

## Publications - Francesca Cavalieri

### Recent significant publications (2005 onwards)

Total of Peer-Reviewed Research Publications = 55

H Index (ISI Web of science): 20

### Scholarly Book Chapters

- Ultrasound-Assisted Preparation of Nano-and Micro- Polymeric Materials for the Encapsulation of Bioactive Agents. **Cavalieri F.**, Zhou M., Tortora M., Ashokkumar M. Book Chapter Cavitation: A novel energy efficient technique for the generation of nanomaterials, 2013 M. Sivakumar and M. Ashokkumar (Eds.) Pan Stanford Publishing 2013.

### Refereed Journal Articles

- \*Mechanical characterization of ultrasonically-synthesized microbubble shells by flow cytometry and AFM. **Cavalieri F.**, Best J. P., Perez C., Tu J., Caruso F., Matula T. and Ashokkumar M. *ACS Applied Materials and Interfaces* **2013**. DOI: 10.1021/am403108y (IF 5)
- \*Influence of the Morphology of Lysozyme-shelled Microparticles on the Cellular Association, Uptake and Degradation in Human Breast Adenocarcinoma Cells. **Cavalieri F.**, Colone M., Stringaro A, Tortora M., Calcabrini A., Zhou M., Ashokkumar M., *Particle & Particle Systems characterization* **2013**, 30, 695-705. (New Journal.)
- Antimicrobial and Biosensing Ultrasound Responsive Lysozyme-Shelled Microbubbles. **Cavalieri F.\***, Micheli L., Kaliappan S., Teo BM, Zhou M., Palleschi G., Ashokkumar M. *ACS Appl Mater Interfaces* **2013**, 23, 464-71. (IF 5).
- Electrochemical investigation of the interaction between lysozyme-shelled microbubbles and vitamin C. **Cavalieri F.**, Micheli L., Zhou M., Tortora M., Palleschi G., Ashokkumar M. *Anal. Bioanal Chem.* **2013** DOI 10.1007/s00216-013-6895-0. (IF 3.8).
- A Comparison of the Physical Properties of Ultrasonically Synthesized Lysozyme- and BSA- Shelled Microbubbles. Vong F., Son Y, Bhuiyan S., Zhou M. **Cavalieri F.**, Ashokkumar M. *Ultrasonics Sonochemistry*, **2013**, doi:p11: S1350-4177(13)00112-0. 10.1016/j.ultsonch.2013.05.004 (IF 3.5)
- \*Methods of preparation of multifunctional microbubbles and their in vitro / in vivo assessment of stability, functional and structural properties. **Cavalieri F.\***, Zhou M., Tortora M., Baldassarri L. Ashokkumar M. *Currents Pharmaceutical Design* **2012**, 18, 2118-34. (IF 4.4)
- \*Confinement of acoustic cavitation for the synthesis of protein-shelled nanobubbles for diagnostics and gene therapy. Zhou M., **Cavalieri F.**, Caruso F., Ashokkumar M. *ACS Macro Letters* **2012**, 1, 853-856. (New Journal)

- Modification of the size distribution of lysozyme microbubbles using a post-sonication technique. Zhou M.; **Cavalieri F.**; Ashokkumar M. *Instrumentation Science & Technology* **2012**, *40*, 51-60.
- \*Molecular Properties of Lysozyme-Microbubbles: Towards the Protein and Nucleic Acid Delivery. Melino S., Zhou M., Tortora M., Paci M., **Cavalieri F\***. and Ashokkumar M. *Amino Acids* **2012**, *43*, 885–896. (IF 4)
- \*One-pot ultrasonic synthesis of multifunctional microbubbles and microcapsules using synthetic thiolated macromolecules. **Cavalieri F.**, Zhou M., Caruso F. and Ashokkumar M. *Chem Comm.* **2011**, *47*, 4096-4098. (IF 6.4).
- \*Tailoring the properties of ultrasonically synthesised microbubbles Zhou M., **Cavalieri F\*** Ashokkumar M. *Soft Matter* **2011**, *7*, 623-630. (IF 4)
- 1H-NMR analysis of water mobility in cultured phototrophic biofilms. Di Pippo F.; Bohn A.; **Cavalieri F.**, P. Albertano et al. *Biofouling*, *27*, 3, 327-336, **2011**. (I.F. 3.4)
- \*Redox-Active Polymer Microcapsules for the Delivery of a Survivin-Specific siRNA in Prostate Cancer Cells. Becker AL, Orlotti NI, Folini M, **Cavalieri F**, Zelikin AN, Johnston AP, Zaffaroni N, Caruso F. *ACS Nano*, **2011**, *5* (2), pp 1335–1344 (IF 12)
- \*Thin multilayer films and microcapsules containing DNA quadruplex motifs. **Cavalieri F**, Ng SL, Mazzuca C, Jia Z, Bulmus V, Davis TP, Caruso F. *Small*. **2011** Jan 3;7(1):101-11 (IF 7.8)
- \*The influence of Salt Concentration on the Assembly of DNA Multilayer Films. Lillian Lee, **Francesca Cavalieri**, Angus P. R. Johnston, and Frank Caruso. **2010** *Langmuir* 3415- 3422. (IF 4.3)
- Sonochemical Synthesis of Liquid-encapsulated Lysozyme Microspheres. Zhou M., Leong T.S.H, Sonia Melino, **Cavalieri F**, Kentish S., Ashokkumar M *Ultrasonics Sonochemistry* **2010**;17(2): 333-337. (IF 3.5)
- \*The Design of Multifunctional Microbubbles for Ultrasound Image-Guided Cancer Therapy **Francesca Cavalieri\***, Meifang Zhou, Muthupandian Ashokkumar *Current Topics in Medicinal Chemistry* 2010 Number 12, **2010** , pp. 1198-1210(13). (IF 4.5)
- \* Assembly and Functionalization of DNA-Polymer Microcapsules. **Francesca Cavalieri**, Almar Postma, Lillian Lee, and Frank Caruso. **2009**, *ACS Nano*, *3*, 234. (IF 12).
- *Ultrasonic Synthesis of Stable Functional Lysozyme Microbubbles* **Francesca Cavalieri**, Muthupandian Ashokkumar, Franz Grieser, Frank Caruso. *Langmuir* **2008**, *24*, 10078 ((**IF 4**)).
- In situ Imaging of Gas-filled Microballoons by soft X-Ray Spectromicroscopy.
- Tzevetkov G, Fernandes, Fery A., **Cavalieri F**. Paradossi G., Fink R. , *Soft Matter* **2008**, *4*, 510. (IF 4.9).
- Novel PVA-Based Hydrogel Microparticles for Doxorubicin Delivery. **Cavalieri, F.**; Chiessi, E.; Villa, R.; Viganò, L.; Zaffaroni, N.; Telling, M. F.; Paradossi, G. *Biomacromolecules* **2008**, *9*, 1967.

- Polymer Microbubbles as Diagnostic and Therapeutic Gas Delivery Device. **Cavalieri F**, Finelli I., Tortora, M, Mozetic P., Chiessi E., Polizio F., B.Brismar T.,Paradossi G. 2008 *Chemistry of Materials*, 2008, 20, 3254-3258. (IF 5.0)
- Chaperone-Like Activity of Nanoparticles of Hydrophobized Poly(vinyl alcohol). **Francesca Cavalieri**, Ester Chiessi, Gaio Paradossi. *Soft Matter*, 2007, 2, 718 – 724
- **Michael-Type Addition Reactions for the In Situ Formation of Poly(vinyl alcohol)-Based Hydrogels.** Mariarosaria Tortora, **Francesca Cavalieri**, Ester Chiessi, Gaio Paradossi *Biomacromolecules*; 2007; 8(1) pp 209 - 214;
- **28. Water and Polymer Dynamics in Chemically Cross-Linked Hydrogels of Poly(vinyl alcohol): A Molecular Dynamics Simulation Study**  
Chiessi E., **Cavalieri F.** Paradossi J. *Phys. Chem. B*, 111(11), 2820-2827 (2007).
- Ligands Tethering to Biocompatible Ultrasound Active Polymeric Microbubbles Surface. **Francesca Cavalieri**, Ali El Hamassi, Ester Chiessi and Gaio Paradossi, Raffaella Villa, Nadia Zaffaroni. *Macrom. Symp.* 2006, 234, 94-101
- Soft Condensed Matter in Pharmaceutical Design. Gaio Paradossi, **Francesca Cavalieri**, Ester Chiessi. *Current Pharmaceutical design* 2006, 12, 1403-1419. (IF 4.4)
- Tethering Functional Ligands onto Shell of Ultrasound Active Polymeric Microbubbles **Francesca Cavalieri**, Ali El Hamassi, Ester Chiessi and Gaio Paradossi, Raffaella Villa, Nadia Zaffaroni. *Biomacromolecules*. 2006, 7, 604-611.(IF 4.1)
- Water, Solute, and Segmental Dynamics in Polysaccharides Hydrogel. **F. Cavalieri**, E. Chiessi, I. Finelli, F.Natali, G. Paradossi, M.F. Telling. *Macrom. Bioscience*, 6, 2006, 579-589.
- Stable Polymeric Microballoons as Multifunctional Device for Biomedical Uses: Synthesis and Characterization. **Francesca Cavalieri**, Ali El Hamassi, Ester Chiessi and Gaio Paradossi. *Langmuir* 2005, 21, 8758-8764.
- Proton Fluctuations and Water Diffusion in Dextran Chemical Hydrogels Studied by Incoherent Elastic and Quasielastic Neutron Scattering. Gaio Paradossi, **Francesca Cavalieri**, Ester Chiessi. *Carbohydrate Research*.2005, 340, 921-927.
- Supercooled Water in PVA Matrixes: II A Molecular Dynamic Simulation Study and Comparison with QENS Results. Ester Chiessi, **Francesca Cavalieri** and Gaio Paradossi. *J. Physical Chemistry B*, 2005, 109, 8091-8096.

#### Other Publications

- International Patent 2010, US20100158813, Paradossi G. Cavalieri F. Microbubbles as drug delivery device.