

5th
COLORADO
ALPHAHERPESVIRUS
LATENCY SYMPOSIUM

Vail, Colorado

May 13-16, 2015



To convene researchers active in alphaherpesvirus latency
To discuss current advances in a relaxed venue

Welcome, Willkommen, *ברכה*, Welkom, *வரவேற்பு*, स्वागत, 歡迎, Bienvenue, Fàilte

Dear Colleagues,

It is with great pleasure that I welcome you to the 5th symposium of the Colorado Alphaherpesvirus Latency Society. Each year since 2011, we have assembled to discuss current advances in alphaherpesvirus latency in the relaxed setting of this quiet mountain community. The Christiania Lodge is again graciously providing our accommodations. CALS' success is a tribute to the continued collaboration of individuals from around the world with the common goal of eradicating disease produced by alphaherpesvirus reactivation through understanding the molecular mechanisms underlying establishment, maintenance and reactivation from latency.

This year 63 investigators, who have authored over 2945 PubMed listed publications have traveled 118,225 miles to attend the 2- day symposium consisting of 29 oral presentations by established investigators who will discuss advances in HSV-1, HSV-2, VZV, BHV, SVV and Herpes B virus latency research. We are pleased to have George Smith from Temple University give our plenary talk describing neurotrophin mediated regeneration of sensory afferents after dorsal root rhizotomy. His presentation continues our theme of inviting speakers outside virology to help us see latency in a different light.

Based on last year's success, we have expanded our poster session viewing opportunities. Posters will be up throughout the meeting and graduate students will also present their work. Please take time to encourage this next generation of alphaherpesvirologists. We will again have each poster summarized by the author in a 3-minute oral presentation.

Back by popular demand is our Friday night fireside open forum. This optional event will discuss topics submitted during the meeting that have not been addressed in formal presentations. As you can see, CALS is a joint venture – its continued success is very much dependent upon your active contribution.

Funding for this conference was made possible [in part] by an NIH R13 from the National Institute on Aging based on the unique attributes of our Society as well as our overall goal of mentoring postdoctoral fellows. I also wish to recognize and thank financial supporters who help keep our symposium affordable: Biomedical Solutions, Inc., Cellular Dynamics International, Fisher Scientific, Genewiz, Inc., Intergrated DNA Technology, Light Labs, Miltenyi Biotech, Inc., PerkinElmer, Phoenix Biosystems, Rocky Mountain SIMS and Tivoli Distributing Company; private donations have also been provided by The VZV Foundation and a personal contribution from Don Gilden.

Finally, this is our silver anniversary. The past 5 years have shown the beauty that arises when diverse individuals unite to advance a single goal. We each see latency differently, but when we share our views, we all understand latency better. CALS is a fluid organization, ever changing for the better, and all the result of open discussion, cordial collaborations and continued enthusiasm.

Enjoy CALS 2015
Randy

Colorado Alphaherpesvirus Latency Symposium

May 13-16, 2015

Christiana Lodge
Vail, Colorado

Wednesday, May 13

7:00 pm dinner – Bully Ranch

Thursday, May 14

7:15 – 8:00 am breakfast & poster set up - Christiana Lodge

8:00 – 8:10 am Welcome, Randy Cohrs

8:10 – 9:50 am Session I: Clinical

9:50 – 10:10 am break

10:10 – 12:10 pm Session II: Preventatives, diagnostics and treatments

12:10 – 2:00 pm lunch / free time

2:00 – 4:00 pm Session III: Immune response

4:00 – 4:15 break

4:15 – 5:15 pm Plenary talk; George Smith

5:15 – 6:45 pm refreshments & music (Tamara Goldstein & Don Gilden)

6:45 group photo

7:00 pm dinner – Terra Bistro

Friday, May 15

7:15 – 8:00 am breakfast – Christiana Lodge

8:00 – 10:00 am Session IV: Signaling mechanisms

10:00 – 10:20 am break

10:20 – 12:00 pm Session V: Model systems

12:00 – 2:00 pm lunch / business meeting

2:00 – 5:00 pm Session VI: Poster presentations

2:00 – 2:30 pm Oral overview

2:30 – 5:00 pm Poster viewing

5:00 free time

7:00 pm dinner – La Tour

Following dinner round table discussion (optional) – Christiana Lodge

Saturday, May 16

7:30 breakfast – Christiana Lodge

Thursday morning, May 14

7:15 breakfast & poster setup - Christiana Lodge

8:00 Welcome, Randy Cohrs

Session I: Clinical. Moderator: Peter Kennedy

8:10 Charles Grose
Reactivation of VZV infection in a human brain without evidence for arterial involvement

8:30 Jeffrey Cohen
Severe zoster: More than bad luck?

8:50 Moriah Szpara, The Pennsylvania State University
Genome-wide surveillance of HSV-1 from natural virus shedding

9:10 Vishwajit Nimgaonkar
Persistent, non-encephalitic HSV-1 infection as a risk factor for cognitive impairment in the community

9:30 Maria Nagel
Burning mouth syndrome due to HSV-1

9:50 coffee break

Session II: Preventatives, diagnostics and treatments. Moderator: Charles Grose

10:10 Pamela Roehm
Use of an RNA-guided DNA editing system to modify the HSV-1 genome

10:30 Keith Jerome
Inactivation of latent HSV-1 by homing endonuclease-directed mutagenesis in primary neurons

10:50 Dan Carr
Neovascularization of the mouse cornea associated with latent virus infection is blocked by a single bolus of treatment of dexamethasone at the time of virus clearance

11:10 Nancy Sawtell
Acute and long term outcomes of simulated deep space radiation exposure on latent viral CNS infection and CNS pathology

11:30 William Halford
Antibodies are necessary for complete vaccine-induced protection against HSV-2

11:50 Thomas Heineman
Novel adjuvanted herpes zoster subunit vaccine

12:10 lunch / free time

Thursday afternoon, May 14

Session III: Immune response. Moderator: Judith Breuer

- 2:00 Edouard Cantin
A role for inflammation in HSV-1 reactivation
- 2:20 Patrick Stuart
Role of CD28 in establishment of latency
- 2:40 Michael Gershon
T cells and Neurons: The odd couple of VZV
- 3:00 David Koelle
A genome-wide look at the T-cell response to live attenuated VZV vaccine
- 3:20 Homayon Ghiasi
CD8+ T cells play a bystander role in HSV-1 latently infected mice
- 3:40 Angus Wilson
Establishment of an interferon-resistant state precedes the onset of HSV-1 productive replication during reactivation from latency
- 4:00 brief break
- 4:15 **Plenary Talk. George Smith with introduction by Don Gilden**
Neurotrophin mediated regeneration of sensory afferents after dorsal root rhizotomy
- 5:15 refreshments & music (Tamara Goldstein and Don Gilden)
- 6:45 group photograph
- 7:00 dinner – Terra Bistro

Friday morning, May 15

7:15 breakfast - Christiana Lodge

Session IV: Signaling mechanisms. Moderator: Angus Wilson

- 8:00 Susanne Himmelein, Ludwig Maximilians University
Latent HSV-1 does not induce apoptosis in human trigeminal ganglia
- 8:20 Patrick Lomonte, CNRS
Defects in the onset of the lytic cycle and absence of functional ICP0 are prerequisites for the formation of the HSV-1 latency-associated viral DNA-containing PML-NBS
- 8:40 Victor Hsia, University of Maryland Eastern Shore
Effects of thyroid hormone on alphaherpesviruses during latency and reactivation
- 9:00 Clinton Jones, University of Nebraska
The BHV-1 genome contains multiple glucocorticoid response elements: two located in the immediate early transcription unit 1 promoter are important for trans-activation by the glucocorticoid receptor
- 9:20 Donna Neumann, LSUHSC New Orleans
The protein CTCF nucleates the formation of chromatin loops during HSV-1 latency
- 9:40 Deepak Shukla, University of Illinois at Chicago
HSV entry receptors are differentially expressed and can be potentially used for identifying latently infected neurons
- 10:00 coffee break

Session V: Model systems. Moderator: Klaus Osterrieder

- 10:20 Vaibhav Tiwari, Midwestern University
HSV and VZV reactivated saliva samples express high levels of heparin sulfate
- 10:40 Ron Goldstein, Bar-Ilan University
Productive, spreading experimental reactivation of quiescent varicella zoster virus in human embryonic stem cell-derived neurons
- 11:00 Paul Kinchington, University of Pittsburgh
An update on the VZV induced pain model in the rat
- 11:20 Ilhem Messaoudi, University California Riverside
Acute SVV infection results in robust and sustained gene expression changes in the ganglia
- 11:40 Richard Thompson, University of Cincinnati College of Medicine
Long term periodic reactivation stress results in recurrent and progressive eye disease in mice
- 12:00 lunch / business meeting – Christiana Lodge

Friday afternoon, May 15

Session VI: Poster presentations. Moderators: Andrea Bertke and David Davido

2:00 Oral overviews

- Poster 1 Leonardo D'Aiuto, University of Pittsburgh
Amaryllidacea alkaloid analogs discloses potent effects against herpesvirus infections
- Poster 2 Daniel Depledge, University College London
Molecular analysis of virus and host factors involved in VZV latency and reactivation in human ganglia
- Poster 3 Adit Dhummakupt, University of Florida
ChIP-seq analysis of H3K27me3 and SUZ12 on latent genomes of HSV-1 wild-type and LAT promoter deletion viruses
- Poster 4 Esteban Engel, Princeton University
Dissecting the molecular mechanisms of HSV-1 anterograde spread in neurons
- Poster 5 Chandra Kroll, University of Oklahoma HSC
Consequences of HSV-1 infection and latency vary depending on the type of tissue infected within the nervous system
- Poster 6 Marielle Lebrun, University of Liege
VZV assemblons interplay with PML bodies
- Poster 7 Julia LeCher, Georgia State University
Modeling neuropathogenesis of B virus infection in macaque ganglia
- Poster 8 Werner Ouwendijk, Erasmus MC
Analysis of the immune response in ganglia after primary SVV infection
- Poster 9 Aldo Pourchet, New York University
Models for HSV-1 Latency Using Human Stem Cell-Derived Neurons

2:30 Poster viewing

5:00 free time

7:00 dinner – La Tour

After dinner, round table discussion (optional)

Saturday morning, May 16

7:30 – 9:00 breakfast - Christiana Lodge

Departure

Discussants

Martine Aubert, Fred Hutchinson cancer research center
Nicholas Baird, University of Colorado School of Medicine
Andrea Bertke, Virginia Tech
John Blaho, City College of New York
David Bloom, University of Florida College of Medicine
Judith Breuer, University College London
Jason Chen, Columbia University
Randy Cohrs, University of Colorado School of Medicine
David Davido, University of Kansas
Lynn Enquist, Princeton University, Molecular Biology
Seth Fretze, University of Northern Colorado
Anne Gershon, Columbia University
Thomas J. Goodwin, NASA Johnson Space Center
Julia Hilliard, Georgia State University
Ken Jones, University of Colorado School of Medicine
Peter Kennedy, University of Glasgow
Ravi Mahalingam, University of Colorado School of Medicine
Todd Margolis, Washington University
Klaus Osterrieder, Freie Universität Berlin
Catherine Sadzot, University of Liège
Scott Schmid, Centers for Disease Control & Prevention
Vicki Traina-Dorge, Tulane University
Georges Verjans, Erasmus MC
Leigh Zerboni, Stanford University School of Medicine
Hua Zhu, Rutgers - New Jersey Medical School

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Genewiz, Inc.

Integrated DNA Technologies

Light Labs

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