

## Short Bio Silvia Cavalli



Dr. Silvia Cavalli obtained her Master's degree in Chemistry (2002) at the University of Milan in Italy and her Ph.D. (2006) under the direct supervision of Prof. Dr. Alexander Kros at Leiden University, the Netherlands. During her research experience she worked on different interdisciplinary projects related to the field of nanotechnology (from synthetic and physical-chemistry to biology). She recently joined Prof. Giulia Grancini's group at the University of Pavia as a technician, where she is current involved in the development of smart materials applied to photovoltaics and to the use of Atomic Force Microscopy (AFM) to characterized them.

## Extended CV Silvia Cavalli

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### Personal Information

- Date and place of birth: 17<sup>th</sup> June 1975 in Sant'Angelo Lodigiano (LO), Italy
- Nationality: Italian
- Marital status: married.

### Education

- 25<sup>th</sup> January 2007, PhD (Soft Matter Chemistry), Leiden Institute of Chemistry, University of Leiden, The Netherlands, "*Synthesis and evaluation of physical-chemical properties of self-assembly  $\beta$ -sheet lipopeptides*". Supervisor Prof. Dr. Ir. J. G. E. M. Fraaije, Co-promoters: Dr. A. Kros and Dr. M. Overhand (4 years of experience abroad)
- 8<sup>th</sup> March 2002, MSc in Chemistry, Università degli studi di Milano, Italy. "*Synthesis of Orthogonal Protected 2-Amino-2-Deoxy-Glucopyranosides as Scaffolds for the Construction of Combinatorial Libraries*". Supervisor Prof. G. Russo.
- 1990-1994 studied foreign languages and literature at Liceo Linguistico Maffeo Vegio, Lodi, Italy.

### Current Occupation

- Technician in the pvsquared2 group of Prof. Giulia Grancini at the University of Pavia, Italy (15 February 2024-current). **Major professional activities: laboratory management, development of new materials for perovskite passivation general scientific support to the PI and referent for AFM measurements.**

### Research Experience

- Technician in the pvsquared2 group of Prof. Giulia Grancini at the University of Pavia, Italy (10 January 2022-current). **Major professional activities: laboratory management, development of new materials for perovskite passivation general scientific support to the PI and referent for AFM measurements.**
- Research fellow working on the project "Materials chemistry for tissue engineering applications" in the group of Prof. Francesco Pasqualini at the University of Pavia, Italy (April 2021-December 2021). **Laboratory co-management (for the chemistry section) experience.**

- **Tutor in Organic Chemistry** for the academic years 2018/2019 and 2019/2020 at the University of Milano-Bicocca (applications 19TUT052-10, 19TUT052-10 and 18TUT044-08).
- Senior postdoctoral researcher. Project: *“Development of new light-responsive cell instructive materials”*. Center for Advanced Biomaterials for Healthcare at the Italian Institute of Technology @ CRIB, Naples (Italy). Group of Prof. Dr. Paolo Antonio Netti. (September 2012-September 2017). **Laboratory co-management (for the chemistry section) and group mentoring experience.**
- **Independent researcher.** Project: *“Pentaphyrin-Superparamagnetic Iron Oxide Nanoparticles as Theranostic Agents”* granted by **TALENTS Fellowship Programme** (FP7 Marie Curie Actions Co-Funding of Regional, National and International Programmes for Friuli-Venezia Giulia, AREA Science Park). Score: 96.5/100. Hosting laboratories: Biomaterials laboratory of Dr. Clara Comuzzi and Cellular Biology laboratory of Prof. Dr. Luigi Xodo, University of Udine (March 2011-August 2012).
- Postdoctoral researcher. Project: *“Synthesis of peptide-superparamagnetic nanoparticle hybrids as contrast agents for MRI and studies of their internalization in HeLa cells”*. Chemistry and Molecular Pharmacology Programme, Prof. Dr. Fernando Albericio Group, contracted by a Networking Centre on Biomedical Investigation by means of Bioengineering, Biomaterials, and Nanomedicine (CIBER-BBN) and working at the Institute for Research in Biomedicine (IRB Barcelona), Barcelona Science Park (PCB), Barcelona, Spain (December 2008-February 2011, **about 2 years of experience abroad**).
- Postdoctoral researcher. Project: *“Synthesis and biological application of fluorescent probes as active-site directed autotoxin sensors”*. Chemical Biology Laboratory of Dr. H. Ovaa, Netherlands Cancer Institute (NKI), Division of cellular biochemistry, Amsterdam, The Netherlands (November 2006-November 2008, **2 years of experience abroad**).
- Student assistant. Projects: *“Synthesis of lumazine-6-carboxylic acid derivatives”* and *“Synthesis of (2S,4R)-4-hydroxy-ornithine”*. Group of Prof. Dr. J.H. van Boom, Bioorganic Synthesis, Leiden Institute of Chemistry, The Netherlands (October 2001-January 2002, **3 months of experience abroad**).
- Undergraduate student. Project for Master’s Science Thesis: *“Synthesis of Orthogonal Protected 2-Amino-2-Deoxy-Glucopyranosides as Scaffolds for the Construction of Combinatorial Libraries”*. Group of Prof. Dr. J.H. van Boom, Bioorganic Synthesis, Leiden Institute of Chemistry, The Netherlands. Socrates-Erasmus Exchange Programme (November 2000-May 2001, **6 months of experience abroad**).

### Funding and Habilitation

- 2020 ASN 03/B2 (Scientific National Habilitation, II Level, 03/B2 Fondamenti chimici delle tecnologie, 13/01/2020-13/01/2031)
- 2011 TALENTS Fellowship Programme (FP7 Marie Curie Actions Co-Funding of Regional, National and International Programmes, Friuli-Venezia Giulia, AREA Science Park).
- 2000 Socrates-Erasmus fellowship.

### Languages

- *Italian* -native speaker
- **English**-fluent in conversation, reading and writing (B2 Esol certificate)
- **Spanish**- medium knowledge in conversation, reading and writing (2 years, IRB course)
- **Dutch**-3<sup>rd</sup> level (3 years, Leidse Volksuniversiteit K&O, Leiden, The Netherlands)
- **French**-medium knowledge in conversation, reading and writing (5 years, Liceo Linguistico Maffeo Vegio, Lodi, Italy)
- **German**-basic knowledge in conversation, reading and writing (3 years, Liceo Linguistico Maffeo Vegio, Lodi, Italy)

### Research Skills and Techniques

- **Design and synthesis of new materials for perovskite passivation (i.e. PEG derivatives).**
- Polymer and Polymer Brush Synthesis (grafted polymers via RAFT)
- **Organic Synthesis (lipopeptide and carbohydrate synthesis, asymmetric synthesis as well as olefin metathesis and bioorthogonal ligations, i.e. click and oxime chemistry).**
- Photochemistry
- Nuclear Magnetic Resonance (*NMR*)
- Circular Dichroism (*CD*)
- Attenuated Total Reflection Fourier Transform Infrared (*ATR-FTIR*)
- **Scanning Electron Microscopy (*SEM*)**
- **Transmission Electron Microscopy (*TEM*)**
- **Atomic Force Microscopy (*AFM*)**
- **X-ray Powder Diffraction (*XRD*) and Grazing Incidence X-ray Diffraction (*GIXD*)**
- High Performance Liquid Chromatography (*HPLC*)
- Liquid Chromatography-Mass Spectrometry (*LC-MS*)
- **Fluorescence Spectroscopy**
- **Fluorescence Resonance Energy Transfer (*FRET*)**

- Fluorescence Correlation Spectroscopy (FCS)
- Ultraviolet Spectroscopy (UV)
- Langmuir monolayers
- SDS-polyacrylamide gel electrophoresis (SDS-PAGE)
- Western Blot analysis
- Cell Lysate preparation
- Cell cultures (HeLa, B78-H, NIH 3T3, HUVECs and MSC)
- *Staphylococcus aureus* culture
- MTT toxicity test
- Resazurin viability assay.
- Flow Cytometry
- Confocal Microscopy (STED and Multiphoton Microscopy)
- MRI (partial knowledge)
- Anticancer Photodynamic Therapy (PDT)
- Photodynamic Disinfection (PDD) (antimicrobial application of PDT, APDT)

### Practical Courses and Workshops

- Fire emergency training course for IIT employees, given by the Fire and Rescue Service “Vigili del fuoco” (Level: Medium), March 07, 2014, Napoli (Italy), with certificate of attendance released on the 22<sup>nd</sup> of October 2015.
- 2nd Cyclon Summer School in “Photochemistry and applications in photoactivable anticancer drugs”, September 26-28 2011, CNR, Bologna (Italy).
- International Workshop on “Molecular Pathways in the Response of Tumours to Photodynamic Therapy”, September 9-10, 2011, Udine (Italy).
- 3D Solution in (Cryo) Electron Microscopy Workshop (15-18 September 2009, IRB, Barcelona).
- Small animal imaging workshop (March 2008, the Erasmus MC, Rotterdam).
- Practical course on <sup>18</sup>F chemistry (November 2006, VU, Amsterdam).
- Practical radiation protection training (January 2007, NKI-AVL, Amsterdam).

### Student Supervision

- Tutor in Organic Chemistry for at the University of Milano-Bicocca.
- Tutor of six PhD students (Ravichandran Kollarigowda, Carmela Rianna, Elisa Vaselli, Chiara Fedele, Lucia Rossano and Selene De Martino), IIT, Naples, Italy.
- Tutor of two undergraduate student (Chiara Fedele and Chiara Cimmino), IIT, Naples, Italy.
- Supervision of one PhD student (Merlyn Thandu), Udine University, Italy.
- Supervision of 2<sup>nd</sup> year students during the annual “Fysische Chemie Tweedejaars Practicum”, introduction on Langmuir monolayers (Leiden Institute of Chemistry).
- Supervision of an undergraduate student (Mark Bleijenberg) for a six months project “*Lipopeptide monolayers at the air-water interface*” (Leiden Institute Chemistry, 2002/2003).
- Supervision of an undergraduate student (Emily E. Tellers) for a six months project “*Mineralization of CaCO<sub>3</sub> under templates of lipopeptide monolayers*” (Leiden Institute Chemistry, 2003/2004).
- Supervision of an undergraduate student (Frank Versluis) for a three months project “*Study on the aggregation of lipopeptides in water*” (Leiden Institute of Chemistry, 2004).
- Supervision of 1<sup>st</sup> year students during the “Project Gestuurd Onderwijs” (PGO), work on “*Membrane-interaction screening of polypeptides*” (Leiden Institute of Chemistry, 2004).

### Thesis Supervision

- Tutor of the PhD Thesis entitled: “Dynamic Topographic Pattern On Photoswitchable Azobenzene Substrates To Study Cell Behavior” by Dr. Lucia Rossano, defended on the 2nd of February 2018 (IIT@CRIB, Faculty of Engineering, University of Naples, Italy).
- Tutor of the MSc Thesis entitled: “*Study Of Cell Behavior On Photosensitive Surfaces With Modular Topography*” by Chiara Cimmino. Thesis was discussed on the 23<sup>rd</sup> of May 2017. (May 2017- October 2016, IIT@CRIB, Faculty of Engineering, University of Naples, Italy).
- Tutor of the PhD Thesis entitled: “*Photoresponsive azobenzene-based materials for smart cell culture applications*” by Dr. Chiara Fedele, defended on the 2<sup>nd</sup> of May 2017 (IIT@CRIB, Faculty of Engineering, University of Naples, Italy).
- External reviewer of the PhD Thesis entitled “*Synthesis and Characterization of New Organic Materials with Potential Application in Water Treatment*” by Dr. Merlyn Mathilda Thandu, defended on the 12<sup>th</sup> of April 2016 (University of Udine, Italy).

- Tutor of three PhD Theses entitled: ““On-Off” RGD Signaling Using Azobenzene Photoswitch-Modified Surfaces” by Dr. Elisa Vaselli, “Dynamic Topographic Patterns to Control Cell Adhesion and Mechanics” by Dr. Carmela Rianna and “Study on Synthesized Azopolymer Brushes as Novel Photoresponsive Biomaterials” by Dr. Ravichandran Kollarigowda. All the theses were defended on the 29-30<sup>th</sup> of April 2015 (IIT@CRIB, Faculty of Engineering, University of Naples, Italy).
- Tutor of the MSc Thesis entitled: “Chemical Modifications of Glass Surfaces using Azobenzene Photoswitches for Biological Applications” by Chiara Fedele. Thesis was discussed on the 20<sup>th</sup> of December 2013. Mark: 110/110 cum laude (May 2013-December 2013, IIT@CRIB, Faculty of Engineering, University of Naples, Italy).

### Collaborations

- Dr. A. Priimägi (Department of Chemistry and Bioengineering, Tampere University of Technology, Tampere, Finland) for a collaboration during the short period of international internship of Chiara Fedele PhD programme on a project related to the use of azobenzene-derived biomaterials for cell culture applications (September-November 2016).
- Prof. Dr. M. Radmacher (Institute of Biophysics, Universität Bremen, Bremen, Germany) for a collaboration during the short period of international internship of Carmela Rianna PhD programme on a project related to the use of AFM for cell mechanics studies (September-November 2014).
- Dr. A. Calabuig, Dr. V. Pagliarulo and Dr. Prof. P. Ferraro (CNR-Istituto di Cibernetica “E. Caianiello”, Pozzuoli, Italy) for Lloyd’s mirror setup used for pattern inscription on azopolymers (2014-2015).
- Dr. Ana Paula Candiota Silveira and Prof. Dr. Carles Arús Caraltó (Biochemistry and Molecular Biology, Faculty of Bioscience, Universitat Autònoma de Barcelona, UAB, Cerdanyola del Vallès, Spain) for the MRI measurements (2010-2011).
- Dr. D. C. Popescu and Prof. Dr. N. A. J. M. Sommerdijk (Laboratory of Macromolecular and Organic Chemistry, Eindhoven University of Technology, The Netherlands) for the biomineralization experiments.
- Dr. Silvina Federman and Dr. H. Rapaport (Department of Biotechnology Engineering, Ben Gurion University of the Negev, Beer-Sheva, Israel) for AFM and GIXD measurements (December 2004).
- Prof. Dr. K. Kjaer (Niels Bohr Institute, University of Copenhagen, Denmark) at Hasylab, DESY (Hamburg, Germany) for GIXD measurements (February and October 2005).

### Manuscript Revision

- Journal of Materials Science, Springer.
- International Journal of Peptide Research and Therapeutics, Springer.
- International Journal of Nanomedicine, Dove Medical Press.
- ChemPlusChem, Wiley.

### Colloquia

- “Two-dimensional ordered  $\beta$ -sheet lipopeptide monolayer”, January 2006, University of Leiden, The Netherlands.
- “ $\beta$ -sheet forming lipopeptides as templates for the mineralization of  $\text{CaCO}_3$ ”, December 2004, Ben Gurion University of the Negev, Israel.
- “Synthesis of Orthogonal Protected 2-Amino-2-Deoxy-Glucoopyranosides as Scaffolds for the Construction of Combinatorial Libraries”, March 2002, Università degli studi di Milano, Italy.

### Conferences

- Materials.it 2016, 1<sup>st</sup> Italian National Conference on Materials Science and Technology, Catania, Italy, 12-16 December 2016.  
**Oral presentation (Parallel Section of Stimuli Responsive: Bio-Organic Materials):** “Dynamic Cell Instructive Materials for Cell Culture”. **S. Cavalli**, P. A. Netti.
- V Congresso Gruppo Nazionale di Bioingegneria (GNB), Napoli, Italy, June 2016.  
**Poster presentations:** “Dynamic reversible substrates to control cell behavior”. **L. Rossano**, C. Rianna, M. Ventre, **S. Cavalli**, P. A. Netti and “Azopolymer brushes as tunable cell-instructive materials”. **C. Fedele**, R. H. Kollarigowda, S. Cavalli, P. A. Netti.
- 4<sup>th</sup> National Forum of Jung Researchers in Materials Science, Padova, Italy, May 2012.  
**Oral presentation:** “Superparamagnetic Iron Oxide Nanoparticles (SPION) as Theranostic Nanoagents” **S. Cavalli**, D. Carbajo, M. Acosta, A. P. Candiota, C. Arús, M. Royo, F. Albericio, V. Rapozzi, L. Xodo, C. Comuzzi.
- 10<sup>th</sup> Annual Conference of the CER (Coordinamento degli Enti di Ricerca del Friuli Venezia Giulia) AREA Science Park, Trieste, Italy, December 2011.  
**Oral presentation:** “Biotechnologies and Nanomedicine: Multi-Sectorial and International Research” **S. Cavalli** (invited as “Talents” fellows at Udine University).



- Imagenenano (NanoSpain), Bilbao, Spain, April 2010.  
**Oral presentation:** "Cell Penetrating Peptide-Superparamagnetic Iron Oxide Nanoparticle Conjugates as Bimodal Imaging Nanoagents" **S. Cavalli**, D. Carbajo, M. Acosta, A. P. Candiota, C. Arús, M. Royo, F. Albericio.
- CIBER-BBN Annual Conference, Barcelona, Spain, May 2010.  
**Oral presentation:** "A bioorthogonal chemical approach to the preparation of cell penetrating peptide-superparamagnetic iron oxide nanoparticles" **S. Cavalli**, D. Carbajo, M. Royo and F. Albericio.
- ACS National Meeting, San Diego, USA, March 2005. **Poster presentation:** "Peptides as templates for CaCO<sub>3</sub> Mineralization" **S. Cavalli**, D. C. Popescu, E. E. Tellers, M. Overhand, H. Rapaport, N. A. J. M. Sommerdijk and A. Kros.
- Structuur en Reactiviteit, Lunteren, The Netherlands, 17/19 October 2005.  
**Oral presentation:** "Two-dimensional ordered  $\beta$ -sheet lipopeptide monolayer" **S. Cavalli**, D. C. Popescu, E. E. Tellers, M. R. J. Vos, B. P. Pichon, M. Overhand, H. Rapaport, N. A. J. M. Sommerdijk and A. Kros.
- Dutch Polymer Days, Lunteren, The Netherlands, 10/11 February 2003.  
**Oral presentation:** "Self-assembling  $\beta$ -sheet forming lipopeptides" **S. Cavalli**, M. Overhand, J. G. E. M. Fraaije, A. Kros.

### Conference Abstracts and Preprints

- **S. Cavalli**, P. A. Netti. "Dynamic Cell Instructive Materials for Cell Culture". Accepted for an oral presentation at Materials.it 2016, 1<sup>st</sup> Italian National Conference on Materials Science and Technology, Catania, Italy, 12-16 December 2016.
- **L. Rossano**, C. Rianna, M. Ventre, **S. Cavalli**, P. A. Netti. "Reversible and dynamic micro-topographic pattern on azo-polymers substrates to investigate cell behavior in real-time". Accepted for an oral presentation to Applied Nanotechnology and Nanoscience International Conference (ANNIC), 9 - 11 November 2016, Barcelona, Spain.
- **F. A. Pennacchio**, C. Fedele, **S. Cavalli**, R. Vecchione, P. A. Netti. "3D lithography of gelatin-based photo-actuable scaffolds". Accepted for an oral presentation to the 2nd International Conference on Photoalignment & Photopatterning in Soft Materials (PhoSM), 24-27 November 2016, Nagoya, Japan.
- **C. Fedele**, M. De Gregorio, C. Attanasio, **S. Cavalli**, A. Priimägi, P. A. Netti. "Azopolymer photopatterning by confocal microscope for cell culture applications". Accepted for an oral presentation to the 2nd International Conference on Photoalignment & Photopatterning in Soft Materials (PhoSM), 24-27 November 2016, Nagoya, Japan.
- **L. Rossano**, C. Rianna, M. Ventre, **S. Cavalli**, P. A. Netti "Dynamic reversible substrates to control cell behavior". GNB 2016, Biomateriali, 223-225.
- **C. Fedele**, R. H. Kollarigowda, **S. Cavalli**, P. A. Netti. "Azopolymer brushes as tunable cell-instructive materials". GNB 2016, Biomateriali, 164-166.
- **C. Fedele**, R. H. Kollarigowda, **S. Cavalli**, P. A. Netti "Dynamic biointerfaces: new generation of cell instructive materials (CIMS)". ISSN 0420-0195. Section CPP 40.5, page 164. Deutsche Physikalische Gesellschaft (DPG) Spring Meeting 2016, Regensburg, Germany.
- **A. Calabuig**, C. Rianna, V. Pagliarulo, M. Ventre, **S. Cavalli**, S. Grilli, P. A. Netti, P. Ferraro. "Imaging and characterization of surface relief gratings on azopolymer by digital holographic microscopy". SPIE Optical Metrology, 2015, 95290L-95290L-6. (Editor: International Society for Optics and Photonics)
- **S. Cavalli**, D. Carbajo, M. Royo, F. Albericio. "Cell Penetrating Peptide-Superparamagnetic Iron Oxide Nanoparticle Conjugates as Bimodal Imaging Nanoagents". Imagenenano, NanoSpain 2011, 161.
- **N. A. J. M. Sommerdijk**, D. C. Popescu, **S. Cavalli**, A. Kros, "On the role of Template Adaptability in the Biomimetic Formation of CaCO<sub>3</sub>. Self-organizing Monolayers of  $\beta$ -sheet forming Peptides". Biomineralization: from Paleontology to Materials Science Proceedings, 9<sup>th</sup> International Symposium on Biomineralization, (Eds.) J.L. Arias, M.S. Fernández, 2007, 495.
- **S. Cavalli**, D. C. Popescu, E.E. Tellers, M. Overhand, H. Rapaport, N. A. J. M. Sommerdijk, A. Kros. " $\beta$ -sheet lipopeptide monolayers as an ordered template for the mineralization of Calcite. Importance of adaptability". Polymeric Materials: Science & Engineering 2006, 94, 577.
- **S. Cavalli**, E. E. Tellers, M. Overhand, K. Kjaer, V. Vaiser, H. Rapaport, A. Kros. "Two-dimensional ordered  $\beta$ -sheet lipopeptide monolayers". Hasylab Annual Report, 2005.
- **S. Cavalli**, D. C. Popescu, E. E. Tellers, M. Overhand, N. Sommerdijk, A. Kros. " $\beta$ -sheet forming lipopeptides as templates for the mineralization of CaCO<sub>3</sub>". Polymer Preprints 2005, 46, 118-119.
- **S. Cavalli**, M. Overhand, J. G. E. M. Fraaije, A. Kros. "Self-assembling amphiphilic block-copolymers". Polymeric Materials: Science & Engineering 2003, 88, 404.

### Book Contributions

- **S. Cavalli**, H. Robson Marsden, A. Kros, F. Albericio. (2012). Peptide Self-Assembly in Supramolecular Chemistry: from Molecules to Nanomaterials. J. W. Steed and P. A. Gale (eds). John

Wiley & Sons Ltd, Chichester, UK, pp 2293-2310.

## Publications

- R. Pallotta, **S. Cavalli**, M. Degani and **G. Grancini**. **Smart Materials to Empowering Perovskite Solar Cells with Self-Healing Capability**. *Small Structures* (First two authors contributed equally to the work). Published online.
- R. Montecucco, G. Pica, V. Romano, F. De Boni, **S. Cavalli**, G. Bruni, E. Quadrivi, M. De Bastiani, M. Prato, R. Po, **G. Grancini**. The Stabilization of CsPbI<sub>3-x</sub>Br<sub>x</sub> Phase by Lowering Annealing Temperature for Efficient All-Inorganic Perovskite Solar Cells. *Sol. RRL* **2023**, *7*, 2300358 (the article includes AFM measurements).
- V. Larini, C. Ding, F. Faini, G. Pica, G. Bruni, L. Pancini, **S. Cavalli**, M. Manzi, M. Degani, R. Pallotta, M. De Bastiani, C.-Q. Ma, **G. Grancini**. Sustainable and Circular Management of Perovskite Solar Cells via Green Recycling of Electron Transport Layer-Coated Transparent Conductive Oxide. *Adv. Funct. Mater.* **2023**, 2306040 (the article includes AFM measurements).
- C. Fedele, E. Mäntylä, B. Belardi, T. Hamkins-Indik, **S. Cavalli**, P. A. Netti, D. A. Fletcher, S. Nymark, A. Priimagi, T. O. Ihalainen. Azobenzene-based sinusoidal surface topography drives focal adhesion confinement and guides collective migration of epithelial cells. *Scientific reports*, **2020**, *10*, 1-15.
- S. De Martino, **S. Cavalli**, P. A. Netti. Photoactive Interfaces for Spatio-Temporal Guidance of Mesenchymal Stem Cell Fate. *Adv. Healthcare Mater.* **2020**. Published Online. DOI: 10.1002/adhm.202000470 (S. C. and P. A. N. are corresponding authors).
- S. De Martino, W. Zhang, L. Klausen, H. Y. Lou, X. Li, F. S. Alfonso, **S. Cavalli**, P. A. Netti, F. Santoro, B. Cui. Dynamic Manipulation of Cell Membrane Curvature by Light-Driven Reshaping of Azopolymer. *Nano letters* **2020**, 577-584.
- L. Rossano, C. Cimmino, **S. Cavalli**, P. A. Netti, M. Ventre. Regulating Fibroblast Shape and Mechanics Through Photo-Responsive Surfaces with Concentric Circular Topographic Patterns. *Advanced Materials Interfaces*, **2018**, 1800890.
- C. Fedele, P. A. Netti, **S. Cavalli**. Azobenzene-based polymers: emerging applications as cell culture platforms. *Biomaterials Science*, **2018**, *6*, 990-995 (C. F. and S. C. are corresponding authors).
- F. A. Pennacchio, C. Fedele, S. De Martino, **S. Cavalli**, R. Vecchione, P. A. Netti. 3D Microstructured Azobenzene-Containing Gelatin as Photoactuatable Cell Confining System. *ACS Appl. Mater. Interfaces*, **2018**, *10*, 91-97 (S. C., R. V- and P. A. N. are corresponding authors. F. A. P. and C. F. contributed equally to the work).
- C. Fedele, M. De Gregorio, P. A. Netti, **S. Cavalli**, C. Attanasio. Azopolymer photopatterning for directional control of angiogenesis. *Acta Biomaterialia*, **2017**, *63*, 317-325 (S. C., C. A. and P. A. N. are corresponding authors. C. F. and M. De G. contributed equally to the work).
- M. M. Thandu, **S. Cavalli**, G. Rossi, C. B. Rizzardini, D. Goi, C. Comuzzi. Biological evaluation of a Porphyrin-SPION nanoconjugate as an antimicrobial magnetic photosensitizer. *J. Porph. Phthal.*, **2017**, *21*, 581-588.
- C. Fedele, R. H. Kollarigowda, C. Rianna, A. Calabuig, A. C. Manikas, V. Pagliarulo, P. Ferraro, **S. Cavalli**, P. A. Netti. Light-Responsive Polymer Brushes: Active Topographic Cues For Cell Culture Applications. *Polym. Chem.*, **2017**, *8*, 3271-3278. (An image related to the work was published as front back cover. S. C. and P. A. N. are corresponding authors. First two authors contributed equally to the work).
- C. Rianna, L. Rossano, R. H. Kollarigowda, F. Formiggini, **S. Cavalli**, M. Ventre and P. A. Netti. Spatio-Temporal Control of Dynamic Topographic Patterns on Azopolymers for Cell Culture Applications. *Adv. Funct. Mater.*, **2016**, *26*, 7572-7580. (An image related to the work was published as front back cover).
- R. H. Kollarigowda, I. De Santo, C. Rianna, C. Fedele, A. C. Manikas, **S. Cavalli** and P. A. Netti. Shedding Light on Azopolymer Brush Dynamics by Fluorescence Correlation Spectroscopy. *Soft Matter*, **2016**, *12*, 7102-7111 (the article includes FCS measurements. S. C. and P. A. N. are corresponding authors. R. H. K. and I. De S. contributed equally to the entire work).
- C. Rianna, M. Ventre, **S. Cavalli**, M. Radmacher and P. A. Netti. Micropatterned Azopolymer Surfaces Modulate Cell Mechanics and Cytoskeleton Structure. *ACS Appl. Mater. Interfaces* **2015**, *7*, 21503-21510 (the article includes AFM measurements).
- E. Vaselli, C. Fedele, **S. Cavalli**, P. A. Netti. "On-Off" RGD Signaling Using Azobenzene Photoswitch-Modified Surfaces. *ChemPlusChem* **2015**, *80*, 1547-1555. (S. C. and P. A. N. are corresponding authors. E. V. and C. F. contributed equally to the experimental work).
- C. Rianna, A. Calabuig, M. Ventre, **S. Cavalli**, V. Pagliarulo, S. Grilli, P. Ferraro, P. A. Netti. Reversible Holographic Patterns on Azopolymers for Guiding Cell Adhesion and Orientation. *ACS Appl. Mater. Interfaces* **2015**, *7*, 16984-16991.
- **S. Cavalli**, M. Overhand, A. Kros. Assembly into  $\beta$ -Sheet Structures upon Peptide-Liposome Conjugation through Copper (I)-Catalyzed [3+2] Azide-Alkyne Cycloaddition *ChemPlusChem* **2014**, *79*, 564-568. (S. C. and A. K. are corresponding authors).

- M. Thandu, V. Rapozzi, L. Xodo, F. Albericio, C. Comuzzi, **S. Cavalli**. "Clicking" Porphyrins to Magnetic Nanoparticles for Photodynamic Therapy. *ChemPlusChem* **2014**, *79*, 90-98. (F. A., C. C. and **S. C.** are corresponding authors. This work was partially supported by "TALENTS for an International House" (co-funded Marie Curie action of AREA Science Park, Trieste, Italy) granted to **S. Cavalli**).
- **S. Cavalli**, D. Carbajo, M. Acosta, A. P. Candiota, C. Arús, M. Royo, F. Albericio. Efficient  $\gamma$ -Amino-Proline-Derived Cell Penetrating Peptide-Superparamagnetic Iron Oxide Nanoparticle Conjugates via Aniline-Catalyzed Oxime Chemistry as Bimodal Imaging Nanoagents. *Chem. Commun.* **2012**, *48*, 5322-5324. (First and last names are corresponding authors. **S. C.** and **D. C.** contributed equally to the experimental work).
- **S. Cavalli**, A. J. S. Houben, H. Albers, E. van Tilburg, A. de Ru, J. Aoki, P. van Veelen, W. H. Moolenaar, H. Ovaa. Development of an Activity-Based Probe for Autotaxin. *ChemBioChem* **2010**, *11*, 2311-2317. (**S. C.** and **A. J. S. H.** contributed equally, and an image related to the work was published as front cover).
- **S. Cavalli**, F. Albericio, A. Kros. Amphiphilic Peptides and their Cross-Disciplinary Role as Building Blocks for Nanoscience. *Chem. Soc. Rev.* **2010**, *39*, 241-263. (**S. C.**, **F. A.** and **A. K.** are corresponding authors).
- **S. Cavalli**, A. Kros. Scope and Applications of Amphiphilic Alkyl- and Lipopeptides. *Adv. Mater.* **2008**, *20*, 627-631.
- **S. Cavalli**, J.-W. Handgraaf, E. E. Tellers, D. C. Popescu, M. Overhand, K. Kjaer, V. Vaiser, N. A. J. M. Sommerdijk, H. Rapaport, A. Kros. Two-Dimensional Ordered  $\beta$ -Sheet Lipopeptide Monolayers. *J. Am. Chem. Soc.* **2006**, *128*, 13959 (the article includes **BAM** and **GIXD** measurements)
- **S. Cavalli**, A. R. Tipton, M. Overhand, A. Kros. Colorimetric Assay for Chemical Modification of Liposome Surface via a Copper-Mediated [3+2] Azide-Alkyne Cycloaddition. *Chem. Commun.* **2006**, *30*, 3193-3195 (the article includes **FRET** measurements)
- **S. Cavalli**, D. C. Popescu, E. E. Tellers, M. R. J. Vos, B. P. Pichon, M. Overhand, H. Rapaport, N. A. J. M. Sommerdijk, A. Kros. Self-Organizing  $\beta$ -Sheet Lipopeptide Monolayers as Template for the Mineralization of CaCO<sub>3</sub>. *Angew. Chem Int. Ed.* **2006**, *45*, 739-744 (the article includes **SEM** and **TEM** measurements). **S. C.** and **D. C. P.** contributed equally. The article was published as hot paper and an image related to the work was used as front cover).
- G. Voerman, **S. Cavalli**, G. A. van der Marel, W. Pfeleiderer, J. H. van Boom, D. V. Filippov. 1,3-Dimethylumazine Derivatives from *Limnatis Nilotica*. *J. Nat. Prod.* **2005**, *68*, 938-941.