



4th International Meeting on Retroviral Integration

October 4-7, 2011 - Siena
Final Program

All meetings take place at the Aula Magna Rettorato, which is right downtown in Siena, in the main University building (Via Banchi di Sotto 55 – I-53100 Siena).

Tuesday, October 4th, 2011

5.00-5.30 **Welcome by the organizers**

Zeger Debysen, *K.U.Leuven* - **Maurizio Botta**, *Siena University*

5.30-6.30 **Keynote speaker**

Mike Miller, *Merck*, Westpoint, PA, USA

7.30 **Reception/ walking dinner**

Wednesday, October 5th, 2011

Session 1: Structural biology

Chair: Peter Cherepanov

8.30-8.50 **Plenary lecture**

The mechanism of HIV integration and its inhibition by strand transfer inhibitors: lessons from X-ray crystallography studies using a convenient model system.

Peter Cherepanov, *Imperial College*, London, UK

8.50-9.05 **Invited speaker**

Small-Angle Scattering Studies of Retroviral Integrase-DNA Complexes

Kushol Gupta, *University of Pennsylvania*, Philadelphia, PA, USA

9.05-9.20 **Talk selected from abstracts**

Architecture of a full-length retroviral integrase monomer and dimer, revealed by small angle x-ray scattering and chemical cross-linking.

Mark Andrade, *Institute for Cancer Research*, Philadelphia, PA, USA

9.20-9.35 **Talk selected from abstracts**

HIV-1 integrase: structure and function

David R. Langley, *Bristol-Myers Squibb CO.*, Wallingford, CT, USA

9.35-9.55 **Invited speaker**

Crystal structure of the bacteriophage MU transpososomes.

Sherwin Montano, *University of Chicago*, IL, USA

9.55-10.15 **Invited speaker**

Antibody-mediated protection against HIV infection using Env vaccines.

Barbara Capecchi, *Novartis Vaccines and Diagnostics*, Italy



10.15-10.30 Coffee Break

Session 2: Biochemistry of integration

Chair: Alan Engelman

10.30-11.00 Plenary lecture

Integrase biochemistry and HIV-1 replication.

Alan Engelman, Dana Farber Cancer Institute, Boston, MA, USA

11.00-11.20 Invited speaker

Bob Craigie, NIH, Bethesda, MD, USA

11.20-11.40 Invited speaker

Modulation of HIV-1 integrase structure and function by LEDGF/p75.

Mamuka Kvaratskhelia, Ohio State University, Columbus, OH, USA

11.40-11.55 Talk selected from abstracts

Role of the HRAD51 DNA repair protein in the HIV-1 integration and post integration repair steps

Vincent Parissi, CNRS – University of Bordeaux 2, France

11.55-12.10 Talk selected from abstracts

Post-translational modification and functional analysis of the HIV-1 in/LEDGF complex produced in mammalian cells.

Karine Pradeau, IGBMC, Illkirch, France

12.10-12.25 Talk selected from abstracts

KAP1 targets acetylated integrase and inhibits HIV-1 integration.

Awatef Allouch, University of Trento, Italy

12.25-2.00 Lunch break

Session 3: Cellular cofactors of retroviral replication

Chair: Zeger Debyser

2.00-2.30 Plenary lecture

Cofactors of HIV integration from target validation to drug discovery.

Zeger Debyser, K.U.Leuven, Flanders, Belgium

2.30-2.50 Invited speaker

LEDGF dominant interference: what is it telling us about the post-entry journey of HIV-1?

Eric Poeschla, Mayo Clinic College of Medicine, Rochester, MN, USA

2.50-3.05 Talk selected from abstracts

INI1/HSNF5-interaction defective HIV-1 in mutants exhibit impaired reverse transcription and integration in vivo

N.N., Albert Einstein College of Medicine, Bronx, NY, USA

3.05-3.20 Talk selected from abstracts

Identification of new partners of the LEDGF/p75 protein, an essential cofactor of HIV-1 integrase

Marc Lavigne, Institut Pasteur, Lyon, France



3.20-3.35 Talk selected from abstracts

Characterization of HIV-1 integrase complex formation during T-cell infection reveals dynamic association with cellular cofactors.

Nicolas Soler, *Institut Cochin*, Paris, France

3.35-4.00 Coffee break

Session 4 Trafficking and Nuclear import

Chair: Anna Cereseto

4.00-4.30 Plenary lecture

Retro-images from infected cells.

Anna Cereseto, *University of Trento*, Italy

4.30-4.50 Invited speaker

Exploring the relationship between HIV reverse transcription, trafficking, uncoating, and nuclear import.

Thomas Hope, *Northwestern University*, Chicago, IL, USA

4.50-5.10 Invited speaker

MuLV Capsid, SUMoylation, and TRIM5 α recognition.

Gloria Arriagada, *Columbia University*, New York, USA

5.10-5.25 Talk selected from abstracts

Transportin-SR2 and HIV-1 integrase, partners for HIV nuclear import

Stephanie De Houwer, *K.U.Leuven*, Belgium

5.25-5.40 Talk selected from abstracts

Biochemical analysis of HIV-1 integrase interactions with transportin-SR2 reveals functional protein-protein contacts

Ross Larue, *Ohio State University*, Columbus, USA

5.40-5.55 Talk selected from abstracts

Visualization of HIV-1 DNA in infected cells using a new fluorescent virus-based reporter system

Cristina Di Primio, *Scuola Normale Superiore*, Pisa, Italy

5.55-6.10 Talk selected from abstracts

TNPO3 promotes HIV-1 infection in a step after nuclear entry

Alberto De Iaco, *University of Geneva*, Switzerland

6.10-6.25 Talk selected from abstracts

Role of HIV 1 integrase during uncoating and reverse transcription

Sam Chow, *UCLA*, USA

6.30-8.00 Poster session + drinks

8.00 Dinner

Free to choose from Siena restaurants (not included in the conference)



Thursday, October 6th, 2011

Session 5: Drug discovery

Chair: Yves Pommier

8.30-9.00 Plenary lecture

Overcoming Raltegravir resistance.

Yves Pommier, *NCI/NIH*, Bethesda, USA

9.00-9.20 Invited speaker: Effects of accumulating RAL signature and secondary mutations on Dolutegravir (DTG, S/GSK1349572) activity.

Mark Underwood, *GlaxoSmithKline*, North Carolina, USA

9.20-9.40 Invited speaker

Next generation HIV-1 integrase strand transfer Inhibitors.

Romas Geleziunas, *Gilead Sciences*, USA

9.40-10.00 Invited speaker

Probing the role of MG in integrase strand transfer catalysis and in the binding of first and 2nd generation STIS.

Ira Dicker, *Bristol-Myers Squibb*, USA

10.00-10.20 Coffee Break

10.20-10.40 Invited speaker

Pre-clinical evaluation of HIV replication inhibitors that target the HIV integrase-LEDGF/p75 interaction.

Chris Pickford, *Pfizer*, Sandwich, UK

10.40-11.00 Invited speaker

Louie Lamorte, *Boehringer Ingelheim*, Canada

11.00-11.20 Invited speaker

Studies on the inhibition of HIV-1 integrase.

Maurizio Botta, *University of Siena*, Italy

11.20-11.40 Invited Speaker

Design of cell-permeable nanoneedles as HIV-1 integrase inhibitors.

Nouri Neamati, *University of Southern California*, Los Angeles, USA

11.40-11.55 Talk selected from abstracts

Computational approaches for the identification of small molecules as inhibitors of HIV-1 IN-LEDGF/P75 interactions

Francesca Morreale, *University of Messina*, Italy

11.55-12.10 Talk selected from abstracts

Novel HIV-1 integrase inhibitors targeting the interface of the N- and C-terminal domains and overcoming resistance to strand transfer inhibitors.

Christophe Marchand, *National Cancer Institute – NIH*, Bethesda, USA.

Lunch break 12.10-2.00 Poster viewing

Session 6 : Clinical virology

Chair: Mark Wainberg

2.00-2.30 Plenary lecture



Dolutegravir selects for a R263K mutation in HIV-1 Subtype B and AG but not in subtype C viruses.

Mark Wainberg, *McGill University*, Montreal, Canada

2.30-2.50 Invited speaker

New insights of HIV resistance to integrase inhibitors.

Francesca Ceccherini-Silberstein, *University of Rome "Tor Vergata"*, Italy

2.50-3.05 Talk selected from abstracts

The influence of genetic variation of transportin-SR2 (TNPO3) gene on susceptibility to HIV-1 infection and disease outcomes.

Paradise Madlala, *University of KwaZulu-Natal*, Durban, South Africa

3.05-3.20 Talk selected from abstracts

The addition of the integrase mutation T97A to the primary mutations Y143R/C strongly increases the in vitro resistance to RAL and rescues the catalytic defect conferred by Y143R/

Marie-Line Andreola, *Université Victor Segalen*, Bordeaux, France

3.20-3.50 Coffee break

Session 7: Other retroviruses and (retro)transposons

Chair: Suzanne Sandmeyer

3.50-4.20 Plenary lecture

Position specificity of a retrotransposon integrase.

Suzanne Sandmeyer, *University of California*, Irvine, USA

4.20-4.40 Invited lecture

High-throughput sequencing of retrotransposon integration provides a genome-wide profile of target activity.

Henry Levin, *NIH*, Bethesda, USA

4.40-5.00 Invited lecture

Genetic engineering with sleeping beauty transposons.

Zoltán Ivics, *Max Delbrück Center for Molecular Medicine*, Berlin, Germany

5.00-5.20 Invited lecture

Development and use of integrase defective lentiviral vectors for immunization.

Andrea Cara, *Istituto Superiore di Sanità*, Rome, Italy

5.20-5.35 Talk selected from abstracts

Rescuing MLV p12 mutants with DNA tethering domains

Monica Roth, *UMDNJ-RWJMS*, Piscataway, USA

5.35-6.00 Coffee Break

6.00-6.30 Invited lecture

Historical aspects of retrovirus integrase research

Duane Grandgenett, *Saint Louis University*, MO, USA

6.30-8.00 Poster viewing and drinks

8.00 Dinner



Friday October 7th, 2011

Mini-symposium on gene therapy

8.30-9.00 Plenary lecture

Transformation and clonal expansion during human gene correction using retroviral vectors.

Rick Bushman, *University of Pennsylvania, USA*

9.00-9.30 Plenary lecture

Luigi Naldini, *San Raffaele Del Monte Tabor Foundation, Milano, Italy*

9.30-10.00 Plenary lecture

Defining the lentiviral integrome IN.

Fulvio Mavilio, *San Raffaele Del Monte Tabor Foundation, Milano, Italy*

10.00-10.30 Coffee Break

10.30-11.00 Plenary lecture

Insertional repertoires of targeted and non-targeted vectors.

Christof Von Kalle, *German Cancer Research Center, Heidelberg, Germany*

11.00-11.20 Invited lecture

HIV-1 integrase stability and nuclear topography regulate viral DNA integration in primary CD4+ T cells.

Mauro Giacca, *International Centre for Genetic Engineering and Biotechnology, Trieste, Italy*

11.20-11.35 Talk selected from abstracts

Advantages of an expression-optimized prototype foamy virus pol for vector system development

Sylvia Kaulfuss, *Med. Fak. "Carl Gustav Carus", Dresden, Germany*

11.35-11.50 Talk selected from abstracts

Gene expression profile and cell signalling pathways modified by retroviral integration

Corinne Ronfort, *University Claude Bernard, Lyon, France*

11.50-12.05 Talk selected from abstracts

Implication of the AC40 subunit of RNA polymerase III in TY1 integration

Pascale Lesage, *CNRS INSERM, Paris, France*

12.05-12.20 Talk selected from abstracts

Genome-wide definition of transcriptionally active regulatory elements in human stem cells by retroviral scanning

Valentina Poletti, *H.San Raffaele Scientific Institute, Milano, Italy*

12.20-12.35 Talk selected from abstracts

Functional coupling between HIV-1 integrase and the SWI/SNF chromatin remodeling complex for efficient in vitro integration into stable nucleosomes.

Paul Lesbats, *CNRS, Bordeaux, France*

12.35-12.50 Talk selected from abstracts

The use of LEDGF/p75 chimera to retarget lentiviral integration

Rik Gijbbers, *K.U.Leuven, Belgium*