

# Affine, Vertex and W-algebras

December 11-15

## Program

### Monday, December 11

9:00 – 9:50 **Victor G. Kac**

*Integrable Hamiltonian hierarchies of PDE, associated to classical affine W-algebras, attached to classical Lie algebras and their nilpotent elements*

10:00 – 10:50 **Pierluigi Möseneder Frajria**

*Classification of conformal embeddings in affine and W algebras*

Chair: Paolo Papi

10:50 – 11:10 Coffee break

11:10 – 12:00 **Katrina Barron**

*Higher level Zhu's algebras and indecomposable modules for vertex operator algebras*

12:10 – 13:00 **Alexander Premet**

*Mishchenko-Fomenko subalgebras for centralizers and affine W-algebras*

Chair: Alberto De Sole

13:15 Lunch

15:30 – 16:20 **Anne Moreau**

*Arc spaces and chiral symplectic cores*

16:20 – 16:40 Coffee break

16:40 – 17:20 **Simon Lentner**

*Quantum groups and Nichols algebras acting by screening operators*

Chair: Tomoyuki Arakawa

### Tuesday, December 12

9:00 – 9:50 **David Ridout**

*Towards higher-rank logarithmic CFTs*

10:00 – 10:50 **Thomas Creutzig**

*Vertex algebra questions from physics and geometry*

Chair: Dražen Adamović

10:50 – 11:10 Coffee break

11:10 – 12:00 **Nils R. Scheithauer**

*Construction and classification of holomorphic vertex operator algebras*

12:10 – 13:00 **Jethro Van Ekeren**

*Dimension Formulae and Uniqueness of Vertex Algebras*

Chair: Victor Kac

13:15 Lunch

15:30 – 16:20 **Alessandro D'Andrea**

*The Poisson Lie algebra, Rumin's complex and base change*

16:20 – 16:40 Coffee break

16:40 – 17:20 **Laura Fedele**

*Generators for quantum finite  $W$ -algebras in type  $A$*

Chair: Anne Moreau

## Wednesday, December 13

9:00 – 9:50 **Chongying Dong**

*Hopf actions on vertex operator algebras*

10:00 – 10:50 **Antun Milas**

*Iterated integrals and (mock) modular forms*

Chair: Dražen Adamović

10:50 – 11:10 Coffee break

11:10 – 12:00 **Ozren Perše**

*Conformal embeddings and associated vertex algebras*

12:10 – 13:00 **Pavle Pandžić**

*Dirac index and twisted characters*

Chair: Pierluigi Möseneder Frajria

13:15 Lunch

FREE AFTERNOON

15.30 Visit to Villa Farnesina and to Palazzo Corsini's Library

## Thursday, December 14

9:00 – 9:50 **Li Ren**

*Parafermion vertex operator algebras*

10:00 – 10:50 **Tomoyuki Arakawa**

*Higgs branch conjecture for Class  $S$  theories*

Chair: Ozren Perše

10:50 – 11:10 Coffee break

11:10 – 12:00 **Bojko Bakalov**

*Twisted logarithmic modules of lattice vertex algebras*

12:10 – 13:00 **Raimondo Heluani**

*The first chiral homology group*

Chair: Antun Milas

13:15 Lunch

15:30 - 16:20 **Kazuya Kawasetsu**

*The characters of relaxed highest-weight modules over affine Kac-Moody algebras*

16:20 – 16:40 Coffee break

16:40 – 17:10 **Jean Auger**

*Some new logarithmic  $C_2$ -cofinite Vertex Operator Algebras*

17:20 – 17:50 **Chris Raymond**

*Generalised Galilean  $W$ -algebras*

Chair: Thomas Creutzig

## **Friday, December 15**

9:00 – 9:50 **Mirko Primc**

*Some combinatorial coincidences for standard representations of affine Lie algebras*

10:00 – 10:50 **Dražen Adamović**

*On realizations of simple affine vertex algebras and their modules*

Chair: Katrina Barron

10:50 – 11:10 Coffee break

11:10 – 12:00 **Shashank Kanade**

*Tensor Categories for Vertex Operator (Super)-Algebra Extensions*

12:10 – 13:00 **Alberto De Sole**

*Quantum finite and classical affine  $W$ -algebras for classical Lie algebras*

Chair: Paolo Papi

13:15 Lunch