Prof. Francesco Cellesi – Curriculum vitae

Personal details

Birth date: 21/06/1974
Place of Birth: Pisa (Italy)
Nationality: Italian
Marital Status: Married

Education

9/2003	PhD in Materials Engineering from the ETH Zurich (Switzerland).
2000-2003	PhD Thesis: "New fully synthetic materials for cell encapsulation". Academic supervisors: Prof. Jeffrey A. Hubbell (ETH Zurich), Prof. Martin Fussenegger (ETH Zurich), Dr. Nicola Tirelli (ETH Zurich).
10/1999	Master (Laurea) in Chemical Engineering from the University of Pisa (Italy). Final evaluation 106/110. Master thesis: "Application of an electronic nose in environmental field". Academic supervisors: Prof. C. Scali (Univ. Pisa), Prof. D. De Rossi (Univ. Pisa).
1992-1999	Study of Chemical Engineering at the University of Pisa.
1987-1992	High school in Liceo Scientifico in Isernia (Final evaluation 60/60).

Professional Experience

1/09/2006 – present.	Lecturer in Pharmaceutical Biomaterials in the School of Pharmacy and Pharmaceutical Sciences, University of Manchester (UK). Research area: molecular design and processing of polymeric materials for biomedical applications (hydrogels, biopolymers, nanoparticles for targeted drug release and diagnostics).
4/2006-8/2006	Research Fellow in the School of Pharmacy and Pharmaceutical Sciences, University of Manchester.
4/2005-3/2006	PostDoctoral Research associate in the School of Pharmacy and Pharmaceutical Sciences, University of Manchester. Research area: nanoparticles for targeted drug release, molecular design and processing of hydrogels and biopolymers.
9/2003-3/2005	Honorary research associate in The School of Pharmacy and Pharmaceutical Sciences, University of Manchester, in the research group of Prof. Nicola Tirelli. Research area: hydrogels and biocolloids.
10/2000-9/2003	Doctoral studies in the group of Prof. Jeffrey Hubbell, "Institute of Biomedical Engineering, Swiss Federal Institute of Technology of Zurich (ETH), group of Biomedical Materials and Tissue Engineering. Research area: development of new fully synthetic materials for cell encapsulation. Collaborations with Prof. M. Fussenegger and Dr. W. Weber, Swiss Federal Institute of Technology of Zurich (ETH), Prof. Von Stockar and Dr. I. Marison, Swiss Federal Institute of Technology of Lausanne (EPFL), and Inotech Encapsulation AG (Dottikon, Switzerland).
3/2000-9/2000	Postgraduate fellowship in the Institute of Biomedical Engineering, Swiss Federal

Institute of Technology of Zurich (ETH), group of Biomedical Materials and Tissue Engineering, (headed by Prof. J.A. Hubbell). Research area: Cells microencapsulation using PEG-based materials.

11/1999-3/2000 Postgraduate fellowship in the "Centro Interdipartimentale E. Piaggio", University of Pisa (Italy), on projects concerning the development of conducting polymers as gas sensors (signal processing and ink-jet printing on conducting substrates).

Professional Society Memberships:

12/2005-present Member of the Royal Society of Chemistry (MRSC)
2009-present Member of the American Chemical Society (ACS)

Languages:

Italian: native speaker.
English: fluent (written and oral).

Selected Grants

Organisation	Title of project	Period	Value (£)
EPSRC	Towards a new nanoparticle vaccine technology. Rational design of pathogen-mimicking nanoparticles for controlled immunostimulation.	Aug.10 Aug.11	126,393
Northwest Development Agency (NWDA)	Knowledge Centre for Materials Chemistry	Mar. 09	306,664

Patents

1) "Carrier Particles", PCT patent application no. GB04/02196 (2004). Inventors: **F. Cellesi**, N. Tirelli.

2) "Two-phase processing of thermosensitive polymers for use as biomaterials", Patent no. WO02074158 (2002) and US2003044468 (2003). Inventors: **F. Cellesi**, N. Tirelli, J.A. Hubbell.

List of Publications

Papers in peer-reviewed journals

2012

T. Kotsokechagia, N. Zaki, K. Syres, P. De Leonardis, A. Thomas, **F. Cellesi***, N. Tirelli, "PEGylation of nano-substrates (titania) with multifunctional reagents. At the crossroads between nanoparticles and nanocomposites", *Langmuir (2012), in press*

S. Thaiboonrod, **F. Cellesi**, RV Ulijn, BR Saunders, "One-Step Preparation of Uniform Cane-Ball Shaped Water-Swellable Microgels Containing Poly(N-vinyl formamide)", *Langmuir,* 28, 11, (2012) 5227-5236.

2011

N. Shahidan, R. Liu, **F. Cellesi**, C. Alexander, K. Shakesheff, B. Saunders, "Thermally-triggered assembly of cationic graft copolymers containing 2-(2-methoxyethoxy)ethyl methacrylate side chains", *Langmuir,* 27, 22, (2011) 13868-13878

S. Ouasti, R. Donno, **F. Cellesi**, M. Sherrat, G. Terenghi, N. Tirelli, "Network connectivity, mechanical properties and cell adhesion associated with hyaluronic acid / PEG hydrogels", *Biomaterials* 32,27 (2011) 6456-6470.

R. Bhojwani, **F. Cellesi**, A. Maino, A. Jalil, D. Haider, B. Noble, "Treatment of dry eye: An analysis of the British Sjögren's Syndrome Association comparing substitute tear viscosity and subjective efficacy", *Contact Lens and Anterior Eye*, 34, 6, (2011) 269-273.

S. Lally, T.J. Freemont, **F. Cellesi**, and B.R. Saunders, "pH-responsive microgels containing hydrophilic crosslinking co-monomers: shell-exploding microgels through design", *Colloid and Polymer Science*. 289, (2011) 647-658.

2010

R. Liu, N. Tirelli, **F. Cellesi**, B.R. Saunders, "Colloidal thermoresponsive gel forming hybrids", *Journal of Colloid and Interface Science*, 349, 2, (2010), 527-536.

S. Ungphaiboon, D. Attia, G. d'Ayala, P. Sansongsak, **F. Cellesi**, N. Tirelli, " Materials for microencapsulation: what toroidal particles ("doughnuts") can do better than spherical beads", *Soft Matter*, 6, 17, (2010) 4070-4083.

M. R. Fraylich, R. Liu, S.M. Richardson, P. Baird, J. Hoyland, A.J. Freemont, C. Alexander, K. Shakesheff, **F. Cellesi**, B.R. Saunders, "Thermally-triggered gelation of PLGA dispersions: Towards an injectable colloidal cell delivery system", *Journal of Colloid and Interface Science* 344 (2010) 61–69.

2009

R. Liu, P. De Leonardis,**F. Cellesi**, N. Tirelli, B. R. Saunders, "Temperature-Triggered Gelation of Aqueous Laponite Dispersions Containing a Cationic Poly(N-isopropyl acrylamide) Graft Copolymer", *Langmuir*, 25, 1 (2009) 490-496.

R. Liu, **F. Cellesi**, N Tirelli , B.R. Saunders, "A study of thermoassociative gelation of aqueous cationic poly(N-isopropyl acrylamide) graft copolymer solutions", *Polymer*, 50, 6 (2009) 1456-1462.

2008

R. Liu, P. De Leonardis, **F. Cellesi**, N. Tirelli, B. Saunders, "Cationic temperature-responsive poly(N-isopropyl acrylamide) graft copolymers: from triggered association to gelation", *Langmuir* 24, 14 (2008) 7099-7106

T. Kotsokechagia, **F. Cellesi***, A. Thomas, M. Niederberger,N. Tirelli, "Preparation of ligand-free TiO_2 (anatase) nanoparticles through a nonaqueous process and their surface functionalization" *Langmuir* 24, 13 (2008) 6988-6997

S.J. Eccleston, N. Tirelli, **F. Cellesi**, "Hydrogel nanoparticles via a water-in-oil microemulsion polymerization: design and synthesis optimization for biomedical applications", *Journal of Pharmacy and Pharmacology*. 60, (2008) 102

2006

A. Taglienti, **F. Cellesi**, V. Crescenzi, P. Sequi, M. Valentini, N. Tirelli, "Investigating the interactions of hyaluronan-containing polymers with biomolecules. The use of diffusional NMR techniques", *Macromolecular Bioscience* 6 (2006) 611-622

F. Cellesi, N. Tirelli, "Sol-gel synthesis at neutral pH in W/O microemulsion: a method for protein nanoencapsulation in silica gel nanoparticles." , *Colloids and Surfaces A* 288 (2006) 52-61

S.J. Eccleston, **F. Cellesi**, and N. Tirelli, "Thermoresponsive hydrogel nanoparticles" , *Journal of Pharmacy and Pharmacology*. 58, (2006) A74

2005

F. Cellesi, N. Tirelli, "A new process for cell microencapsulation and other biomaterial applications: thermal gelation and chemical cross-linking in 'tandem' ", *Journal of Material Science: Material in Medicine* 16 (2005) 559-65.

2004

F. Cellesi, W. Weber, M. Fussenegger, J.A. Hubbell, N. Tirelli, "Towards a fully-synthetic substitute of alginate: optimization of a thermal gelation/chemical cross-linking scheme ("tandem" gelation) for the production of beads and liquid-core capsules", *Biotechnology & Bioengineering* 88 (2004) 740-749.

F. Cellesi, N. Tirelli, J.A. Hubbell, "Towards a fully-synthetic substitute of alginate: development of a new process using thermal gelation and chemical cross-linking", *Biomaterials*, 25 (2004) 5115-5124

2002

F. Cellesi, N. Tirelli, J.A. Hubbell "A new tandem process for materials for cell encapsulation", *Macromolecular Chemistry & Physics,* 203 (2002) 1466-1472

2000

F. Cellesi, M. Moschini, F. Di Francesco, G. Pioggia, and M.S. Belfiore. "A FFT preprocessing algorithm to improve the reproducibility of gas sensors signals", *Sensors and Microsystems,* (2000) 274-279

M. Moschini, F. Di Francesco, G. Pioggia, **F. Cellesi**, and M.S. Belfiore. "Effect of temperature on the recognition properties of a CP-based electronic nose", *Sensors and Microsystems*, (2000) 280-285

Chapters/Papers in Books

Cellesi F., Tirelli N., "Injectable Nanotechnology", chapter from "Injectable Biomaterials: Science and Applications", by B. Vernon (Editor), Woodhead Publishing Ltd, 2011

Cellesi F., Tirelli N., "Combined tissue engineering and drug delivery", chapter from "Tissue engineering using ceramics and polymers" Woodhead Publishing Limited, Cambridge (UK), 2007

Papers in non-peer-reviewed journals/newletters

F. Cellesi, N. Tirelli, "A Novel Process for Cell Microencapsulation. 'Tandem' Hydrogels", *Cell Culture Newsletter Summer 2005*, Copyright Sigma-Aldrich, printed in the UK, 2005.