

ISEV Workshop
EXTRACELLULAR VESICLES BIOMOLECULAR CORONA

27th-28th February 2025
Brescia, Italy



Co-Chairs:

Annalisa Radeghieri
Edit Buzas

**International Organizing
Committee (IOC):**

Sara Busatto
Aled Clayton
Metka Lenassi
Andreas Moeller
Lucia Paolini
Ganesh Shelke



UNIVERSITY
OF BRESCIA



**INTERNATIONAL SOCIETY for
EXTRACELLULAR VESICLES**



Program

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Description:

The goal of the workshop is to bring together experts from synthetic and biogenic nanoparticle worlds, in order to gather inspiration and share tools to foster studies on biomolecular corona of extracellular vesicles .

The workshop will feature a dialogue between an outstanding and diverse group of academic research scientists, clinicians and industrial partners involved in EV corona studies.

Introductory invited talks, short talks selected from abstracts, posters and roundtable discussions will revolve around four highly interrelated themes related to EV biomolecular corona.

Topics:

- 1) Fundamentals of Biomolecular Corona: origin, thermodynamics and colloidal properties.
- 2) EV corona biogenesis, biological significance and molecular composition
- 3) Tools for the separation and characterization of biogenic nanoparticle corona
- 4) Biomolecular corona potential applications (e.g., clinics/diagnostics).

27th February 2025

7.30 AM-8:30 AM Registration

8:30-8:40 Welcome (Edit Buzas, Annalisa Radeghieri)

Institutional welcome from University of Brescia (to be confirmed)

8:40-8:50 Overview of ISEV-EV corona workshop and products (Andreas Moeller)

8:50-9:20 Opening talk – Kenneth Dawson,

Chairs: Annalisa Radeghieri and Edit Buzas

9:20-11:10 Topic 1 - Fundamentals of Biomolecular Corona: origin, thermodynamics and colloidal properties.

Plenary sessions

- Paolo Bergese (25'+5')
- Anna Salvati (25'+5')

Selected Oral presentations (10'+2')

- ✓ Valentina Castagnola, Italian Institute of Technology (Italy). "Sources of biases in the biomolecular corona analysis and in vitro screening of nano-object".
- ✓ Shan Wang, Huazhong University of Science and Technology (China). "Unraveling the impact of protein corona on the size-based heterogeneity of mesenchymal stem cell-derived extracellular vesicles.
- ✓ Pietro Parisse, National Research Council of Italy, Institute of Officina dei Materiali (Italy). "Biomolecular corona and EVs: an Atomic Force Microscopy point of view".

Sponsor talk (10')

11:10-11:30 Networking coffee break with posters (Chair: Lucia Paolini)

11:30-1:20 PM Topic 2 - EV corona biogenesis, biological significance, molecular composition

Chairs: Metka Lenassi and Andreas Moeller

Plenary sessions

- Sara Busatto (25'+5')
- Edit Buzas

Selected Oral presentations (10'+2')

- ✓ Heikki Kyykallio, University of Eastern Finland (Finland). "Hyaluronic acid surface-decoration alters the protein corona of extracellular vesicles"
- ✓ Cristina Grange, University of Turin (Italy). "Analysis of protein corona expressed by different biofluid derived-Evs using Super Resolution Microscopy"
- ✓ Roberto Frigerio, ETH Zurich (Switzerland). "Single-particle analysis of extracellular vesicle-lipoprotein interactions by combining ultramicroscopy and single molecular arrays (SiMoA)"

Sponsor talk (10')

1:20-2:20 PM Networking lunch break with posters (Chair: Lucia Paolini)

2:20-3:30 PM Parallel round table discussions (participants divided in 2 groups)

- **Round table on Topic 1 - First session (group 1) (Room Aula 1)**, Moderators: chairs and experts and
- **Round table on Topic 2 - First session (group 2) (Room Aula 4)**, Moderators: chairs and experts

3:30-4:00 PM Networking coffee break with posters (Poster Chair: Lucia Paolini)

4:00-5:10 PM Parallel round table discussions (2 groups divided over 2 topics)

- **Round table on Topic 1 - Second session (group 2)**
(Room Aula 1) Moderators: chairs and experts and
- **Round table on Topic 2 - Second session (group 1)**
(Room Aula 4) Moderators: chairs and experts

5:10-6:00 PM Networking coffee break with posters (Poster Chair: Lucia Paolini)

6:00-7:00 PM Wrap up round table Topic 1 and 2 (Room Aula 1)

8:00 PM Social Dinner

28th February 2025

9:00-10:50 AM Topic 3 - Biogenic nanoparticle corona separation and characterization tools

Chairs: Ganesh Shelke, Lucia Paolini

Plenary sessions (25'+5')

- Ben Boyd
- Xavier Banquy

Selected Oral presentations (10'+2)

- ✓ Imola Szigyarto, HUN-REN Research Centre for Natural Sciences (Hungary). "The modulating effect of short, cationic peptides on EV's protein corona"
- ✓ Camille Vandenbroucke, Aarhus University (Denmark). "What the Cell "Sees" in Extracellular Vesicle Biology".
- ✓ Aled Clayton, Cardiff University (UK). "Hepraran sulphate regulates surface tethering and functional".

Sponsor talk 10'

10:50-11:10 AM Networking coffee break with posters (Chair: Lucia Paolini)

11:10-1:00 PM Topic 4 - Biomolecular corona potential applications (e.g., clinics/diagnostics).

Chairs: Aled Clayton, Sara Busatto

Plenary sessions (25'+5)

- Khoulood Al Jamal
- Samir El Andaloussi

Selected Oral presentations (10'+2)

- ✓ Martina Gabrielli, National Research Council of Italy, Institute of Neuroscience (Italy). "Surface proteins on extracellular vesicles isolated from tissues: implication in brain health and disease"
- ✓ Charles Ramassamy, INRS-Centre Armand-Frappier Santé-Biotechnologie (Canada). "Role of protein corona on plasma-derived EVs in the pathophysiology of Alzheimer's disease".
- ✓ Mÿ Mahoney, Thomas Jefferson University (USA) . "Extracellular vesicles derived from intravenous immunoglobulin replacement therapy serving as decoys to suppress IFN γ -activation of JAK/STAT1 signaling".

Sponsor talk 10'

1:00-2:00 PM Networking lunch break

2:00-3:10 PM Parallel round table discussions (participants divided in 2 groups)

- **Round table on Topic 3 - First session (group 1), (Room Aula 1), Moderators: chairs and experts**

and

- **Round table on Topic 4 - First session (group 2),**
(Room Aula 4) Moderators: chairs and experts

3:10-3:40 PM Networking coffee break with posters (Poster Chair: Lucia Paolini)

3:40-4:30 PM Parallel round table discussions (2 groups divided over 2 topics)

- **Round table on Topic 3 - Second session (group 2),**
(Room Aula 1) Moderators: chairs and experts
and
- **Round table on Topic 4 - Second session (group 1),**
(Room Aula 4) Moderators: chairs and experts

4:30-5:00 PM Networking coffee break with posters (Poster Chair: Lucia Paolini)

5:00-6:00 PM Wrap up round table Topic 3 and 4 + decision on possible workshop product(s). (Room Aula 1)

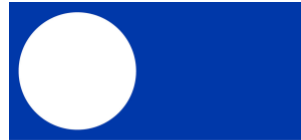
6:00 PM Closing drink

Plenary sessions and selected oral presentations will take place in Room "Aula 1".

Round tables will take place in Rooms Aula 1 and Aula 4.

Meals will be served at "GalleriaSfingi".

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