

## DISSEMINATION

### Published papers:

20. Nanoscale structural and mechanical characterization of thin bicontinuous cubic phase lipid films.  
Ridolfi A, Humphreys B, Caselli L, Montis C, Nylander T, Berti D, Brucale M, Valle F. Colloids Surf B Biointerfaces. 2021 Nov 19:112231.

DOI: <https://doi.org/10.1016/j.colsurfb.2021.112231>

Repository link: <https://www.biorxiv.org/content/10.1101/2021.03.29.437497v1>

19. Stiffness of Fluid and Gel Phase Lipid Nanovesicles: Weighting the Contributions of Membrane Bending Modulus and Luminal Pressurization.

Ridolfi A, Caselli L, Baldoni M, Montis C, Mercuri F, Berti D, Valle F, Brucale M. Langmuir. 2021 Oct 19;37(41):12027-12037.

DOI: <https://doi.org/10.1021/acs.langmuir.1c01660>

Repository link: <https://www.biorxiv.org/content/10.1101/2021.06.17.448831v1>

18. Two Dimensional-Difference in Gel Electrophoresis (2D-DIGE) Proteomic Approach for the Identification of Biomarkers in Endometrial Cancer Serum.

Ura B, Biffi S, Monasta L, Arrigoni G, Battisti I, Di Lorenzo G, Romano F, Aloisio M, Celsi F, Addobbati R, Valle F, Rampazzo E, Brucale M, Ridolfi A, Licastro D, Ricci G. Cancers. 2021 Jul 20;13(14):3639.

DOI: <https://doi.org/10.3390/cancers13143639>

Repository link: <https://zenodo.org/record/5572501#.YWmHFi8QPq0>

17. Extracellular Vesicles Analysis in the COVID-19 Era: Insights on Serum Inactivation Protocols towards Downstream Isolation and Analysis

Frigerio R, Musicò A, Brucale M, Ridolfi A, Galbiati S, Vago R, Bergamaschi G, Ferretti AM, Chiari M, Valle F, Gori A, Cretich M.

Cells. 2021 Mar 4;10(3):544.

DOI: <https://doi.org/10.3390/cells10030544>

Repository link: <https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/horizon-results-platform/34270>

16. A plasmon-based nanoruler to probe the mechanical properties of synthetic and biogenic nanosized lipid vesicles

Caselli L, Ridolfi A, Cardellini J, Sharpnack L, Paolini L, Brucale M, Valle F, Montis C, Bergese P, Berti D.

Nanoscale Horiz. 2021 Jun 28;6(7):543-550.

DOI: <https://doi.org/10.1039/d1nh00012h>

Repository link: <https://chemrxiv.org/engage/chemrxiv/article-details/60c75363469df4e320f44d6d>

15. Human milk extracellular vesicles target nodes in interconnected signalling pathways that enhance oral epithelial barrier function and dampen immune responses

Marijke I. Zonneveld, Martijn J.C. van Herwijnen, Marcela M. Fernandez-Gutierrez, Alberta Giovanazzi, Anne Marit de Groot, Marije Kleinjan, Toni M.M. van Capel, Alice J.A.M. Sijts, Leonie S. Taams, Johan Garssen, Esther C. de Jong, Michiel Kleerebezem, Esther N.M. Nolte-'t Hoen, Frank A. Redegeld, Marca H.M. Wauben

J Extracellular Vesicles. 2021, Vol10(5)

ISSN: 2001-3078, 2001-3078

DOI: <https://doi.org/10.1002/jev2.12071>

Repository link: <https://www.narcis.nl>

14. Regular Industrial Processing of Bovine Milk Impacts the Integrity and Molecular Composition of Extracellular Vesicles

Marije Kleinjan, Martijn JC van Herwijnen, Sten FWM Libregts, RJ Joost van Neerven, Anouk L Feitsma, Marca HM Wauben

The Journal of Nutrition 2021, 25 March 2021, nxab031

DOI: <https://doi.org/10.1093/in/nxab031>

Repository link: <https://www.narcis.nl>

13. Charge-Based Separation of Micro-and Nanoparticles.

Bao D. Ho, Jason P. Beech and Jonas O. Tegenfeldt.

Micromachines 2020, 11, 1014.

DOI: <https://doi.org/10.3390/mi11111014>

Repository link: <https://zenodo.org/record/4610908#.YFnf8UhKiw4>

12. Fluorescent Labeling of Helminth Extracellular Vesicles Using an In Vivo Whole Organism Approach.

A.T. Boysen, B. Whitehead, A. Stensballe, A. Carnerup, T. Nylander, P. Nejsum.

Biomedicines. 2020 Jul 14;8(7):E213.

<https://doi.org/10.3390/biomedicines8070213>

Repository link: [https://pure.au.dk/portal/da/publications/fluorescent-labeling-of-helminth-extracellular-vesicles-using-an-in-vivo-whole-organism-approach\(6f641b5e-82cd-4feb-8550-dd155d78cc0a\).html](https://pure.au.dk/portal/da/publications/fluorescent-labeling-of-helminth-extracellular-vesicles-using-an-in-vivo-whole-organism-approach(6f641b5e-82cd-4feb-8550-dd155d78cc0a).html)

11. AFM-Based High-Throughput Nanomechanical Screening of Single Extracellular Vesicles.

A. Ridolfi, M. Brucale, C. Montis, L. Caselli, L. Paolini, A. Borup, A.T. Boysen, F. Loria, M.J.C. van Herwijnen, M. Kleinjan, P. Nejsum, N. Zarovni, M.H.M. Wauben, D. Berti, P. Bergese, F. Valle.

Anal Chem. 2020 Jul 13.

doi: <https://doi.org/10.1021/acs.analchem.9b05716>

Repository link: doi: <https://doi.org/10.1101/854539>

10. Gold nanoparticles interacting with synthetic lipid rafts: an AFM investigation.

A. Ridolfi, L. Caselli, C. Montis, G. Mangiapia, D. Berti, M. Brucale, F. Valle.

J. Microsc. First published: 20 May 2020.

doi: <https://doi.org/10.1111/jmi.12910>

Repository link: <https://doi.org/10.1101/2020.05.03.075101>

9. Biogenic supported lipid bilayers as a tool to investigate nano-bio interfaces

C. Montis, A. Salvatore, F. Valle, L. Paolini, F. Carlà, P. Bergese, D. Berti. J Colloid Interface Sci. June 2020, 570: 340-349.

doi: <https://doi.org/10.1016/j.jcis.2020.03.014>

Repository link: <https://flore.unifi.it/handle/2158/1218287#.YDYI05NKhsM>

8. Fourier-transform Infrared (FT-IR) spectroscopy fingerprints subpopulations of extracellular vesicles of different sizes and cellular origin.

L. Paolini, S. Federici, G. Consoli, D. Arceri, A. Radeghieri, I. Alessandri, P. Bergese. J Extracell Vesicles. 2020; 9(1): 1741174.

doi: <https://doi.org/10.1080/20013078.2020.1741174>

Repository link: <https://iris.unibs.it/handle/11379/529275>

7. Shedding light on membrane-templated clustering of gold nanoparticles.

C. Montis, L. Caselli, F. Valle, A. Zandrini, F. Carlà, R. Schweins, M. Maccarini, P. Bergese, D. Berti. J Colloid Interface Sci. August 2020, 573: 204-214

doi: <https://doi.org/10.1016/j.jcis.2020.03.123>

Repository link: <https://iris.unibs.it/handle/11379/529276>

6. Augmented COlorimetric NANoplasmonic (CONAN) Method for Grading Purity and Determine Concentration of EV Microliter Volume Solutions.

A. Zendrini, L. Paolini, S. Busatto, A. Radeghieri, M. Romano, M. H. M. Wauben, M. J. C. van Herwijnen, P. Nejsum, A. Borup, A. Ridolfi, C. Montis, P. Bergese. *Front Bioeng Biotechnol.* 2019; 7: 452.

doi: <https://doi.org/10.3389/fbioe.2019.00452>

Repository link: <https://iris.unibs.it/handle/11379/528221>

5. Nanoparticles and organized lipid assemblies: from interaction to design of hybrid sof devices.

M. Mendoza, L. Caselli, A. Salvatore, C. Montis\* and D. Berti\*. *Soft Matter*, 2019,15, 8951-8970.

doi: <https://doi.org/10.1039/C9SM01601E>

Repository link: <https://flore.unifi.it/handle/2158/1175074.2#.YDYmTpNKhsM>

4. The nanostructured secretome.

S. Busatto, A. Zendrini, A. Radeghieri, L. Paolini, M. Romano, M. Presta, P. Bergese. *Biomater Sci.* 2019 Dec 17;8(1):39-63.

doi: <https://doi.org/10.1039/C9BM01007F>

Repository link: <https://iris.unibs.it/handle/11379/526980>

3. Biological membranes in EV biogenesis, stability, uptake, and cargo transfer: an ISEV position paper arising from the ISEV membranes and EVs workshop.

AE. Russell, ..., P. Bergese, ..., M. Wauben et al. *J Extracell Vesicles.* 2019 Nov 8;8(1):1684862.

doi: <https://doi.org/10.1080/20013078.2019.1684862>

Repository link: <https://iris.unibs.it/handle/11379/526637>

2. Active Posts in Deterministic Lateral Displacement Devices.

J.P. Beech, K. Keim, B.D. Ho, C. Guiducci, J.O. Tegenfeldt. *Advanced Materials Technologies* 2019 Sept. 4;9: 1900339.

doi: <https://doi.org/10.1002/admt.201900339>

Repository link: <http://zenodo.org/record/3352780#.XZHEh1Uzapo>

1. Tangential Flow Filtration for Highly Efficient Concentration of Extracellular Vesicles from Large Volumes of Fluid.

S. Busatto, G. Vilanilam, T. Ticer, W.-L. Lin, D.W. Dickson, S. Shapiro, P. Bergese, J. Wolfram. *Cells.* 2018 Dec 16;7(12)

doi: <https://www.mdpi.com/2073-4409/7/12/273>

Repository link: <http://hdl.handle.net/11379/515026>

**Research data dissemination:**

1. Keynote speaker, Annalisa Radeghieri, at International Conference on Bioengineering and Cell Therapy, 21 September 2018, University of Brescia, Italy.

2. Invited talk at Membrane Biophysics of Exo-Endocytosis: From Model Systems to Cells. 3-6 April 2019 Mandelieu la Napoule (France). Debora Berti.

3. Poster communication at the Spring Symposium 2019 in Danish Society for Parasitology, 5 April 2019, Copenhagen (Denmark). "Modulation of inflammation by helminth-derived EVs". Anne Borup, Bent W. Deleuran, Peter Nejsum.

4. Poster communication at the PhD day at Aarhus University, 25 January 2019, Aarhus (Denmark). "Modulation of inflammation by helminth-derived EVs". Anne Borup, Bent W. Deleuran, Peter Nejsum.

5. Oral presentation. Mini-workshop on Extracellular Vesicles: from biophysical properties to therapeutic applications. Area Science Park Padriciano, 11 April 2019. Organized by EXOTHERA project. “evFOUNDRY: the extracellular vesicle foundry”. Lucia Paolini.
6. Oral presentation. Towards an innovation hub on extracellular vesicles research. Consiglio Nazionale delle Ricerche, Area della Ricerca di Milano, MILANO Auditorium 9 May 2019. “evFOUNDRY: the extracellular vesicle foundry”. Paolo Bergese.
7. Poster Communication. ISEV2019, 24-28 April 2019, Kyoto (Japan). “evFOUNDRY: the extracellular vesicle foundry”. Lucia Paolini, Martijn van Herwijnen.
8. Lecture at ISEV2019, 24-28 April 2019, Kyoto (Japan). “Therapeutic Potential of Milk EVs” during the educational day of the ISEV2019. Martijn van Herwijnen
9. Oral presentation at ISEV2019, 24-28 April 2019, Kyoto (Japan). “Different ATT isoforms are associated to EVs from ATT type II deficient patients”. Annalisa Radeghieri
10. Poster communication at ISEV2019, 24-28 April 2019, Kyoto (Japan). “Taxonomy of individual extracellular vesicles by nanomechanics”. Andrea Ridolfi, Marco Brucale, Lucia Paolini, Costanza Montis, Debora Berti, Francesco Valle, Paolo Bergese
11. Poster communication at ISEV2019, 24-28 April 2019, Kyoto (Japan). “Fourier-transform Infrared Spectroscopy (FT-IR) to fingerprint EV subpopulations as a whole”. Lucia Paolini, Stefania Federici, Giovanni Consoli, Diletta Arceri, Annalisa Radeghieri, Ivano Alessandri, Paolo Bergese
12. Oral presentation at 9<sup>th</sup> International Colloids Conference. Young investigator perspective presentation, 16-19 June 2019 Sitges (Spain). "Interaction of inorganic nanoparticles with synthetic and biogenic lipid membranes: fundamental understanding and biomedical applications". Costanza Montis.
13. Oral presentation at Swedish Microfluidics in Life Science 2019, June 2019, Gothenburg (Sweden). “Electrokinetic deterministic lateral displacement”. Bao D. Ho.
14. Oral presentation at 13th International Symposium on Electrokinetics, 12-14 June 2019, Boston (USA). “AC electrokinetics in a deterministic-lateral-displacement device”. Hywel Morgan
15. Oral presentation at 21st International Vacuum Conference (IVC-21), July 2019, Malmö (Sweden). “Cell sorting using Electrokinetic Deterministic Lateral Displacement”. Bao D. Ho
16. Oral presentation at XLVII National meeting of the Physical Chemistry Division of the Italian Chemistry Society, 1-4 July 2019 Rome (Italy). "Interaction of inorganic nanoparticles with synthetic and biogenic lipid membranes: fundamental understanding and biomedical applications". Costanza Montis
17. Oral presentation at XLVII National meeting of the Physical Chemistry Division of the Italian Chemistry Society, 1-4 July 2019 Rome (Italy). "Nanostructured materials interacting with synthetic and natural lipid mesophases: challenges and opportunities". Debora Berti.

18. Poster communication at XLVII National meeting of the Physical Chemistry Division of the Italian Chemistry Society, 1-4 July 2019 Rome (Italy). “Nanomechanical classification of extracellular vesicles”. Andrea Ridolfi, Marco Brucale, Lucia Paolini, Costanza Montis, Debora Berti, Francesco Valle, Paolo Bergese
  
19. Oral presentation at Fulgsø Seminar for Department of Infectious Diseases, Aarhus University Hospital (Denmark), 3-4 July 2019. “Modulation of inflammation by helminth-derived EVs”. Anne Borup.
  
20. Research seminar, National University of Singapore (NUS), Dept. of Pharmacy, 30 July 2019, Singapore. Paolo Bergese. Host: Prof. Rachel Ee
  
21. Oral Presentation at 33<sup>rd</sup> Conference of the European colloid and interface society (ECIS), 8-13 September, Leuven (Belgium). “Nanostructured Materials interacting with Synthetic and Natural Lipid Mesophases: Challenges and Opportunities”. Debora Berti.
  
22. Invited talk at 14th Multinational Congress on Microscopy, 15-20 September, Belgrade. Francesco Valle.
  
23. Invited talk at NanoScientific Forum Europe, 11-13 September, “Nanomechanics of liposomes and extracellular vesicles”. Francesco Valle.
  
24. Poster communication at 1st annual meeting in The Danish Society of Extracellular Vesicles (DSEV) held in Aarhus, Denmark. 3rd October 2019. Anne Borup
  
25. Oral presentation at 1st Lugano ExoDay on: “EV subpopulations fingerprinting by Fourier-transform Infrared (FT-IR) spectroscopy”, 25th October 2019 Lugano (Switzerland). Lucia Paolini
  
26. Poster communication at 23rd International Conference on Miniaturized Systems for Chemistry and Life Sciences ( $\mu$ TAS 2019), 27-31 October 2019, Basel (Switzerland). “Tuning deterministic lateral displacement with AC electrokinetics”. Hywel Morgan
  
27. Poster communication at 23rd International Conference on Miniaturized Systems for Chemistry and Life Sciences ( $\mu$ TAS 2019), 27-31 October 2019, Basel (Switzerland). “Viable/Non-Viable Cell Assay Using Electrokinetic Deterministic Lateral Displacement”. Bao D. Ho
  
28. Oral presentation at 23rd International Conference on Miniaturized Systems for Chemistry and Life Sciences ( $\mu$ TAS 2019), 27-31 October 2019, Basel (Switzerland): “The Separation Of Nano-Sized Particles In Micro-Scaled Post Arrays”; Jason P. Beech
  
29. Keynote, Peter Nejsum. @ 1st EVIta symposium. “A new level of complexity in host-parasite interaction – extracellular vesicles”. Palermo, 6<sup>th</sup> Nov 2019
  
30. Oral presentation at 1st EVIta symposium. “Projecting extracellular vesicles in two dimensions”. Palermo, 6<sup>th</sup> Nov 2019. Paolo Bergese
  
31. Oral presentation at 1st EVIta symposium. Palermo, 6<sup>th</sup> Nov 2019. “Nanomechanics of individual extracellular vesicles”. Marco Brucale.
  
32. Poster communication at 1st EVIta symposium. Palermo, 6<sup>th</sup> Nov 2019. Lucia Paolini.

33. Keynote, Paolo Bergese at Science through Scanning Probe Microscopy. Bologna, 21-22 Nov 2019
34. Poster communication at The UK Society for Extracellular Vesicles (UKEV) in London, UK, 10th December 2019. “Continuous microfluidic separation of extracellular vesicles from biological samples”. Richard Gillams
35. Poster communication at Workshop “Bill2019” Grenoble, France, 11th-13th December 2019. “Nanomechanical properties of synthetic and natural lipid bilayers through Atomic Force Microscopy (AFM): from Supported Lipid Bilayers (SLBs) to vesicles”. Andrea Ridolfi
36. Poster communication at ISEV Workshop: Open, Reproducible and Standardized EV Research. 2-3 December 2019, Ghent, Belgium. “EV-Hub: a multi-laboratory hub for extensive characterization of extracellular vesicles”. Annalisa Radeghieri.
37. Oral presentation at NANO-DAY IV, December 11-14, 2019 – Univ. Milano-Bicocca, Italy. “Exploiting blood nanoparticles for augmented pathogenesis Identification”. Annalisa Radeghieri/Lucia Paolini.
38. Oral presentation at One-Health Seminar, March 10 2020, Utrecht University, Netherlands. “Integrating proteomics data into in vitro data: linking proteins to signaling cascades”. Martijn van Herwijnen.
39. Oral Presentation at ISEV 2020 Annual virtual meeting, 20-22 July 2020. “The CONAN assay: purity grade and concentration of EV microliter formulations by colloidal nanoplasmonics”. Andrea Zendrini.  
*WINNER of the “Outstanding Oral Abstract Award”*
40. Keynote. Paolo Bergese at EVIta society on-line workshop on «EV based Biomarkers». “Physical chemistry fo EV diagnostics”. 25 September 2020
41. Poster entitled “High Throughput Extracellular Vesicle Sorting Using Electrokinetic Deterministic Lateral Displacement”. Conference on Miniaturized Systems for Chemistry and Life Sciences ( $\mu$ TAS 2020; 4-9 October 2020). Bao Ho
42. Flash talk “Microfluidic separation of EVs”. UK EV Forum hosted by UK Society for Extracellular Vesicles. 7-8 December 2020, on-line. Ric Gillams.
43. Abstract talk at ISEV Infectious Diseases Meeting, 25-28 January 2021. “Comparison of three enrichment methods for immunomodulatory extracellular vesicles from Helminths”. Anne Borup.
44. Poster and flash talk presentation at the Virtual RMS AFM & SPM Meeting. November 3 - 4, 2020. “High throughput nanomechanical study of Extracellular vesicles by AFM”. Andrea Ridolfi.
45. Flash talk “Microfluidic separation of EVs”. UK EV Forum hosted by UK Society for Extracellular Vesicles. 7- 8 December 2020, on-line. Ric Gillams.
46. Poster presentation at MLZ User meeting & German Neutron Scattering Conference 2020, December 8 - 10, 2020. “Curvature effects on the stability of lipid bicontinuous cubic phase films interacting with gold nanoparticles”. Andrea Ridolfi.

47. Abstract talk at ISEV Infectious Diseases Meeting, 25-28 January 2021.  
“Comparison of three enrichment methods for immunomodulatory extracellular vesicles from Helminths”. Anne Borup.
48. Oral Presentation at ISEV 2021 Annual virtual meeting, 18-21 May 2021.  
“Set-up of multi-parametric analytical assays for quantification, quality control and surrogate potency testing of helminth EVs”. Francesca Loria.
49. Oral Presentation at ISEV 2021 Annual virtual meeting, 18-21 May 2021.  
“AFM-based high throughput mechanical characterization of single EVs from different natural sources”. Andrea Ridolfi.
50. Oral Poster at ISEV 2021 Annual virtual meeting, 18-21 May 2021.  
“Pre-processing of bovine milk to clear casein micelles can influence the colloidal and functional properties of milk extracellular vesicles”. Martijn van Herwijnen
51. Oral Presentation at BioMedEng21, 6-7 September 2021. Sheffield, UK.  
“Extracellular vesicle isolation in a microfluidic channel. Richard Gillams
52. Poster presentation at EVIta 2<sup>nd</sup> Symposium, 20-22 September 2021- Lucca, Italy.  
“Fourier-transform infrared spectroscopy (FT-IR) to characterize EV subpopulations from plasma of subjects with Parkinson's disease and healthy controls”. Lucia Paolini.
53. Oral Presentation at EVIta 2<sup>nd</sup> Symposium, 20-22 September 2021- Lucca, Italy.  
“evFOUNDRY”. Lucia Paolini.
54. Poster presentation at  $\mu$ TAS 2021, 10-14 October 2021-hybrid- Palm Springs, CA (USA) “Nanoparticle and nano vesicle separation using electrokinetic biased Deterministic Lateral Displacement micro channels”. Richard Gillams.
55. Poster presentation at MassivEVs ISEV workshop, 28-29 October 2021. Desenzano del Garda. Italy. “Pre-processing of bovine milk to clear casein micelles is needed for large scale production of EVs but can influence their colloidal and functional properties. Martijn van Herwijnen
56. Poster presentation at MassivEVs ISEV workshop, 28-29 October 2021. Desenzano del Garda. Italy. “Microfluidic approaches for the isolation of extracellular vesicles from biological samples”. Hywel Morgan.
57. Oral Presentation at MassivEVs ISEV workshop, 28-29 October 2021. Desenzano del Garda. Italy. “The novel prospects for delivering an end-to-end roadmap for bioactive EVs in therapy and custom care”. Natasa Zarovni.
58. Oral Presentation at Danish Society for Extracellular Vesicles (DSEV) Annual Symposium 2021, 28 October 2021. Vejle (Denmark). “Comparison of three separation methods for immunomodulatory extracellular vesicles from helminths”. Anne Borup. *Winner of the “Best oral Presentation” award.*
59. Oral Presentation at fifth annual meeting of the Netherlands Society for Extracellular Vesicles (NLSEV). 12 November 2021. Amsterdam (The Netherlands) “Pre-processing of bovine milk prior to EV isolation is essential for purity, but various protocols affect colloidal and functional properties of milk EVs”. Martijn van Herwijnen