Dr. Maria Teresa Peracchia, Ph.D.
Curriculum vitae

Born in Parma, Italy, on September 29, 1967.
Italian and French nationality

Current position

Global Head of CMC Strategy & Execution, mRNA Center of excellence
Sanofi Vaccines R&D
leading the CMC Project Leaders team and in charge of designing and aligning the End-to-End CMC strategy for the mRNA vaccine portfolio

Skills

Drug delivery, Formulation, CMC development, CMC expert, External partnership, Project management, Transversal management, Risk analysis, Industrial transfer up to launch

Professional Experience

Feb. 1999-present: **Sanofi R&D (former Rhône-Poulenc Rorer, former Aventis Pharma, former Sanofi-Aventis), Vitry sur Seine, France**

Former positions

Global Head of Drug Delivery and Product Integration
Sanofi R&D - Biologics Drug Product Development

In charge of building a drug delivery internal and external network for the fast-emerging nucleic acids modalities and the existing Biologics modalities. Responsible for developing the Product Integration Strategy for Biologics.

Dupilumab (Dupixent®) CMC Project Leader at Sanofi (2013-2019)
Developed in collaboration with Regeneron, Maria Teresa led the CMC team through successful submission, registration and launch of Dupilumab for Atopic Dermatitis and Asthma indications.

CMC Project leader at Sanofi (2010-2013)
Leading the development of Oncology liquid formulations
Leading the technical transfer of a new nanomilling process for intraarticular suspension

Head of Formulation Development Unit at Sanofi (2005-2010)
In charge of the development of drug delivery systems for oral administration: lipid-based formulations (liquid and semisolid), Nanocrystal tablets
External collaboration for a softgel capsule development
In charge of the development of drug delivery systems for an immunoconjugate for iv administration

Senior Research Scientist in Drug delivery systems Development at Aventis Pharma (2000-2005)
In charge of the development of drug delivery systems for oral administration:
External collaboration for Nanocrystals tablets development
Partnership for the co-development of a semi-solid oral formulation in hard gelatin.
In charge of the development of self-emulsifying and self-microemulsifying oral formulations of oncology products
In charge of the development of drug delivery systems for iv administration: micellar formulations, external collaboration for liposome development,

Preformulation Research Scientist at Rhône Paulenc-Rorer (1999-2000)
In charge of the development of non-viral lipidic delivery systems for intramuscular gene therapy

Postodoctoral associate at Université Paris-Sud (now University Paris-Saclay), France (Professor Patrick Couvreur) (1995-1998)
Development of long circulating poly(alkyl-cyanoacrylate) nanospheres for drug release and targeting in cancer therapy

Visiting Scientist at Massachusetts Institute of Technology, Cambridge, MA, USA
Department of Chemical Engineering (Professor Robert Langer) (1992-1994)
Development of biodegradable long circulating nanospheres for drug release prepared from amphiphilic diblock and multiblock PEG-polyester and PEG-polyanhydride copolymers

Visiting scientist at Universidad Complutense, Madrid, Spain (1990-1991)
Departamento de Tecnologia Farmaceutica (Professor Rafael Cadorniga Carro)
Studies of theophylline release mechanisms in marketed drug delivery systems

Education

Nov. 1991-Oct. 1995: Ph.D. in Biopharmaceutics
Università degli Studi di Parma, Italy
Research supervisor: Professor Paolo Colombo
Thesis title: Systems for Pulsatile Drug Delivery

Nov. 1986-Nov. 1990: Laurea in Pharmacy, graduated cum laude
Università di Parma, Italy
Research supervisor: Professor Paolo Colombo
Thesis title: Oral Osmotic Delivery
Systems for Pulsatile Release of Drugs

Number of publications: 23 (see list)
(research articles and reviews)

Number of patents: 8 (see list)

International recognitions: 2020 Fellow, College of Fellows American Institute for Medical and Biological Engineering (AIMBE) "For outstanding contributions toward approval and commercialization of Dupixent from the strategic alliance between Sanofi and Regeneron"

Grants: Postdoctoral Fellowship in Cancerology 1998
(grant for **1 year** training research, **ARC**, Paris, France)
Université Paris-Sud (Châtenay Malabry, France)

Postdoctoral Fellowship TMR in Life Sciences 1996
(grant for **2 years** training research, **European Commission**)
Université Paris-Sud (Châtenay Malabry, France)

Postdoctoral Fellowship in Cancerology 1995
(grant for **1 year** training in France, **Fondation de Recherche Medicale**, Paris, France)
Université Paris-Sud (Châtenay Malabry, France)

Fellowship in Pharmaceutical Sciences 1994
(grant for **1 year** training abroad, **University of Parma**, Italy)
Université Paris-Sud (Châtenay Malabry, France)

Federchimica Fellowship 1991
(grant for **1 year** research training, **Chiesi Farmaceutici S.p.A**., Parma, Italy)

Università di Parma (Parma, Italy)

Erasmus Scholarship 1990
(mobility grant for a **6 months** research training, **European Community**)
Universidad Complutense (Madrid, Spain)

Awards: "F. Pocchiari 1995"
(national award for an original thesis in pharmaceutical technology, Centro Farmacia e Vita, Melfi, Italy).

International collaborations:
"Galileo" 1995
(grant for a bilateral collaboration Italy/France in medical sciences,
French Minister of Foreign Affairs and Italian Minister of Scientific and Technologic Research)

Affiliations: Controlled Release Society (secretary 2025-2026, in the board since 2020)
APGI (Association de Pharmacie Galenique Industrielle/International Society of Drug Delivery, Sciences and Technology) (board member)

Languages: Italian (native language)
Fluent in English and French
Intermediate level in Spanish

Scientific work

Publications

Articles

1) R. Gref, Y. Minamitake, **M.T. Peracchia**, V. Trubetskoy, V. Torchilin, R. Langer, Biodegradable long-circulating polymeric nanospheres, **Science** (1994) 263, 1600-1603.

2) A. De Ascentiis, P. Santi, G. Caponetti, R. Bettini, P.L. Catellani, **M.T. Peracchia**, P. Colombo, Delivery of nasal powders of beta-cyclodextrin by insufflation, **Pharm. Res.** (1996) 13, 734-738.

3) J. Hrkach, **M.T. Peracchia**, A. Domb, N. Lotan, R. Langer, Nanotechnology for biomaterials processing: structural characterization of amphiphilic polymeric nanoparticles by 1H NMR spectroscopy, **Biomaterials** (1997) 18, 27-30.

4) **M.T. Peracchia**, R. Gref, Y. Minamitake, A. Domb, N. Lotan, R. Langer, PEG-coated injectable nanospheres from amphiphilic diblock and multiblock copolymers: investigation of their drug encapsulation and release characteristics, **J. Controlled Release** (1997) 46, 223-231.

5) **M.T. Peracchia**, C. Vauthier, F. Puisieux, P. Couvreur, Development of sterically stabilized poly(isobutyl cyanoacrylate) nanoparticles by chemical coupling of PEG, **J. Biomed. Mat. Res.** (1997) 34, 317-326.

6) **M.T. Peracchia**, C. Vauthier, M. Popa, F. Puisieux, P. Couvreur, An investigation on the formation of sterically stabilized PEG-PIBCA nanoparticles by chemical grafting of PEG during the polymerization of isobutyl cyanoacrylate, **STP Pharma Sci.** (1997) 7, 514-521.

7) **M.T. Peracchia**, C. Vauthier, C. Passirani, P. Couvreur, D. Labarre, Complement consumption by poly(ethylene glycol) in different configurations chemically coupled to poly(isobutyl 2-cyanoacrylate) nanoparticles, **Life Sci.** (1997) 61, 749-761.

8) **M.T. Peracchia**, D. Desmaële, P. Couvreur, J. d'Angelo, Synthesis of a novel amphiphilic copolymer poly(PEG-co-alkylcyanoacrylate) for nanoparticle technology, **Macromolecules** (1997) 30, 846-851.

9) **M.T. Peracchia**, C. Vauthier, D. Desmaële, A. Gulik, J.C. Dedieu, M. Demoy, J. D'Angelo, P. Couvreur, Biodegradable PEGylated nanoparticles from a novel MePEG cyanoacrylate-hexadecyl cyanoacrylate amphiphilic copolymer, **Pharm. Res.** (1998) 15, 548-554.

10) **M.T. Peracchia**, S. Harnisch, H. Alphandary, A. Gulik, J.C. Dedieu, D. Desmaële, J. d'Angelo, R.H. Müller, P. Couvreur, Visualization of in vitro protein-rejecting properties of stealth® PEGylated polycyanoacrylate nanoparticles, **Biomaterials** (1999) 20, 1269-1275.

11) **M.T. Peracchia**, E. Fattal, D. Desmaële, J.P. Noël, J. d'Angelo, P. Couvreur, Stealth® PEGylated polycyanoacrylate nanoparticles for intravenous administration and splenic targeting**, J. Controlled Rel.** (1999) 60, 121-128.

12) I. Brigger, P. Chaminade, D. Desmaële, **M.T. Peracchia**, J. d'Angelo, R. Gurny, M. Renoir, P. Couvreur, Near infrared with principal component analysis as a novel analytical approach for nanoparticle technology, **Pharm. Res**, (2000), 17, 1124-1132.

13) B. Stella, S. Arpicco, **M.T. Peracchia**, D. Desmaële, J. Hoebeke, M. Renoir, J. d'Angelo, L. Cattel, P. Couvreur, PEG-coated biodegradable polycyanoacrylate nanoparticles coupled to folic acid for tumoral intracellular targeting**, J. Pharm. Sci.** (2000), 89, 1452-1464.

14) P. Joyce, C.J. Allen, M.J. Alonso, M. Ashford, M.S. Bradbury, M. Germain, M. Kavallaris, R. Langer, T. Lammers, **M.T. Peracchia**, A. Popat, C.A. Prestidge, C.J. F. Rijcken, B. Sarmento, R.B. Schmid, A. Schroeder, S. Subramaniam, C.R. Thorn, K.A. Whitehead, C.X. Zhao, H.A. Santos, A Translational Framework to DELIVER Nanomedicines to the Clinic, **Nature Nanotechnology** (2024), 19, 1597–1611.

Chapters and reviews:

1) P. Colombo, R. Bettini, **M.T. Peracchia**, P. Santi, Controlled release dosage forms: from ground to space, **Eur. J. Drug Metabolism and Pharmacokinetics** (1996) 21, 87-91.

2) R. Gref, Y. Minamitake, **M.T. Peracchia**, R. Langer, PEG-coated biodegradable nanospheres for intravenous drug administration, in **Microparticulates systems for the delivery of proteins and vaccines**, S. Cohen and H. Bernstein Eds. (Marcel Dekker Inc., New York, N.Y.) (1996) 279-306.

3) R. Gref, Y. Minamitake, **M.T. Peracchia**, A. Domb, V. Trubetskoy, V. Torchilin, R. Langer, Long-circulating PEG-coated nanospheres: potential carriers for intravenous drug administration, **in Protein Delivery - Physical Systems**, L.M Sanders and R. Wayne Hendren, Eds. (Plenum Publishing Corp., New York, N.Y.) (1997) 167-198.

4) E. Fattal, **M.T. Peracchia**, P. Couvreur, Polyalkylcyanoacrylates, in **Handbook of biodegradable polymers**, A. Domb, J. Kost and D. Wiseman Eds. (Harwood Academic Publishers gmbh, Chur, CH) (1997) 183-202.

5) **M.T. Peracchia**, D. Desmaële, J. d'Angelo, P. Couvreur, Synthesis of a novel PEGylated alkylcyanoacrylate amphiphilic polymer for the preparation of PEG-coated nanoparticles, **in Future**

strategies for drug delivery with particulate systems, J.E. Diederichs and R.H. Müller Eds. (CRC Press, Boca Raton, Florida, USA) (1997) 23-28.

6) **M.T. Peracchia**, P. Couvreur, Nanoparticules polymères pour l'administration intraveineuse de molécules biologiquement actives, **Biotech Medicine** (1998) 11, 13-15.

7) **M.T. Peracchia**, D. Desmaële, C. Vauther, D. Labarre, E. Fattal, J. d'Angelo, P. Couvreur, Development of novel technologies for the synthesis of biodegradable PEGylated nanoparticles, in **Targeting of drugs: strategies for stealth therapeutic systems**, G. Gregoriadis Ed. (Plenum Publishing Corp., New York, N.Y.) (1998), 225-239.

8) **M.T. Peracchia**, G. Barratt, P. Couvreur, Mononuclear phagocytic system, in **Nature Encyclopedia of Life Sciences**, G. Fullerlove Ed. (Nature Publishing Group, www.els.net., Macmillan Ref. Ltd., Stockton Press, London, U.K.) (1999).

9) **M.T. Peracchia**, Stealth nanoparticles for intravenous administration, **STP Pharma Sci.** (2003) 13, 155-161.

Patents:

1) A. Domb, R. Gref, Y. Minamitake, **M.T. Peracchia**, R. Langer, Nanoparticles and microparticles of non-linear hydrophilic-hydrophobic multiblock copolymers, PCT Int. Appl. WO 95 03, 356 (US Appl. 96, 370), filed on July 23, 1994.

2) S. Coté, V. Bobineau, **M.T. Peracchia**, Compositions pharmaceutiques à base de dérivés d'azetidine, European Application, filed on December 21, 2001.

3) S. Coté, **M.T. Peracchia**, V. Bobineau, Emulsifying systems containing azetidine derivatives, European Application, filed on July 18, 2003.

4) **M.T. Peracchia**, S. Coté, V. Bobineau, Semi-solid systems containing azetidine derivatives, European Application, filed on July 18, 200.

5) **M.T. Peracchia**, S. Coté, G. Gaudel, Self-emulsifying and self-microemulsifying formulations for the oral administration of taxoids, European Application, filed on July 18, 2003.

6) **M.T. Peracchia**, C. Neves, T. Borovac, Semi-solid formulations for the oral administration of taxoids, European Application, filed on July 18, 200.

7) **M.T. Peracchia**, S. Coté, C. Raffournier, Emulsifying systems containing azetidine derivatives to increase drug concentration, European Application, filed on November 15, 2007.

8) H. Goulaouic, S. Assadourian, **M.T. Peracchia**, T. Benard, A. Mathieu, JR. Authelin, Anti-tumoral composition comprising the compound 1-(6-{[6-(4-fluorophenyl)[1,2,4]triazolo[4,3- b]pyridazin-3-yl]sulfanyl}-1,3-benzothiazol-2-yl)-3-(2-morpholin-4-ylethyl)urea, filed on July 12, 2012 (FR2012/038)