



University of Trento
Palazzo Consolati, Via S. Maria Maddalena 1, Trento
Room 101 (*unless otherwise specified*)

January 31st – TRENTO

08.15 – 08.45: **Registration**

08.45 – 09.10: **Welcome**

Francesca Demichelis and **Marina Cretich**, Workshop Co-Chairs

Metka Lenassi, IOC member and Executive Chair of ISEV Science/Meetings

Benedetta Bussolati, IOC member and President of the Italian Society for Extracellular Vesicles (EVIta)

Enzo Galligioni, President of the Pezcoller Foundation

Session 1: Impact of pre-analytical steps on downstream data generation. Importance of knowing the boundaries and the constraints.

Chair: Metka Lenassi, University of Ljubljana, Slovenia

09.10 – 09.30: Introductory talk by **Guido Jenster**, Erasmus MC, Netherlands

Thinking ahead and dealing with the known and unknown variables in EV research.

09.30 – 09.40: **Mari Palviainen**, University of Helsinki, Finland

Preanalytical consideration in EV omics.

09.40 – 09.50: **Marija Holcar**, University of Ljubljana, Slovenia

Studies of blood plasma EVs: challenges of population selection and sample quality assessment.

09.50 – 10.00: **Ioannis Sotiropoulos**, National Center for Scientific Research (NCSR) Demokritos, Greece

A novel isolation method for spontaneously released extracellular vesicles from brain tissue and its implications for stress-driven brain pathology.

10.00 – 10.10: Sponsor talk - **ALFATEST**

10.10 – 10.30: Questions for all speakers

10.30 – 11.00: Coffee Break

Session 2: EV omics data analysis: which quantitative approaches can we adopt from the canonical cell data analysis field into the EV field in terms of computational biology and bioinformatics?

Chair: Francesca Demichelis, University of Trento, Italy

- 11.00– 11.20: Introductory talk by **Levi Waldron**, CUNY Graduate School of Public Health and Health Policy, USA
Lessons learned from applying bulk RNAseq analysis methods to single-cell RNAseq. (Tent.)
- 11.20 – 11.30: **Sylwia Bobis-Wozowicz**, Jagiellonian University, Poland
Multimics approach to delineate molecular signature of extracellular vesicles derived from hiPSCs cultured in different oxygen conditions.
- 11.30 – 11.40: **Todd Hembrough**, Nexosome Oncology, USA
Identification of cancer-specific exosomal biomarkers to aid in diagnosis of cancer.
- 11.40 – 11.50: **Vito D'Agostino**, University of Trento, Italy
Challenging RBPs to decipher EV sub-population transcriptomes.
- 11.50 – 12.00: **Elena Casarotto**, University of Milan, Italy
LVs and SVs and their role in TDP-43 proteinopathies.
- 12.00 – 12.10: Sponsor talk - **Schaefer**
- 12.10 – 12.30: Questions for all speakers

12.30 – 14.00: Light lunch

Parallel Sessions

- Roundtables on Session 1 (**Guido Jenster** and **Metka Lenassi**, moderators), Room 101
- 14.00 – 15.45: Discussion
- 15.45 – 16.00: Written Wrap-up by the moderators
- Roundtables on Session 2 (**Levi Waldron** and **Francesca Demichelis**, moderators), Room 305
- 14.00 – 15.45: Discussion
- 15.45 – 16.00: Written Wrap-up by the moderators

16.00 – 16.30: Coffee Break

Plenary Highlights

- 16.00 – 16.30: Roundtable 1 (10' from the moderators and 20' from the audience)
- 16.30 – 17.00: Roundtable 2 (10' from the moderators and 20' from the audience)

February 1st – TRENTO

Session 3: EV omics data analysis: which topics require the development from scratch of novel and EV-tailored approaches?

Chair: Manuela Basso, University of Trento, Italy

- 09.00 – 09.20: Introductory talk by **Aleksandar Milosavljevic**, Baylor College of Medicine, USA
Untangling the complexity of EVs and their cargo.
- 09.20 – 09.30: **Yari Ciani**, University of Trento, Italy
EV-transcripts features analysis and deconvolution to inform the assessment of metastatic prostate cancer treatment response.
- 09.30 – 09.40: **Shiro Suetsugu**, Nara Institute of Science and Technology, Japan
The characterization of the protein contents of the protrusion-derived extracellular vesicles by mass spectrometry and functional analysis.
- 09.40 – 09.50: **Alice Gualerzi**, IRCCS Fondazione Don Carlo Gnocchi, Italy
Discovering the biochemical profile of microglia-derived extracellular vesicles by Raman spectroscopy.
- 09.50 – 10.00: Sponsor talk - **Nanofcm**
- 10.00 – 10.10: Sponsor talk - **Quanterix**
- 10.10 – 10.30: Questions for all speakers

10.30 – 11.00 Coffee Break

Session 4: Single EV Characterization

Chair: Marina Cretich, SCITEC-CNR, Milano, Italy

11.00 – 11.20: Introductory talk by **Juan Falcon Perez**, CIC bioGUNE, Spain
From bulk to single vesicle-analysis.

11.20 – 11.30: **Marco Monopoli**, RCSI, Dublin Ireland
Lessons learned from synthetic nanoparticles and their corona.

11.30 – 11.40: **Lorena Martin Jaular**, Institut Curie-Inserm U932, France
Tetraspanin analysis of pan-fluorescent single Extracellular Vesicles by Imaging Flow Cytometry.

11.40 – 11.50: **John Nolan**, Scintillon Institute, USA
Calibration and standardization of single EV measurements.

11.50 – 12.00: **Daniela Boselli**, San Raffaele Scientific Institute, Milano, Italy
Quantification and deep Multiparametric Analysis of circulating Extracellular Vesicles by Spectral Flow Cytometry.

12.00 – 12.10: Sponsor Talk – **Abbelight**

12.10 – 12.30: Questions for all speakers

12,30 – 14,00 Light lunch

Parallel Sessions

Roundtables on Session 3 (**Aleks Milosavljevic** and **Manuela Basso**, moderators), Room 101

14,00 - 15,45: Discussion

15,45 - 16,00: Written Wrap-up by the moderators

Roundtables on Session 4 (**Juan Falcon Perez** and **Benedetta Bussolati**, moderators), Room 305

14,00 - 15,45: Discussion

15,45 - 16,00: Written Wrap-up by the moderators

16,00 - 16,30: Coffee Break

Plenary Highlights

16,00 - 16,30: Roundtable 3 (10' from the moderators and 20' from the audience)

16,30 - 17,00: Roundtable 4 (10' from the moderators and 20' from the audience)

19,30 - 23,30: Social Dinner at the Grand Hotel Trento

Address: P.za Dante 20, Trento.

February 2nd – TRENTO

Session 5. Which is the contribution of bulk versus single EV analysis for biomarker validation.

Chair: Alessandro Gori, SCITEC-CNR, Milano, Italy

09.10 – 09.30: Introductory talk by **Dolores Di Vizio**, Cedars-Sinai, USA
Cancer EV heterogeneity: from EV bulk to single EV analysis.

09.30 – 09.40: **Anna Kashkanowa**, Max Planck Institute for the Science of Light, Germany
Label-free discrimination of extracellular vesicles from large lipoproteins.

09.40 – 09.50: **Pietro Parrisè**; IOM-CNR; Italy
Visualizing the interaction of Extracellular Vesicles with model membranes: a tool for studying fusogenicity properties.

09.50 – 10.00: **Liens Lippens**; Ghent University, Belgium
The potential of AF4-MALS for EV separation and characterization.

10.00 – 10.10: Sponsor Talk – **Bio-Techne**

10.10 – 10.30: Questions for all speakers

10.30 – 11.00: Coffee Break

Roundtable on Session 5 (**Dolores Di Vizio** and **John Nolan**, moderators), Room 101

11,00 - 12,45: Discussion

12,45 - 13,00: Written Wrap-up by the moderators

13.00 – 14.00: Light lunch

14.00 – 14.30: Highlights Roundtable 5 (10' from the moderators and 20' from the audience)

14.30 – 15.15: Closing remarks and discussion on workshop deliverables

16.00: Departure by bus from Trento (Via Torre Vanga, 22) to Milan (at Piazzale Loreto, Underground Station & at the Meeting Venue, Via Alfonso Corti 12).

CNR Centro Congressi, Via Alfonso Corti 12, Milano
Sala Conferenze

February 3rd – MILANO

Satellite event: Next generation EVs.

The satellite event aims at looking towards the future of the EV field through the eyes of its new generation of scientists. The vision and the stories of success of both academy and industry players will be inspirational to seize opportunities and trends over the next decades.

09.30 – 09.40: Welcome and introduction

Chairs: *Marina Cretich (SCITEC-CNR, Milano, Italy) and Dolores Di Vizio (Cedars-Sinai, USA)*

09.40 – 10.10 Keynote lecture by Paolo Bergese, Università di Brescia, Italy

6 + 1 out-of-the-box EV problems.

Young investigator symposium (YIS)

YIS Session 1: 10 min talks from selected abstracts + Q&A

10.10 – 10.25: Martina Pagliuca, Gustave Roussy, Villejuif, France

Single molecule localization microscopy for extracellular vesicles detection in cancer.

10.25 – 10.40: Martin Blessing, Max Planck Institute for the Science of Light, Erlangen, Germany

Interferometric nanoparticle tracking analysis (INTA): a novel tool for extracellular vesicle characterization.

10.40 – 10.55: Roberto Frigerio, Consiglio Nazionale delle Ricerche, Milano, Italy

Digital Detection Platforms: a comparison in High Sensitivity Immune-phenotyping of Extracellular Vesicles.

11:00 -11:30: Snack time and networking break

Chairs: *Alessandro Gori (SCITEC-CNR, Milano, Italy) and Juan Falcon Perez (CIC bioGUNE, Spain)*

11.40 – 12.10: Keynote lecture by Davide Zocco, Lonza Group

An industry perspective on EV trends, current markets and future opportunities.

12.10 – 12.30: A story of success from the Start up world by Thibaut Fourniols, EverZom

EverZom, the CRO/CDMO for democratization of EV-based therapies.

YIS Session 2: 10 min talks from selected abstracts + Q&A

12.30 – 12.45: Ana Meliciano; iBET - Instituto de Biologia Experimental e Tecnológico, Lisbon, Portugal

Effect of dynamic and static cell culture systems on extracellular vesicles secretion from human induced pluripotent stem cells.

12.45 – 13.00: Anna Fietta; Università degli Studi di Padova, Italy

Hypoxic extracellular vesicles induce a pro-metastatic phenotype in neuroblastoma: from the delivery of miR-210-3p to the preconditioning of a metastatic niche.

13.00 – 13.15: Paolo Vincenzo Fioretti; University of Trento, Italy

Miscommunication in Amyotrophic Lateral Sclerosis and Frontotemporal Dementia: how to see it?

13.30– 13.45: 3' Flash talks:

Juçara Gastaldi Cominal; Faculty of Philosophy, Sciences and Letters at Ribeirao Preto, University of Sao Paulo Ribeirão Preto, Brazil

Osteoblast matrix vesicles (MVs) obtained in different days of growth during biological mineralization.

Shin Yong Lee, Nara Institute of Science and Technology (NAIST), Japan

The possible role of IRSp53 I-BAR-derived extracellular vesicles for carrying amyloid beta.

Alexis Germán, Murillo Carrasco, Instituto do Câncer do Estado de São Paulo, São Paulo Brasil

Age-related vesicular miRNA comparison proposes potential biomarkers for triple-negative young breast cancer in a Brazilian cohort.

Gaia Gavioli, AUSL-IRCCS Reggio Emilia, Italy

Platelet derived EVs Prophylactic transfusion of onco-haematological patients: an in vitro study on Platelet derived EVs.

Modeline Longjohn, Memorial University of Newfoundland, Canada

A small RNA signature in plasma extracellular vesicles that identifies B-acute lymphoblastic leukemia.

13.45 – 14.15: Keynote lecture by Marcella Chiari, SCITEC-CNR, Italy (20 min + 10 min Q&A)

Along the innovation pathway in EV research.

14.30 – 15.15: Snack time and networking break

YIS Session 3: 10 min talks from selected abstracts + Q&A

Chairs: Manuela Basso (University of Trento, Italy) and **Caterina Nardella** (University of Trento, Italy)

15.15 – 15.30: Karolina Soroczyńska, Medical University of Warsaw, Poland

Searching for novel biomarkers of endometriosis using imaging flow cytometry analyses of small EVs derived from biological fluids of endometriosis patients

15.30 – 15.45: Silvia Picciolini, IRCCS Fondazione Don Carlo Gnocchi ONLUS; Milan, Italy

Characterization of membrane cargo of EVs through Surface Plasmon Resonance imaging approach.

15.45 – 16.00: Amanda Salviano da Silva; University Medical Center Hamburg-Eppendorf, Germany

Extracellular vesicles carrying Tenascin-C are promising clinical biomarkers in GBM patients

16.00 – 16.15: 3' Flash talks:

Ritesh Khanna, University of South Bohemia, Czech Republic

The effect of tick-borne encephalitis virus infection on extracellular vesicles releases and protein content.

Elisabetta Vulpis, "Sapienza", University of Rome, Italy

Genotoxic stress promotes bystander senescence in multiple myeloma cells through extracellular vesicle associated miR-433.

Federica Busi, University of Trento, Italy

Zebrafish Melanoma-Derived Interstitial EVs Are Carriers of ncRNAs That Induce Inflammation.

16.15 – 16.30 Francesca Demichelis, Marina Cretich and Metka Lenassi

Closing remarks and award ceremony (Best Young Investigators Symposium Talk)