS

On the first night of the symposium, we will hold a special event called a “poster flash” session. At this session, each poster presenter will have 1 minute to present 1 simple slide, with the goal of attracting everyone to view your poster, meet you and discuss your work. Since there are so many posters, it is important that we run the session efficiently. Hence, it is imperative that you send your slide ahead of time so we have them all loaded on the computer and can keep the progress at a rapid fire pace.

Please send you slide to CaBP19@structbio.vanderbilt.edu. Be sure to label it as **posternumber_familyname** so we can readily place them in order. Your poster number can be found in the Abstract Book on the CaBP19 website: Some people have mentioned issues sending emails to the CaBP19 email address, so slides may be sent directly to Karen Davis at karen.d.davis@vanderbilt.edu.

SATURDAY • MAY 30, 2015

Introductory Remarks	3:30 – 4:00 pm	Featheringill Hall Auditorium Walter Chazin, Vanderbilt University; Nashville, Tennessee, USA
Ebashi Lecture	4:00 – 5:00 pm	Ernesto Carafoli, Session Chair David MacLennan, University of Toronto; Toronto, Ontario, Canada <i>Sarcoplasmic Reticulum Calcium Binding Proteins in Health and Disease</i>
Poster Flash	5:00 – 6:30 pm	
Dinner	6:30 – 8:00 pm	Rand Hall / Sarratt Student Center



SUNDAY • MAY 31, 2015

Breakfast 7:30 – 8:30 am Rand Hall / Sarratt Student Center

Session 1 9:00 – 10:40 am Featheringill Hall Auditorium

Calmodulin – Madeline Shea, Session Chair

John Putkey, Ph.D.; UT Health Medical School; Houston, Texas, USA

The Molecular Mechanism of Intrinsically Disordered Regulators of CaM Signaling

Madeline Shea, Ph.D.; University of Iowa; Iowa City, Iowa, USA

One CaM to Bind Them: Calmodulin Discriminates Among Nine Human Voltage-Gated Sodium Channels

Manu Ben Johny; Johns Hopkins University; Baltimore, Maryland, USA

Conservation of CaM Regulation Across Voltage-Gated Calcium and Sodium Channels

Christopher N. Johnson; Vanderbilt University; Nashville, Tennessee, USA

Ca²⁺ Regulation of the Human Cardiac Sodium Channel Nav1.5: Calmodulin Interacting with the Fast Inactivation Gate and Effects of Disease Associated Mutations

Yuequan Shen; Nankai University; Tianjin, China

Calcium Signaling Dynamically Control Chaperone System in Mitochondria to Regulate Leaf Senescence

Break 10:40 – 11:00 am

Session 2 11:00 – 12:40 pm Featheringill Hall Auditorium

Breakthrough Cryo EM structures of RyRs – Poul Nissen and Wayne Chen, Session Chairs

Poul Nissen, Ph.D.; Aarhus University; Aarhus C, Denmark

Wayne Chen, Ph.D.; University of Calgary; Calgary, Alberta, Canada

Nieng Yan, Ph.D.; Tsinghua University; Beijing, China

Structural basis for the long range allosteric regulation and high ion conductance of the ryanodine receptor RyR1

Oliver Clarke, Ph.D.; Columbia University; New York, New York, USA

Structural insights into ryanodine receptor gating

Rouslan Efremov, Ph.D.; VIB Structural Biology Research Center; Brussels, Belgium

Structure and dynamics of ryanodine receptor

Round Table Discussion

Lunch 12:50 – 2:30 pm Rand Hall / Sarratt Student Center

Session 3 2:30 – 4:10 pm Featheringill Hall Auditorium

Imaging/Detecting Ca Signals – Katsuhiko Mikoshiba, Session Chair

Jonathan Lederer, Ph.D.; University of Maryland; Baltimore, Maryland, USA

Mechano-chemo transduction: X-ros-dependent Ca²⁺ signaling in heart

Ian Parker, Ph.D.; University of California Irvine; Irvine, California, USA

Imaging and localizing IP₃-evoked calcium signals and IP₃ receptors at the single-channel level

Takeharu Nagai, Ph.D.; Osaka University; Osaka, Japan

Genetically-encoded tools to optically control and image calcium dynamics

Erica Shannon; Vanderbilt University; Nashville, Tennessee, USA

Calcium Dynamics as a Potential Readout of Mechanotransduction at Epithelial Wounds

Shigenori Inagaki; Osaka University; Osaka, Japan

Genetically-encoded Chemiluminescent Indicator Applicable in Milli-second Voltage Phenomena

Break 4:10 – 4:30 pm

Poster Session #1 4:30 – 6:30 pm Sarratt Student Center, Room 220

Dinner 6:30 – 8:00 pm Kissam Center on the Kissam Quad



MONDAY • JUNE 1, 2015

Breakfast	7:30 – 8:30 am	Rand Hall / Sarratt Student Center
Session 4	9:00 – 10:40 am	Featheringill Hall Auditorium
Interesting CaBP structures: Ca²⁺-gated membrane proteins – Joachim Krebs, Session Chair		
	Youxing Jiang, Ph.D.; UT Southwestern; Dallas, Texas, USA <i>Structural study of a plant RCK-regulated nuclear membrane channel</i>	
	Raimund Dutzler, Ph.D.; University of Zurich; Zurich, Switzerland <i>Structure and function of Ca²⁺ activated TMEM16 channels and scramblases</i>	
	Stephen Long, Ph.D.; Memorial Sloan Kettering Cancer Center; New York, New York, USA <i>Structure and insights into the function of the bestrophin calcium-activated chloride channel</i>	
	Alexander Dizhoor; Salus University; Elkins Park, Pennsylvania, USA <i>Targeting Photopreceptor Membrane Guanylyl Cyclase (RetGC) by Calcium-sensor Proteins: Role of Protein Domains and the Effects of Mutations Linked to Congenital Blindness</i>	
	Anand Sharma; Centre for Cellular & Molecular Biology; Hyderabad, India <i>Identification of SCGN as a Cytosolic Insulin Binding Protein</i>	
Break	10:40 – 11:00 am	
Session 5	11:00 – 12:40 pm	Featheringill Hall Auditorium
Membrane associated CaBPs – Volker Gerke, Session Chair		
	Stephen Moss, Ph.D.; University College London; London, England <i>Integrated functions for annexins in the mammalian retina</i>	
	James B. Ames, Ph.D.; University of California Davis; Davis, California, USA <i>Calmodulin Capping of PSD-95 Triggers its Postsynaptic Release</i>	
	Edwin R. Chapman, Ph.D.; University of Wisconsin - Madison; Madison Wisconsin, USA <i>Engineering Ca²⁺-sensors for exocytosis</i>	
	Katarzyna Zoltowska; Harvard Medical School/Massachusetts General Hospital; Charlestown, Massachusetts, USA <i>Synaptotagmin 1 in Alzheimer's Disease - Guard or Partner in Crime?</i>	
	Haifeng Zheng; University of Nevada Reno; Reno, Nevada, USA <i>Na⁺/Ca²⁺ Exchange Contributes to the Regulation of the Pacemaker Activity of Interstitial Cells</i>	
Lunch	12:50 – 2:30 pm	Rand Hall / Sarratt Student Center
Session 6	2:30 – 4:10 pm	Featheringill Hall Auditorium
S100 proteins – David J. Weber, Session Chair		
	David J. Weber, Ph.D.; University of Maryland; Baltimore, Maryland, USA <i>Structure, function, and inhibition of S100B in malignant melanoma</i>	
	Mariam Grigorian, M.D., Ph.D.; University of Copenhagen; Copenhagen, Denmark <i>Metastasis-inducing S100A4 in the pro-inflammatory pathways of Non-Communicable Diseases</i>	
	Julia Ritterhoff, Ph.D.; University of Heidelberg; Heidelberg, Germany <i>S100A1 in cardiovascular health and disease: From molecule to therapy</i>	
	Ulrike Stein; Charite - Universitätsmedizin Berlin; Berlin, Germany <i>S100A4: Key Player in Cancer Metastasis and Signaling-based Interventions for Metastasis Restriction</i>	
	Marie-Luce Bochaton-Piallat; University of Geneva; Geneva, Switzerland <i>S100A4 Promotes Smooth Muscle Cell Phenotypic Transition. Implications in Atherosclerosis</i>	
Break	4:10 – 4:30 pm	
Poster Session #2	4:30 – 6:30 pm	Sarratt Student Center, Room 220
Dinner	6:30 – 8:00 pm	Rand Hall / Sarratt Student Center



TUESDAY • JUNE 2, 2015

Breakfast 7:30 – 8:30 am Rand Hall / Sarratt Student Center

Session 7 9:00 – 10:40 am Featheringill Hall Auditorium

CaBP reengineering and design – Robert Kretsinger, Session Chair

Jenny Yang, Ph.D.; Georgia State University; Atlanta, Georgia, USA

Design calcium binding proteins for molecular imaging

Gary S. Shaw, Ph.D.; University of Western Ontario; London, Ontario, Canada

Come Together: Designing S100 Proteins to Identify New Biological Complexes

Yogendra Sharma, Ph.D.; Centre for Cellular & Molecular Biology; Hyderabad, India

Ca²⁺-binding beta gamma-crystallins: An affair that didn't last

Masayuki Nara; Tokyo Medical and Dental University; Tokyo, Japan

Infrared Studies on the Ca²⁺-Bound Coordination Structure of Synthetic Peptide Analogues of the Ca²⁺-Bound Site

Belinda Pastrana-Rios; University of Puerto Rico; Rincon, Puerto Rico

Novel Centrin-PRP40 Complex: Its Molecular Biophysical Characterization and Crystal Screens

Break 10:40 – 11:00 am

Session 8 11:00 – 12:40 pm Featheringill Hall Auditorium

Store-operated calcium entry (SOCE): players and mechanisms – Mitsu Ikura, Session Chair

Patrick Hogan, Ph.D.; La Jolla Institute for Allergy & Immunology; La Jolla, California, USA

The mechanics of STIM-ORAI communication

Stefan Feske, Ph.D.; New York University; New York, New York, USA

STIM1-mediated Ca²⁺ influx controls immune regulation and inflammation in chronic infection

Natalia Prevarskaya, Ph.D.; Lille University of Science and Technology; Lille, France

Calcium and calcium channels in initiation and progression of prostate cancer

Alexey Shalygin; Institute of Cytology, Russian Academy of Sciences; St. Petersburg, Russia

Endogenous Store-operated Calcium Channels Regulated by STIM2 Proteins in HEK293 Cells

Bernard T. Drumm; University of Nevada Reno; Reno, Nevada, USA

The Role of Ca²⁺ Influx in Spontaneous Ca²⁺ Wave Propagation in Interstitial Cells of Cajal from the Rabbit Urethra

Lunch 12:50 – 2:30 pm Rand Hall / Sarratt Student Center

Session 9 2:30 – 4:10 pm Featheringill Hall Auditorium

Immune Response – Michael Lenardo, Session Chair

Michael Lenardo, M.D.; National Institute of Allergy and Infectious Diseases; Bethesda, Maryland, USA

Mg²⁺ as a second messenger revealed by a human immunodeficiency

Anjana Rao, Ph.D.; La Jolla Institute for Allergy & Immunology; La Jolla, California, USA

Opposing transcriptional programs driven by calcium, calcineurin and NFAT in T cells

Eric Skaar, Ph.D.; Vanderbilt University; Nashville, Tennessee, USA

The battle for metal between bacterial pathogens and their hosts

Veronique Schenten; University of Luxembourg; Luxembourg

Regulation of the Neutrophil NADPH Oxidase and Release of S100A8/A9

Anne Bresnick; Albert Einstein College of Medicine; New York, New York, USA

Regulation of Macrophage Motility and Invasion by S100A4

Break 4:10 – 4:30 pm

Closing Plenary Lecture 4:30 – 5:30 pm Ernesto Carafoli, Session Chair

Richard S. Tsien, Ph.D.; New York University; New York, New York, USA

Multiple roles of calmodulin in tuning cellular function and learning and memory

Free Time 5:30 – 7:00 pm

Banquet 7:00 – 10:00 pm Student Life Center, Ballroom A



WEDNESDAY • JUNE 3, 2015

Breakfast 7:30 – 8:30 am Rand Hall / Sarratt Student Center

Session 10 8:45 – 10:25 am Featheringill Hall Auditorium

Calcineurin – Claude Klee, Session Chair

Mark Dell'Acqua, Ph.D.; University of Colorado School of Medicine; Aurora, Colorado, USA

Calcineurin regulation of neuronal calcium channel activity and signaling to the nucleus

Trevor Creamer, Ph.D.; University of Kentucky College of Medicine; Lexington, KY, USA

Disorder in calcineurin activation

Gabriela Caraveo-Piso, Ph.D.; MIT; Cambridge, Massachusetts, USA

FKBP12 determines calcineurin substrate selection: implications to synucleinopathies

Cecilia Andresen; Linkoping University; Linkoping, Sweden

Characterization of Structure, Dynamics and Calcium Binding of Plasmodium falciparum CDPK3

Yuya Fujiwara; Okayama University; Okayama City, Japan

Analysis of Distinct Roles of CaMKK Isoforms Using STO-609-Resistant Mutants in Living Cells

Break 10:25 – 10:45 am

Session 11 10:45 – 12:25 pm Featheringill Hall Auditorium

Neurological Diseases – Jacek Kuznicki, Session Chair

Grace E. Stutzman, Ph.D.; Rosalind Franklin University; North Chicago, Illinois, USA

Upregulated Ryanodine Receptor Activity Underlies Alzheimer's Disease Pathology from Molecular to Network Levels

Victoria Bolotina, Ph.D.; Boston University; Boston, Massachusetts, USA

Novel Calcium Signaling Root of Parkinson's Disease

Jacek Kuznicki, Ph.D.; International Institute of Molecular and Cell Biology; Warsaw, Poland

In search for models of sporadic Alzheimer's disease

Kazunori Kanemaru; University of Tokyo; Tokyo, Japan

New Calcium Imaging Methods for the Visualization of Local Activities of Astrocytes in vivo

Maria Ryazantseva; Institute of Cytology, Russian Academy of Sciences; St. Petersburg, Russia

Familial Alzheimer's Disease Mutation in Presenilin-1 Gene Leads to an Abnormal Store-operated Calcium Channels Activity Involved in the Memory Loss

Awards 12:25 – 12:45 am

Lunch 12:45 pm (Box lunches will be available for take away.)