

## CAREER

Mario Grassi was born in Genova (Italy) on July 18<sup>th</sup> 1964 and he lives in Trieste (Italy), via Commerciale 47/5.

He got his high school degree (scientific field) at the Liceo Scientifico "G. Galilei" in Trieste (52 / 60) on July 29<sup>th</sup> 1983.

He got his five years graduate degree in Chemical Engineering on April 10<sup>th</sup> (110/110 cum laude) at the Trieste University defending a thesis entitled "Studio della diffusione in idrogeli di biopolimeri per la progettazione di sistemi farmaceutici a rilascio controllato" (Study on diffusion in biopolymeric hydrogels for the designing of pharmaceutical controlled release systems).

He got his working abilitation on April 1991 at the University of Trieste.

He has been employee of Diesel Ricerce (Fincantieri group, most important Italian ship builder) (January 1992 - January 1993).

He got his Ph.D. degree in Chemical Engineering at the Padova University (Italy) on December 13<sup>rd</sup> 1996 defending a thesis on "Diffusione di principi attivi in matrici gel polimeriche di impiego farmaceutico" (Drug diffusion in polymeric gel matrices used in the pharmaceutical field).

He got a one-year grant (1996) from the Physical Pharmacy Laboratory of Vectorpharma Trieste (pharmaceutical industry dealing with the improvement of poorly bioavailable drug) in order to study diffusion processes and drug activation by means of mechano-chemical activation.

He got a Post Doct. grant (December 12<sup>th</sup> 1996 - December 12<sup>th</sup> 1998) from the Department of Chemical Engineering (DICAMP) (Trieste University) in order to study from an experimental and theoretical view point drug diffusion in polymeric matrices and release processes. Particular care was devoted to the study of viscoelastic and rheological properties of polymeric systems.

He got a four years grant (Assegno di ricerca - Research check) (January 25<sup>th</sup> 1999 - January 25<sup>th</sup> 2003) at the Department of Chemical, Environmental and Raw Materials Engineering in order to experimentally and theoretically studying drug release process from different kinds of release systems (polymeric matrices and mini-matrices). The attention was focused on mass transport, thermodynamic and the relation existing among mass diffusion and rheological characteristics of the polymeric network.

2003-2004 he has been employee of EURAND (Pharmaceutical Industry dealing with the improvement of poorly bioavailable drugs) as coordinator of the Trieste site research activities.

In the Academic years 2001/2002, 2002/2003, 2003/2004 and 2004/2005 he has been consultant professor for the Department of Materials Engineering (DIMCA) of the University of Trieste, detached site of Pordenone, teaching "Macromolecular Materials Engineering" (Ing. Ind. 22). This course dealt with the rheological properties of melt polymers and the study of those processes using this information (extrusion, injection molding, termoforming and so on).

On November 19<sup>th</sup> 2005 he became associate professor (Ing. Ind. 24) at the Faculty of Engineering of the Trieste University.

On November 19<sup>th</sup> 2008 he got the confirmation in the role of associate professor (SSD Ing/Ind 24).

On January 29<sup>th</sup> 2014 he got the scientific abilitation for the full professor role (SSD Ing/Ind 24).

## **DIDACTIC ACTIVITY**

### *Bachelor and Master degree*

In the academic years 2001/2002 – 2004/2005 he taught, as consultant professor, “Macromolecular Materials Engineering” (Ing. Ind. 22), Faculty of Engineering, Trieste University detached site of Pordenone.

In the academic years 2005/2006 – 2008/2009 he taught “Macromolecular Materials Engineering” (Ing. Ind. 22), Faculty of Engineering, Trieste University detached site of Pordenone.

In the academic years 2006/2007 – 2010/2011 he taught “Diffusive processes in complex media” (Ing. Ind. 24), Faculty of Engineering, Trieste University.

Since the academic year 2006/2007 he has taught “Process simulation” (Ing. Ind. 24), Faculty/Department of Engineering, Trieste University.

In the academic year 2009/2010 he taught “Theory and development of chemical processes” (Ing. Ind. 26), Faculty of Engineering, Trieste University.

In the academic years 2010/11 and 2011/2012 he taught “Principles of tissue engineering and biomaterials – Materials module” (Ing. Ind. 22), Faculty of Medicine – Master degree in Biotechnology, Trieste University.

In the academic years 2010/11 – 2015/16 and since academic year 2017-2018 he has taught “Structure and properties of complex systems/B” (Ing. Ind. 22), Department of Engineering, Trieste University.

Since the academic year 2016/2017 he has taught “Transport Phenomena” (Ing. Ind. 24), Department of Engineering and Architecture, Trieste University.

He has been mentor of 21 Master degree theses and 10 Bachelor degree theses.

### *PhD*

In the period January 1<sup>st</sup> 2002 – June 1<sup>st</sup> 2006 he has been member of the Board of the Doctorate in Engineering and Materials Science.

Since 21/07/2006 he has been member of the board of the Doctorate School in Chemical and Pharmaceutical Sciences and Technologies (now Doctorate in Chemistry). In the period 2012 – 2015 he was vice-chairmen of the same School.

Since the academic year 2015-2016 he has taught “Mathematical Modelling in Biopharmaceutics” in the frame of the PhD educational activities.

Since January 2013 he has been member of the Department Board of the Department of Engineering and Architecture, Trieste University.

He has been mentor of 6 PhD theses and co-mentor of 5 PhD theses.

### *Other commitments*

In the period January 1<sup>st</sup> 2013 – October 31<sup>st</sup> 2018 he has been member of the board of the Department of Engineering and Architecture.

Since May 2<sup>nd</sup> 2013 he has been President of the Master Degree (Laurea Magistrale Interclasse, IN-17) in Process (LM-53) and Materials Engineering (LM-22).

He has been Erasmus responsible for the master course in Process and Materials Engineering for the sites of Yildiz, Copenhagen, and he is responsible for the sites of Graz and Saragozza.

## **SCIENTIFIC RESEARCH ACTIVITY**

### *Editorial activity*

He currently acts as referee for many international journals such as Journal of Pharmaceutical Sciences, Pharmaceutical Research, International Journal of Pharmaceutics, European Journal of Pharmaceutical Sciences, European Journal of Pharmaceutics and Biopharmaceutics, Fluid Phase Equilibria, Journal of Controlled Release, Journal of

Membrane Science, Journal of Applied Polymer Science, Journal of Pharmacy and Pharmacology, AICHEJ, Chemical Engineering Science, PLOS ONE and Expert Opinion in Drug Delivery.

He has been guest Editor of Current Pharmaceutical Biotechnology (special issue on “Nucleic acid based drug as novel therapeutics in the treatment of human disease”, 5(4), 2004, Grassi G. and Grassi M. editors).

Member of the organizing committee of the XI Symposium of the Italian Society of Rheology (SIR), Trieste (IT), May 23 – 26, 2010.

In the period 2011 – 2015 he was member of the board of the international journal “*World Journal of Pharmacology*”.

Since 2011 he has been member of the editorial board of the international journal “*Chemical and Biochemical Engineering Quarterly (CABEQ)*”.

Member of the scientific committee of the XII Symposium of the Italian Society of Rheology (SIR), Ustica (PA, IT), July 3 – 6, 2012.

Since May 2013 he has been Associate Editor of the international journal “*Chemical and Biochemical Engineering Quarterly (CABEQ)*”.

Member of the scientific committee of the XIII Symposium of the Italian Society of Rheology (SIR), Brescia (IT), September 7 – 10, 2014.

Since January 2014 he has been Associate Editor of the international journal “*International Journal of Advanced Science and Engineering*”.

Member of the scientific and organizing committee of the IAPC-4 Meeting, Red island, Rovinj (HR), September 21 - 24, 2015.

He has been guest Editor of Current Drug Delivery (special issue on “New trends in gene therapy: multidisciplinary approaches to siRNAs controlled delivery” 2016).

He has been guest Editor of International Journal of Pharmaceutics (special issue on “Novel applications of hydrogels in pharmaceutical and biomedical sciences” 2019).

#### *Scientific associations*

He is member of the Italian Society of Rheology (SIR), of the European Society of Rheology, of the Controlled Release Society (Italian Chapter) and of DRITELF (Association of Italian professors and researchers of Pharmaceutical Technologies and Legislation).

In the period 2010-2015 he has been member of the board of the “Associazione italiana di reologia” (SIR).

In the period 2014-2016 he has been member of the “Proboviri Council” of the Controlled Release Society (Italian Chapter).

## **PUBLICATIONS**

He is authors/co-author of 156 papers published on international journals, 154 abstracts presented in national and international Symposia, 12 book chapters and one book (3312 citations, H-index 32).

At present, his research field is about a) modeling of drug release from delivery systems and drug absorption by living tissues, b) characterization (rheology/Low field NMR/release tests) of polymer based delivery systems and drugs for what concerns nano-crystals peculiar properties and c) characterization, by means of Low Field NMR, of the sputum of patients affected by chronic obstructive pulmonary diseases

### **Papers**

- 1) “Controlled release of theophylline from water-swollen scleroglucan matrices”; Adrover, M. Giona, **M. Grassi**, R. Lapasin, S. Pricl *Journal of Membrane Science*, **113**, 7-20, 1996.
- 2) “Analysis of controlled release in disordered structures: a percolation model”; Adrover, M. Giona, **M. Grassi** *Journal of Membrane Science*, **113**, 21-30, 1996.

- 3) “Apparent non-fickian release from a scleroglucan gel matrix”; **Grassi**, R. Lapasin, S. Pricl, I. Colombo *Chemical Engineering Communications*, **155**, 89-112, 1996.
- 4) “A study of the rheological behavior of scleroglucan weak gel systems”; **M. Grassi**, R. Lapasin, S. Pricl *Carbohydrate Polymers*, **29**, 169-181, 1996.
- 5) “Modeling phase transitions and sorption-desorption kinetics in thermo-sensitive gels for controlled drug delivery systems”; Colombo, M. Fermeglia, **M. Grassi**, R. Lapasin, S. Pricl *Fluid Phase Equilibria*, **116**, 148-161, 1996.
- 6) “Rheological modeling of fractal and dense suspensions”; **M. Grassi**, R. Lapasin, S. Pricl *The Chemical Engineering Journal*, **64**, 99 - 106, 1996.
- 7) “Determination of the drug diffusion coefficient in swollen hydrogel polymeric matrices by means of the inverse sectioning method”; Colombo, **M. Grassi**, R. Lapasin, S. Pricl *Journal of Controlled Release*, **47**, 305 - 314, 1997.
- 8) “Synergistic gelation of xanthan gum with locust bean gum: a rheological investigation”; G. Copetti, **M. Grassi**, R. Lapasin, S. Pricl *Glycoconjugate Journal*, **14**, 951 - 961, 1997.
- 9) “Modeling of drug release from a swellable matrix”; **M. Grassi**, R. Lapasin, S. Pricl *Chemical Engineering Communications*, **169**, 79 - 109, 1998.
- 10) “Modelling of solute transport across a temperature-sensitive polymer membrane”; **M. Grassi**, S. H. Yuk, S. H. Cho *Journal of Membrane Science*, **152**, 241-249, 1999.
- 11) “Permeazione di acyclovir attraverso la mucosa intestinale di ratto: esperimenti in vitro e modellizzazione matematica”, **M. Grassi**, N. Coceani, G. Cadelli, P. Esposito *Bollettino Chimico Farmaceutico*, **138**(3), 121-128, 1999.
- 12) “Mathematical modelling of drug permeation through a swollen membrane”, **M. Grassi**, I. Colombo, *Journal of Controlled Release*, **59**, 343-359, 1999.
- 13) “The effect of drug dissolution on drug release from swelling polymeric matrices: mathematical modeling”; **M. Grassi**, R. Lapasin, S. Pricl *Chemical Engineering Communications*, **173**, 147 - 173, 1999.
- 14) “Novel hydrogel system from scleroglucan: synthesis and characterization”, T. Coviello, **M. Grassi**, G. Rambone, E. Santucci, M. Carafa, E. Murtas, F. M. Riccieri, F. Alhaique, *Journal of Controlled Release*, **60**, 367 – 378, 1999.
- 15) “A combination of vapor sorption and laser light scattering methods for the determination of the Flory parameter  $\chi$  and the crosslink density of a polymeric microgel”, F. Mantovani, **M. Grassi**, I. Colombo, R. Lapasin, *Fluid Phase Equilibria*, **167**(1), 63 - 81, 2000.
- 16) “Release of a model drug from different powdered polymeric carriers”, **M. Grassi**, *Bollettino Chimico Farmaceutico International*, **1**, 26 - 33, 2000.
- 17) “Mathematical modeling of drug release from microemulsions: theory in comparison with experiments”, **M. Grassi**, N. Coceani, L. Magarotto. *Journal of Colloid and Interface Science*, **228**(1), 141 – 150, 2000.
- 18) “Drug release from an ensemble of swellable crosslinked polymer particles”, **M. Grassi**, I. Colombo, R. Lapasin, *Journal of Controlled Release*, **68**(1), 97-113, 2000.
- 19) “A crosslinked system from Scleroglucan derivative: preparation and characterization” T. Coviello, **M. Grassi**, G. Rambone, F. Alhaique, *Biomaterials*, **22**, 1899 – 1909, 2001.
- 20) “Effects of polymer addition on the rheology of O/W microemulsions” R. Lapasin, **M. Grassi**, N. Coceani, *Rheological Acta*, **40**(2), 185 –192, 2001.

- 21) "Experimental determination of the theophylline diffusion coefficient in swollen sodium-alginate membranes", **M. Grassi**, I. Colombo, R. Lapasin, *Journal of Controlled Release*, **76**(1-2), 93 – 105, 2001.
- 22) "Theoretical considerations on in vivo intestinal permeability determination by means of the single pass and recirculating techniques", **M. Grassi**, G. Cadelli, *International Journal of Pharmaceutics*, **229**(1), 95 – 105, 2001.
- 23) "Selection and Characterization Active Hammerhead Ribozymes Targeted Against Cyclin E and E2F1 Full-Length mRNA", G. Grassi, A. Kuhn, **M. Grassi**, G. Bauriedel, R. Kandolf, *Antisense and Nucleic Acid Drug Development*, **11**, 271 - 287, 2001.
- 24) "Modeling of drug release from poly-disperse microencapsulated spherical particles", C. Sirotti, I. Colombo, **M. Grassi**, *Journal of Microencapsulation*, **19**(5), 603-614, 2002.
- 25) "Modeling of drug release from microemulsions: a peculiar case", C. Sirotti, N. Coceani, I. Colombo, R. Lapasin, **M. Grassi**, *Journal of Membrane Science*, **204** (1-2), 401 – 412, 2002.
- 26) "Determination of Hammerhead ribozyme kinetic constants at high molar ratio ribozyme-substrate", G. Grassi, **M. Grassi**, A. Kuhn, R. Kandolf, *Journal of Mathematical Biology*, **45**, 261-277, 2002.
- 27) "Modelling partitioning of sparingly soluble drugs in a two phase liquid system", **M. Grassi**, N. Coceani, L. Magarotto, *International Journal of Pharmaceutics*, 239 (1), 157 – 169, 2002.
- 28) "Acyclovir permeation through rat skin: mathematical modelling and in vitro experiments", M. Grassi, N. Coceani, I. Colombo, *International Journal of Pharmaceutics*, **254**(2), 197- 210, 2003.
- 29) "Preparation and evaluation of a melt pelletised paracetamol/stearic acid sustained release delivery system", M. Grassi, D. Voinovich, M. Moneghini, E. Franceschinis, B. Perissutti, J. Filipovic-Grcic, *Journal of Controlled Release*, **88**(3), 381-391, 2003.
- 30) "Scleroglucan/borax: characterization of a novel hydrogel system suitable for drug delivery", T. Coviello, **M. Grassi**, R. Lapasin, A. Marino, F. Alhaique, *Biomaterials*, **24**, 2789-2798, 2003.
- 31) "Thermal Modeling of a Vibrational Mill" J. M. Castillo, R. Lapasin, **M. Grassi**, *Industrial & Engineering Chemistry Research*, **42**, 2015-2021, 2003.
- 32) "Characterization of a Quaternary Liquid System Improving the Bioavailability of Poorly Water Soluble Drugs" F. Meriani; N. Coceani; C. Sirotti; D. Voinovich; **M. Grassi**, *Journal of Colloid and Interface Science*, **263**(2), 590-596, 2003.
- 33) "Structural and rheological characterization of scleroglucan/borax hydrogel for drug delivery" T. Coviello, G. Coluzzi, A. Palleschi, **M. Grassi**, E. Santucci, F. Alhaique, *International Journal of Biological Macromolecules*, **32**, 83-92, 2003.
- 34) "Theoretical and experimental study on theophylline release from stearic acid cylindrical delivery systems" **M. Grassi**, D. Voinovich, M. Moneghini, E. Franceschinis, B. Perissutti, J. Filipovic-Grcic, *Journal of Controlled Release*, **92**(3), 275-289, 2003.
- 35) "Inhibitors of DNA methylation and histone deacetylation activate cytomegalovirus promoter-controlled reporter gene expression in human glioblastoma cell line U87" G. Grassi, P. Maccaroni, R. Meyer<sup>1</sup>, H. Kaiser<sup>1</sup>, E. D'Ambrosio, E. Pascale, **M. Grassi**, A. Kuhn, P. Di Nardo, R. Kandolf and J-H Küpper, *Carcinogenesis*, **24**, 1625 – 1635, 2003.
- 36) "In vitro nimesulide absorption from different formulations" F. Meriani, N. Coceani, C. Sirotti, D. Voinovich, **M. Grassi**, *Journal of Pharmaceutical Sciences*, **93**(3), 540-552, 2004.

- 37) "Preparation and *in vivo-in vitro* characterisation of a melt pelletised paracetamol/stearic acid sustained release delivery system" **M. Grassi**, D. Voinovich, E. Franceschinis, B. Perissutti, J. Filipovic-Grcic, *Spectroscopy, an International Journal*, 18(2), 375-386, 2004. Paper presented at the *Second Conference on Spectroscopy in Biomedical Sciences*, London, 5-8 Luglio 2003.
- 38) "Modeling of drug release from partially coated matrices of high viscosity HPMC", **M. Grassi**, L. Zema, M. E. Sangalli, A. Maroni, F. Giordano, A. Gazzaniga. *International Journal of Pharmaceutics*, 276, 107-114, 2004.
- 39) "Therapeutic potential of hammerhead ribozymes in the treatment of hyper-proliferative diseases", G. Grassi, P. Dawson, G. Guarnieri, R. Kandolf, **M. Grassi**. *Current Pharmaceutical Biotechnology*, 5(4), 369 -386, 2004.
- 40) "Mathematical modelling and controlled drug delivery: matrix systems", **M. Grassi**, G. Grassi. *Current Drug Delivery*, 2(1), 97-116, 2005.
- 41) "Scleroglucan: a versatile polysaccharide for modified drug delivery", T. Coviello , A. Palleschi, **M. Grassi**, P. Matricardi, G. Bocchinfuso, F. Alhaique . *Molecules*, 10, 643-656, 2005.
- 42) "Self-emulsifying pellets prepared by wet granulation in high-shear mixer: influence of formulation variables and preliminary study on the *in vitro* absorption", E. Franceschinis, D. Voinovich, **M. Grassi**, B. Perissutti, J. Filipovic-Grcic, A. Martinac, F. Meriani-Merlo. *International Journal of Pharmaceutics*, 291, 87-97, 2005.
- 43) "A new polysaccharidic gel matrix for drug delivery: preparation and mechanical properties", T. Coviello, F. Alhaique, C. Parisi, P. Matricardi, G. Bocchinfuso, **M. Grassi**, *Journal of Controlled Release*, 102, 643-656, 2005.
- 44) "A new Scleroglucan/borax hydrogel: swelling and drug release", T. Coviello, **M. Grassi**, A. Palleschi, G. Bocchinfuso, G. Coluzzi, F. Banishoeib, F. Alhaique. *International Journal of Pharmaceutics*, 289, 97-107, 2005.
- 45) "Temperature-Sensitive Hydrogels: Potential Therapeutic Applications", G. Grassi, R. Farra, P. Caliceti, G. Guarnieri, S. Salmaso, M. Carezza, **M. Grassi**. *American Journal of Drug Delivery*, 3(4), 239 – 251, 2005.
- 46) "Preparation of Theophylline-Hydroxypropylmethylcellulose Matrices Using Supercritical Antisolvent Precipitation", M. Moneghini, I. Kikic, **M. Grassi**, B. Perissutti, A. Cortesi, F. Princivalle. *Drug Development and Industrial Pharmacy*, 32, 39-52, 2006.
- 47) "Rheological properties of aqueous pluronic-alginate systems containing liposomes" G. Grassi, A. Crevatin, R. Farra, G. Guarnieri, A. Pascotto, B. Rehimers, R. Lapasin, **M. Grassi**. *Journal of Colloids and Interface Science*. 301, 282-290, 2006.
- 48) "Potential applications of small interfering RNAs in the cardiovascular field" F. Agostini, B. Dapas, R. Farra, **M. Grassi**, G. Racchi, K. Klingel, R. Kandolf, O. heindenreich, A. Mercatanti, G. Rainaldi, N. Altamura, G. Guarnieri, G. Grassi. *Drugs of the Future*. 31(6), 513-525, 2006.
- 49) "Propaedeutic study for the delivery of nucleic acid based molecules from PLGA microparticles and Stearic acid nanoparticles" G. Grassi, N. Coceani, R Farra, B. Dapas, G. Racchi, N. Fiotti, A. Pascotto, B. Rehimers, G. Guarnieri, **M. Grassi**. *International Journal of Nanomedicine*, 1(4), 523-533, 2006.
- 50) "Two Galactomannans and Scleroglucan as Matrices for Drug Delivery: Preparation and Release Studies" T. Coviello, F. Alhaique, A. Dorigo, P. Matricardi, **M. Grassi**, *European Journal of Pharmaceutics and Biopharmaceutics*, 66, 200-209, 2007.

- 51) "Effects of Various Promoter Derived Sequences on the Cleavage Kinetic of an Hammerhead Ribozyme Directed Against Cyclin E1 mRNA" J. Platz, **M. Grassi**, A. Kuhn, R. Kandolf, G. Racchi, R. Farra, B. Dapas, N. A. Pascotto, C. Giansante, N. Fiotti, G. Guarnieri and G. Grassi. *Drug Metabolism Letter*, 1(3), 218-225, 2007.
- 52) "Characterisation of nucleic acid molecule/liposome complexes and rheological effects on pluronic/alginate matrices". Grassi G, Farra R, Noro E, Voinovich D, Lapasin R, Dapas B, Alpar O, Zennaro C, Carraro M, Giansante C, Guarnieri G, Pascotto A, Rehimers B, **Grassi M.** *Journal of drug delivery science and technology*, 2007, 17(5), 325-331.
- 53) "Theoretical and experimental characterisation of stearic acid based sustained release devices obtained by hot melt co-extrusion" U. Quintavalle, D. Voinovich, B. Perissutti, F. Serdoz, **M. Grassi.** *Journal of drug delivery science and technology*, 2007, 17(6), 415-420.
- 54) "Mechanical and diffusive properties of homogeneous alginate gels in form of particles and cylinders" E. Pasut, R. Toffanin, D. Voinovich, C. Pedersini, E. Murano, **M. Grassi,** *Journal of Biomedical Materials Research: Part A*, 2008, 87A(3) 819-824.
- 55) "Bi-layered self-emulsifying pellets prepared by co-extrusion and spheronization: influence of formulation variables and preliminary study on the in vivo absorption" T. Iosio, D. Voinovich, **M. Grassi,** J. F. Pinto, B. Perissutti, M. Zacchigna, U. Quintavalle, F. Serdoz. *European Journal of Pharmaceutics and Biopharmaceutics*, 2008, 69(2), 686-697.
- 56) "Preparation of sustained release co-extrudates by hot melt extrusion and mathematical modelling of in vitro/in vivo drug release profiles" U. Quintavalle, D. Voinovich, B. Perissutti, F. Serdoz, G. Grassi, A. Dal Col, **M. Grassi.** *European Journal of Pharmaceutical Sciences*, 2008, 33, 282-293.
- 57) "Sustained-release solid dispersions of ibuprofen prepared by microwave irradiation" M. Moneghini, N. De Zordi, **M. Grassi,** G. Zingone. *Journal of drug delivery science and technology*, 2008, 18(5), 327-333.
- 58) "Mathematical modelling of NABD release from endoluminal gel paved stent", L. Davia, G. Grassi, G. Pontrelli, R. Lapasin, D. Perin, **M. Grassi.** *Computational Biology and Chemistry*, 2009, 33, 33-40.
- 59) "Bortezomib arrests the proliferation of hepatocellular carcinoma cells HepG2 and JHH6 by differentially affecting E2F1, p21 and p27 levels", D Baiz, G Pozzato, B Dapas, R Farra, B Scaggiante, **M Grassi,** L Uxa, C Giansante, C Zennaro, G Guarnieri and G Grassi. *Biochimie* 91, 373-382, 2009.
- 60) "Novel design of drug delivery in stented arteries: A numerical comparative study", **M. Grassi,** G. Pontrelli, L. Teresi, G. Grassi, L. Comel, A Ferluga, L. Galasso, *Mathematical Biosciences and Engineering*, 2009, 6(3), 493-508.
- 61) "Synthesis and Spontaneous Polymerization of Oligo(ethylene glycol)-Conjugated Benzofulvene Derivatives: a Polymer Brush Leading to a Physical Hydrogel", A. Cappelli, S. Galeazzi, G. Giuliani, M. Anzini, **M. Grassi,** R. Lapasin, G. Grassi, R. Farra, B. Dapas, M. Aggravi, A. Donati, L. Zetta, A. Boccia, F. Bertini, S. Vomero. *Macromolecules*, 42, 2368-2378, 2009.
- 62) "New multidrug (dexamethasone and theophylline) PEG-conjugate: Synthesis, in vitro release studies and intestinal permeability", M. Zacchigna, F. Cateni, D. Voinovich, **M. Grassi,** S. Drioli, G.M. Bonora. *Journal of drug delivery science and technology*, 19(3), 177-184, 2009.
- 63) "Investigation of Pluronic VC F127–Water Solutions Phase Transitions by DSC and Dielectric Spectroscopy", A. A. Barba, M. d'Amore, **M. Grassi,** S. Chirico, G. Lamberti, G. Titomanlio, *Journal of applied polymer science*, 114, 688 – 695, 2009.

- 64) "Scleroglucan/borax/drug hydrogels: structure characterisation by means of rheological and diffusion experiments", **M. Grassi**, R. Lapasin, T. Coviello, P. Matricardi, C. Di Meo, F. Alhaique. *Carbohydrate Polymers*, 78, 377-383, 2009.
- 65) "Structural Characterization of Calcium Alginate Matrices by Means of Mechanical and Release Tests", **M. Grassi**, C. Sandolo, D. Perin, T. Coviello, R. Lapasin, G. Grassi. *Molecules*, 14(8), 3003-3017, 2009.
- 66) "Role of E2F1–Cyclin E1-Cyclin E2 Circuit in Human Coronary Smooth Muscle Cell Proliferation and Therapeutic Potential of Its Downregulation by siRNAs", B. Dapas, R. Farra, **M. Grassi**, C. Giansante, N. Fiotti, L. Uxa, G. Rainaldi, A. Mercatanti, A. Colombatti, P. Spessotto, V. Lacovich, G. Guarnieri, G. Grassi. *Molecular Medicine* 15(9-10), 297-306, 2009.
- 67) "Solid state mechanochemical activation of Silybum Marianum dry extract with betacyclodextrins: characterization and bioavailability of the coground systems", D. Voinovich, B. Perissutti, **M. Grassi**, N. Passerini, A. Bigotto. *Journal of Pharmaceutical Sciences*, 2009, 98(11), 4119-4129.
- 68) "Drug mechanochemical activation", I. Colombo, G. Grassi, **M. Grassi**, *Journal of Pharmaceutical Sciences*, 2009, 98(11), 3961-3986.
- 69) "Solid lipid microparticles produced by spray congealing: influence of the atomizer on microparticle characteristics and mathematical modelling of drug release" N. Passerini, S. Qi , B. Albertini, **M. Grassi**, L. Rodriguez, Duncan Q.M. Craig. *Journal of Pharmaceutical Sciences*, 2010, 99(2), 916-931.
- 70) "PEG-Benzofulvene copolymer hydrogels for antibody delivery" M. Licciardi, **M. Grassi**, M. Di Stefano, L. Feruglio, G. Giuliani, S. Valenti, A. Cappelli, G. Giammona. *International Journal of Pharmaceutics*, 2010, 390, 183-190.
- 71) "Simultaneous Release and ADME processes of poorly water-soluble drugs: mathematical modelling", Grassi G., Hasa D., Voinovich D., Perissutti B., Dapas B., Farra R., Franceschinis E., **Grassi M.** *Molecular Pharmaceutics*, 2010 7(5), 1488-1497.
- 72) "Current Strategies to Improve the Efficacy and the Delivery of Nucleic Acid Based Drugs", **Grassi M.**, Cavallaro G., Scirè S., Scaggiante B., Dapas B., Farra R., Baiz D., Giansante C., Guarnieri G., Perin D., Grassi G. *Current Signal Transduction Therapy*, 2010, 5(2), 92-120.
- 73) "Multidisciplinary approach on characterizing a mechanochemically activated composite of vinpocetine and crospovidone", Hasa D., Voinovich D., Perissutti B., Bonifacio A., **Grassi M.**, Franceschinis E., Dall'Acqua S., Speh M., Plavec J., Invernizzi S. *Journal of Pharmaceutical Sciences*, 2011, 100, 915-932.
- 74) "Improving siRNA Bio-Distribution and Minimizing Side Effects", Scaggiante B., Dapas B., Farra R., **Grassi M.**, Pozzato G., Giansante C., Fiotti N., Grassi G. *Current Drug Metabolism*, 2011, 12, 11-23.
- 75) "Mathematical modeling of simultaneous drug release and in vivo absorption", **Grassi M.**, Lamberti G., Cascone S., Grassi G. *International Journal of Pharmaceutics*, 2011, 418, 130-141.
- 76) "Mechanical spectroscopy and relaxometry on alginate hydrogels. A comparative analysis for structural characterization and network mesh size determination", Turco G., Donati I., **Grassi M.**, Marchioli G., Lapasin R., Paoletti S. *Biomacromolecules*, 2011, 12, 1272-1282.
- 77) "Enhanced Oral Bioavailability of Vinpocetine through Mechanochemical Salt Formation: Physico-Chemical Characterization and In Vivo Studies", Hasa D., Voinovich D., Perissutti B.,

- Grassi M.**, Bonifacio A., Sergio V., Cepek C., Chierotti M.R., Gobetto R., Dall'Acqua S., Invernizzi S. *Pharmaceutical Research*, 2011, 28(1), 1870-1880.
- 78) "Two-Dimensional Enzyme Diffusion Demonstrated in Laterally Confined DNA Monolayers", Castronovo M., Lucesoli A., Parisse P., Kurnikova A., Malhotra A., **Grassi M.**, Grassi G., Scaggiante B., Loredana Casalis L., Scoles G. *Nature Communication*, 2011, 2, 1-10, doi:10.1038/ncomms1296.
- 79) "Melt extruded helical waxy matrices as a new sustained drug delivery system", Hasa D., Perissutti B., **Grassi M.**, Zacchigna M, Pagotto M., Lenaz D., Kleinebudde P., Voinovich D. *European Journal of Pharmaceutics and Biopharmaceutics* 79 (2011) 592–600.
- 80) "Effects of E2F1–cyclin E1–E2 circuit down regulation in hepatocellular carcinoma cells", Farra R., Dapas B., Pozzato G., Scaggiante B., Agostini F., Zennaro C., **Grassi M.**, Rosso N., Giansante C., Fiotti N., Grassi G. *Digestive and Liver Disease* 43 (2011) 1006– 1014.
- 81) "Theoretical and experimental analysis of drug release from an ensemble of polymeric particles containing amorphous and nano-crystalline drug", N. Coceani, L. Magarotto, D. Ceschia, I. Colombo **M. Grassi**. *Chemical Engineering Science*, 71 (2012) 345-355.
- 82) "Hydration properties and proton exchange in aqueous sugar solutions studied by time domain nuclear magnetic resonance", Aroulmoji V., Mathlouthi M., L. Feruglio L., Murano E., **Grassi M.** *Food Chemistry*, 2012, 132, 1644-1650
- 83) "Applications of supercritical fluids to enhance the dissolution behaviours of Furosemide by generation of microparticles and solid dispersions", De Zordi N., Moneghini M., Kikic I., **Grassi M.**, Castillo A.E.D.R., Solinas D., Bolger M. B., *European Journal of Pharmaceutics and Biopharmaceutics*, 2012, 81, 131-141.
- 84) "Mesh Size Distribution Determination of Interpenetrating Polymer Networks Hydrogels", Pescosolido L., Feruglio L., Farra R., Fiorentino S., Colombo I., Coviello T., Matricardi P., Hennink W. E., Vermonden T., **Grassi M.** *Soft Matter*, 2012, 8, 7708-7715.
- 85) "Dissecting the expression of EEF1A1/A2 genes in human prostate cancer cells: the potential of EEF1A2 as a hallmark for prostate transformation and progression", Scaggiante B., Dapas B., Bonin S., **Grassi M.**, Zennaro C., Farra R., Cristiano L., Siracusano S., Zanconati F., Giansante C., Grassi G., *British Journal of Cancer*, 2012, 106, 166-173.
- 86) "Pharmaceutical applications of biocompatible polymer blends containing sodium alginate", Dal Moro A., Barba A. A., Lamberti G., **Grassi M.**, d'Amore M. *Advances in Polymer Technology*, 2012, 31, 219-230.
- 87) "Pharmacokinetic analysis of multi PEG-theophylline conjugates", **Grassi M.**, Bonora G.M., Drioli S., Cateni F., Zacchigna M. *Computational Biology and Chemistry*, 2012, 40, 7-14.
- 88) "Chemical Engineering and Drug Delivery", **Grassi M.** *Chemical and Biochemical Engineering Quarterly*, 2012, 26(4), 307-308.
- 89) "Study on Polymer-Surfactant Interactions for the Improvement of Drug Delivery Systems Wettability", De Simone I., Coceani N., Farra R., Fiorentino S. M., G. Grassi G., Lapasin R., Hasa D., Perissutti B., **Grassi M.**, Voinovich D. *Chemical and Biochemical Engineering Quarterly*, 2012, 26(4), 405-415.
- 90) "Aptamers as nano-targeting delivery devices or anti-cancer drugs for fighting tumours". B Scaggiante, B Dapas, R Farra, M Grassi, G Pozzato, C Giansante, N Fiotti, G Grassi. *Current Drug Metabolism*, 2013, 14, 565-582.

- 91) “Drug Salt Formation via Mechanochemistry: The Case Study of Vincamine”, Hasa D., Perissutti B., Cepek C., Bhardwaj S., Carlino E., **Grassi M.**, Invernizzi S., Voinovich D. *Molecular Pharmaceutics*, 2013, 10 (1), 211–224.
- 92) “First-in-human trial of Dz13 for nodular basal-cell carcinoma” Grassi G., Grassi M. *The Lancet*, 2013, 381 (9880) pp 1797-1798.
- 93) “Mechanochemical activation of vincamine mediated by linear polymers: assessment of some “critical” steps” Hasa D., Perissutti B., **Grassi M.**, Chierotti M. R., Gobetto R., Ferrario V., Lenaz D., Voinovich D. *European Journal of Pharmaceutical Sciences*, 2013, 50, 56-68.
- 94) “Reduction of melting temperature and enthalpy of drug crystals: theoretical aspects” Hasa D., Voinovich D., Perissutti B., Grassi G., Fiorentino S. M., Farra R., Abrami M., Colombo I., **Grassi M.** *European Journal of Pharmaceutical Sciences*, 2013, 50, 17-28.
- 95) “Guar gum/borax hydrogel: rheological, low field NMR and release characterizations” Coviello T., Matricardi P., Alhaique F., Farra R., Tesei G., Fiorentino S., Asaro F., Milcovich G., **Grassi M.** *Express Polymer Letters*, 2013 7(9), 733-746.
- 96) “Therapeutic potential of Nucleic acid-based drugs in coronary hyper-proliferative vascular diseases” Grassi G., Scaggiante B., Dapas B., Farra R., Tonon F., Lamberti G., Barba A., Fiorentino S., Fiotti N., Zanconati F., Abrami M., **Grassi M.** *Current Medicinal Chemistry*, 2013, 20(28), 3515-3538.
- 97) “Effects of Nanoscale Confinement on the Functionality of Nucleic Acids, and Applications in Nanomedicine” Castronovo M., Stopar A., Coral L., Redhu S. K., Vidonis M., Kumar V., Del Ben F., **Grassi M.**, Nicholson A. W. *Current Medicinal Chemistry*, 2013, 20(28), 3539-3557.
- 98) “Improving drug efficacy and specificity by innovative drug delivery approaches”. Preface – Grassi G., **Grassi M.** *Current Medicinal Chemistry*, 2013, 20(28), 3427-3428.
- 99) “Physical characterization of Alginate-Pluronic F127 gel for endoluminal NABDs delivery” Abrami M., Dagostino I., Milcovich G., Fiorentino S., Farra R., Fioretta Asaro F., Lapasin R., Grassi G., **Grassi M.** *Soft Matter*, 2014, 10, 729-737.
- 100) “A 3D model for mechanistic control of drug release”, J. A. Ferreira, **M. Grassi**, E. Gudiño, P. de Oliveira. *SIAM Journal on Applied Mathematics*, 2014, 74(3), 620 - 633.
- 101) “Modeling of the reticulation kinetics of alginate/pluronic blends for biomedical applications”, A.A. Barba, G. Lamberti, L. Rabbia, **M. Grassi**, D. Larobina, G. Grassi. *Materials Science and Engineering C*, 2014, 37, 327 - 331.
- 102) “Synthesis and characterization of polyaspartamide copolymers obtained by ATRP for nucleic acid delivery”, G. Cavallaro, M. Licciardi, G. Amato, C. Sardo, G. Giammona, R. Farra, B. Dapas, M. Grassi, G. Grassi. *International Journal of Pharmaceutics*, 2014, 466, 246–257.
- 103) “Application of mathematical modelling in sustained release delivery systems”, **Grassi M.**, Grassi G. *Expert opinion on Drug Delivery*, 2014, Vol. 11, No. 8, 1299-1321.
- 104) “A physiologically oriented mathematical Model for the description of in vivo drug release and absorption” Renzo Del Cont, Michela Abrami, Dritan Hasa, Beatrice Perissutti, Dario Voinovich, Anna Barba, Gaetano Lamberti, Gabriele Grassi, Italo Colombo, **Mario Grassi.** *ADMET & DMPK* 2(2) (2014) 80-97
- 105) “Topological characterization of a bacterial cellulose - acrylic acid polymeric matrix” N. Halib, M.C.I. Mohd Amin, I. Ahmad, M. Abrami, S. Fiorentino, R. Farra, G. Grassi, F. Musiani, R. Lapasin, **M. Grassi.** *European Journal of Pharmaceutical Science*, 2014, 62, 326 - 333.

- 106) “Polysaccharide-Based Networks from Homogeneous Chitosan-Tripolyphosphate Hydrogels: Synthesis and Characterization” Pasquale Sacco, Massimiliano Borgogna, Andrea Travan, Eleonora Marsich, Sergio Paoletti, Fioretta Asaro, Mario Grassi, Ivan Donati. *Biomacromolecules*, 2014, 15, 3396 – 3405.
- 107) “Drug Nanocrystals: theoretical background of solubility increase and dissolution rate enhancement” D. Hasa, B. Perissutti, D. Voinovich, M. Abrami, R. Farra, S. M. Fiorentino, G. Grassi, **M. Grassi**. *Chemical and Biochemical Engineering Quarterly*, 2014, 28(3), 21-32.
- 108) “Novel hepatocellular carcinoma molecules with prognostic and therapeutic potentials” B. Scaggiante, M. Kazemi, G. Pozzato, B. Dapas, R. Farra, **M. Grassi**, F. Zanconati, G. Grassi. *World Journal of Gastroenterology*, 2014, 20(5), 1268-1288.
- 109) “A new look to non-Fickian diffusion”, J. A. Ferreira, **M. Grassi**, E. Gudiño, P. de Oliveira. *Applied Mathematical Modelling*, 2015, 39, 194-204.
- 110) “Impairment of the Pin1/E2F1 axis in the anti-proliferative effect of bortezomib in hepatocellular carcinoma cells” Rossella Farra, Barbara Dapas, Daniele Baiz, Federica Tonon, Sara Chiaretti, Giannino Del Sal, Alessandra Rustighi, Nicola Elvassore , Gabriele Pozzato, **Mario Grassi**, Gabriele Grassi. *Biochimie* 2015, 112, 85-95.
- 111) “Structure characterisation by means of rheological and NMR experiments as a first necessary approach to study the L-(+)-ascorbic acid diffusion from pectin and pectin/alginate films to agar hydrogels that mimic food materials” Maria D. De’Nobili, Ana M. Rojas, Michela Abrami, Romano Lapasin, **Mario Grassi**. *Journal of Food Engineering*, 2015, 165, 82-92.
- 112) “Rheology of mixed alginate-hyaluronan aqueous solutions” Andrea Travan, Simona Fiorentino, **M. Grassi**, M. Borgogna, E. Marsich, S. Paoletti, I. Donati. *Intenational Journal of Biological Macromolecules*, 2015, 78, 363-369.
- 113) “Development of a simple, biocompatible and cost-effective Inulin-Diethylenetriamine based siRNA delivery system”, C. Sardo , R. Farra, M. Licciardi, B. Dapas, C. Scialabba, G. Giammona , **M. Grassi**, G. Grassi, G. Cavallaro. *European Journal of Pharmaceutical Sciences*, 2015, 75, 60-71.
- 114) “Quality improvement of melt extruded laminar systems using mixture design”, D. Hasa, B. Perissutti, B. Campisi, **M. Grassi**, I. Grabnar, S. Golob, M. Mian, D. Voinovich. *European Journal of Pharmaceutical Sciences*, 2015, 75, 169-176.
- 115) “A PSE approach to patient-individualized physiologically-based pharmacokinetic modeling”, R. A. Abbiati, G. Lamberti, A. A. Barba, **M. Grassi**, D. Manca. A PSE approach to patient-individualized physiologically-based pharmacokinetic modeling. *Computer Aided Chemical Engineering*, 37, 2015, 77-84.
- 116) “Polysaccharides for the Delivery of Antitumor Drugs”, B. Posocco, E. Dreussi, J. de Santa, G. Toffoli, M. Abrami, F. Musiani, **M. Grassi**, R. Farra, F. Tonon, G. Grassi, B. Dapas. *Materials* 8, 2015, 2569-2615.
- 117) “Therapeutic potential of small interfering RNAs/microinterfering RNA in hepatocellular carcinoma” R. Farra, **M. Grassi**, G. Grassi, B. Dapas. *World Journal of Gastroenterology*, 2015, 21(30), 8994-9001.
- 118) “Novel Lipid and polymeric materials as delivery systems for nucleic acid based drugs” Anna Angela Barba, Gaetano Lamberti, Carla Sardo, Barbara Dapas, Michela Abrami, **Mario Grassi**, Rossella Farra, Federica Tonon, Giancarlo Forte, Francesco Musiani, Mariano Licciardi, Gabriele Pozzato, Fabrizio Zanconati, Bruna Scaggiante, Gabriele Grassi, Gennara Cavallaro. *Current Drug Metabolism*, 2015, 16(6), 427 – 452.

- 119) “Diels–Alder Hydrogels for Controlled Antibody Release: Correlation between Mesh Size and Release Rate” Susanne Kirchhof, Michela Abrami, Viktoria Messmann, Nadine Hammer, Achim M. Goepferich, **Mario Grassi**, Ferdinand P. Brandl. *Molecular Pharmaceutics*, 2015, 12, 3358-3368.
- 120) In situ coronary stent paving by Pluronic F127–alginate gel blends: formulation and erosion tests”, A. Dalmoro, A. A. Barba, **M. Grassi**, G. Grassi, G. Lamberti. *Journal of Biomedical Material Research Part B*, 2016, 104B(5), 1013-1022.
- 121) “Influence of borate amount on the swelling and rheological properties of the Scleroglucan/borax system” T. Coviello, S. Margheritelli, P. Matricardi, C. Di Meo, F. Cerreto, F. Alhaique, M. Abrami, **M. Grassi**. *Journal of Applied Polymer Science*, 2016, 133(3), 42860 (1-10).
- 122) “Definition and validation of a patient-individualized physiologically based pharmacokinetic model” R. A. Abbiati, G. Lamberti, **M. Grassi**, F. Trotta, D. Manca. *Computers & Chemical Engineering*, 2016, 84, 394-408.
- 123) “Synthesis and characterization of UV photocrosslinkable hydrogels with poly(N-vinyl-2-pyrrolidone): determination of the network mesh size distribution” P. Marizza, M. Abrami, S. S. Keller, P. Posocco, E. Laurini, K. Goswami, A. L. Skov, A. Boisen, D. Larobina, G. Grassi, **M. Grassi**. *International Journal of Polymeric Materials and Polymeric Biomaterials*, 2016, 65(10), 516-525.
- 124) “Aptamer targeting of the elongation factor 1A impairs hepatocarcinoma cells viability and potentiates bortezomib and idarubicin effects” B. Scaggiante, R. Farra, B. Dapas, G. Baja, G. Pozzato, **M. Grassi**, F. Zanconati, G. Grassi. *International Journal of Pharmaceutics*, 2016, 506, 268-279.
- 125) “Thermo-responsive hydrogels from cellulose-based polyelectrolytes and cationic vesicles for biomedical application” G. Milcovich, F. Antunes, S. Golob, R. Farra, **M. Grassi**, D. Voinovich, G. Grassi, F. Asaro. *Journal of Biomedical Materials A*, 2016, 104A(7), 1688-1679.
- 126) “Hyaluronan delivery by polymer demixing in polysaccharide–based hydrogels and membranes for biomedical applications”, A. Travan, F. Scognamiglio, M. Borgogna, E. Marsich, I. Donati, L. Tarusha, **M. Grassi**, S. Paoletti. *Carbohydrate Polymers*, 2016, 150, 408–418.
- 127) “Nanostructured Drugs Embedded into a Polymeric Matrix: Vinpocetine/PVP Hybrids Investigated by Debye Function Analysis”. D. Hasa, C. Giacobbe, B. Perissutti, D. Voinovich, **M. Grassi**, A. Cervellino, N. Masciocchi, A. Guagliardi *Molecular Pharmaceutics*, 2016, 13, 3034–3042.
- 128) “Insight into the ionotropic gelation of chitosan using tripolyphosphate and pyrophosphate as cross-linkers. Sacco P, Paoletti S, Cok M, Asaro F, Abrami M, Grassi M, Donati I. *International Journal of Biological Macromolecules* 2016 92, 476-483.
- 129) “Evaluation of concentration and dispersion of functionalized carbon nanotubes in aqueous media by means of Low Field Nuclear Magnetic Resonance” D. Porrelli, M. Cok, M. Abrami, S. Bosi, M. Prato, **M. Grassi**, S. Paoletti, I. Donati. *Carbon* 113 (2017) 387 – 394.
- 130) “Chemical Engineering in the “BIO” World” G. Chiarappa, **M. Grassi**, M. Abrami, R. A. Abbiati, A. A. Barba, A. Boisen, V. Brucato, G. Gherzi, D. Caccavo, S. Cascone, S. Caserta, N. Elvassore, M. Giomo, S. Guido, G. Lamberti, D. Larobina, D. Manca, P. Marizza, G. Tomaiuolo, G. Grassi. *Current Drug Delivery*, 2017 14(2) 158-178.

- 131) “Injectable chitosan/ $\beta$ -glycerophosphate system for sustained release: gelation study, structural investigation, and erosion tests” A. Dalmoro, M. Abrami, B. Galzerano, S. Bochicchio, A. A. Barba, **M. Grassi**, D. Larobina. *Current Drug Delivery*, 2017 14(2) 216-223.
- 132) “The Role of the Transcription Factor E2F1 in Hepatocellular Carcinoma” F. Rossella F., Grassi G., Tonon F., Abrami M., **Grassi M.**, Pozzato G., Fiotti N., Forte G., Dapas B. *Current Drug Delivery*, 2017 14(2), 272-281.
- 133) “New Trends in Gene Therapy: Multidisciplinary Approaches to siRNAs Controlled Delivery. A. A. Barba, G. Grassi, **M. Grassi**, G. Lamberti *Current Drug Delivery*, 2017 14(2), 156-157.
- 134) “Characterization of PLLA Scaffolds for biomedical applications”, S. M. Fiorentino, F. Carfi Pavia, V. La Carrubba, V. Brucato, M. Abrami, R. Farra, G. Turco, G. Grassi, **M. Grassi**. *International Journal of Polymeric Materials and Polymeric Biomaterials*, 2017, 66(9), 469-477.
- 135) “Modulating carbohydrate-based hydrogels as viscoelastic lubricant substitute for articular cartilages” G. Milcovich, F. E. Antunes, R. Farra, G. Grassi, **M. Grassi**, F. Asaro. *International Journal of Biological Macromolecules*, 2017, 102, 796–804.
- 136) “Rheology of Laponite-scleroglucan hydrogels” R. Lapasin, M. Abrami, **M. Grassi**, U. Sebenik. *Carbohydrate Polymers* 2017, 168, 290–300.
- 137) “The Influence of pH on the Scleroglucan and Scleroglucan/Borax Systems” C. Mazzuca, G. Bocchinfuso, A. Palleschi, P. Conflitti, M. Grassi, C. Di Meo, F. Alhaique, T. Coviello. *Molecules*, 2017, 22(3), 435.
- 138) “Mathematical modeling of drug release from natural polysaccharides based matrices” G. Chiarappa, M. Abrami, B. Dapas, R. Farra, F. Trebez, F. Musiani, G. Grassi, **M. Grassi**. *Natural Product Communications*, 2017, 12, 873 - 880.
- 139) “Strategies to optimize siRNA delivery to hepatocellular carcinoma cells” L. Scarabel, F. Perrone, M. Garziera, R. Farra, M. Grassi, F. Musiani, C. Russo Spena, B. Salis, L. De Stefano, G. Toffoli, F. Rizzolio, F. Tonon, A. Michela, G. Chiarappa, G. Pozzato, G. Forte, G. Grassi, B. Dapas. *Expert Opinion on Drug Delivery*, 2017, 14(6), 797-810.
- 140) “Engineering approaches in siRNA delivery” A. A. Barba, S. Cascone, D. Caccavo, G. Lamberti, G. Chiarappa, M. Abrami, G. Grassi, **M. Grassi**, G. Tomaiuolo, S. Guido, V. Brucato, F. Carfi-Pavia, G. Gherzi, V. La Carrubba, R. A. Abbiati, D. Manca. *International Journal of Pharmaceutics*, 2017, 525, 343-358.
- 141) “Galactosylated polyaspartamide copolymers for siRNA targeted delivery to hepatocellular carcinoma cells” G. Cavallaro, R. Farra, E. F. Craparo, C. Sardo, B. Porsio, G. Giammona, F. Perrone, **M. Grassi**, G. Pozzato, G. Grassi, B. Dapas. *International Journal of Pharmaceutics*, 2017, 525, 397–406.
- 142) “Dissecting the role of the elongation factor 1 A isoforms in hepatocellular carcinoma cells by liposome-mediated delivery of siRNAs” R. Farra, B. Scaggiante, B. Dapas, C. Guerra, G. Pozzato, **M. Grassi**, F. Zanconati, F. Perrone, C. Ferrari, F. Trotta, G. Grassi. *International Journal of Pharmaceutics*, 2017, 525, 367-376.
- 143) “Recent advances in smart biotechnology: Hydrogels and nanocarriers for tailored bioactive molecules depot” G. Milcovich, S. Lettieri, F. E. Antunes, B. Medronho, A. C. Fonseca, J.F.J. Coelho, P. Marizza, F. Perrone, R. Farra, B. Dapas, G. Grassi, **M. Grassi**, S. Giordani. *Advances in Colloid and Interface Science*, 2017, 249, 163–180.

- 144) “Exploring the Shape Influence on Melting Temperature, Enthalpy, and Solubility of Organic Drug Nanocrystals by a Thermodynamic Model” G. Chiarappa, A. Piccolo, I. Colombo, D. Hasa, D. Voinovich, M. Moneghini, G. Grassi, R. Farra, M. Abrami, P. Posocco, S. Pricl, **M. Grassi**. *Crystal Growth & Design*, 2017, 17 (8), 4072–4083.
- 145) “Potential applications of Nanocellulose-containing materials in the biomedical field. N. Halib, F. Perrone, M. Cemazar, Ba. Dapas, R. Farra, M. Abrami, G. Chiarappa, G. Forte, F. Zanconati, G. Pozzato, L. Murena, N. Fiotti, R. Lapasin, L. Cansolino, G. Grassi, **M. Grassi**. *Materials*, 2017, 10, 977-1008.
- 146) “Role of sonication pre-treatment and cation valence in the solgel transition of nanocellulose suspensions” C. A. Maestri, M. Abrami, S. Hazan, E. Chistè, Y. Golan, J. Rohrer, A. Bernkop-Schnürch, **M. Grassi**, M. Scarpa, P. Bettotti. *Scientific REPORTS*, 2017, 7: 11129, pag. 1-10.
- 147) “A Novel Approach Based on Low-Field NMR for the Detection of the Pathological Components of Sputum in Cystic Fibrosis Patients” M. Abrami, F. Ascenzioni, E. G. Di Domenico, M. Maschio, A. Ventura, M. Confalonieri, S. Di Gioia, M. Conese, B. Dapas, G. Grassi, **M. Grassi**. *Magnetic Resonance in Medicine*, 2018, 79, 2323-2331.
- 148) “Use of low field NMR for the characterization of gels and biological tissues” M. Abrami, G. Chiarappa, R. Farra, G. Grassi, P. Marizza, **M. Grassi**. *ADMET & DMPK* 2018, 6(1), 34-46.
- 149) “Mathematical modeling of L-(+)-ascorbic acid delivery from pectin films (packaging) to agar hydrogels (food)”. G. Chiarappa, M. D. De’Nobili, A. M. Rojas, M. Abrami, R. Lapasin, G. Grassi c, J. A. Ferreira, E. Gudino, P. de Oliveira, **M. Grassi**. *Journal of Food Engineering* 2018, 234, 73 – 81.
- 150) “Polymer-Mediated Delivery of siRNAs to Hepatocellular Carcinoma: Variables Affecting Specificity and Effectiveness” R. Farra, F. Musiani, F. Perrone, M. Cemažar, U. Kamenšek, F. Tonon, M. Abrami, A. Rucigaj, **M. Grassi** G. Pozzato, D. Bonazza, F. Zanconati, G. Forte, M. El Boustani, L. Scarabel, M. Garziera, C. Russo Spena, L. De Stefano, B. Salis, G. Toffoli, F. Rizzolio, G. Grassi, B. Dapas. *Molecules* 2018, 23, 777, 1-24.
- 151) “Drug release from viscoelastic swelling polymeric platforms” J.A. Ferreira, P. De Oliveira, **M. Grassi**, G. Romanazzi. *SIAM Journal on Applied Mathematics*, 2018, 78(3), 1378-1401.
- 152) “D-Optimal design in the development of rheologically improved in situ forming ophthalmic gel” Iva Krtalić, S. Radošević, A. Hafner, **M. Grassi**, B. Cetina-Čižmek, J. Filipović-Grčić, I. Pepić, J. Lovrić. *Journal of Pharmaceutical Sciences*, 2018, 107, 1562 - 1571.
- 153) “Combined used of Rheology and LF-NMR for the characterization of PVP-Alginates gels containing liposomes” G. Fanesi, M. Abrami, F. Zecchin, I. Giassi, E. Dal Ferro, A. Boisen, G. Grassi, P. Bertocin, **M. Grassi**, P. Marizza. *Pharmaceutical Research*, 2018, 35, 171-182.
- 154) “Chirality effects on peptide self-assembly are unravelled from molecules to materials” A. M. Garcia, D. Iglesias, E. Parisi, K. E. Styan, L. J. Waddington, C. Deganutti, R. De Zorzi, **M. Grassi**, M. Melchionna, A. V. Vargiu, S. Marchesan. *ChemJournal*, 2018, 4, 1862-1876.
- 155) “Oxidized Nanocarbons-Tripeptide Supramolecular Hydrogels: Shape Matters!” D. Iglesias, M. Melle-Franco, M. Kurbasic, M. Abrami, **M. Grassi**, M. Prato, S. Marchesan. *ACS Nano*, 2018, 12, 5530–5538.
- 156) “Stabilization of unilamellar catanionic vesicles induced by  $\beta$ -cyclodextrins: A strategy for a tunable drug delivery depot” G. Milcovich, F. E. Antunes, **M. Grassi**, F. Asaro. *International Journal of Pharmaceutics*, 2018, 548, 474-479.

## Book Chapters

- 1) “Drug-release effects controlling pseudo non Fickian diffusion”; Adrover, M. Giona, **M. Grassi**, R. Lapasin, S. Pricl In “*Chaos and Fractals in Chemical Engineering*”, G. Biardi and M. Giona eds., World Scientific, Singapore-New Jersey-London, pp. 39-48, 1995.
- 2) “Fractal concepts in modeling of suspension rheology”; R. Lapasin, **M. Grassi**, S. Pricl In “*Chaos and Fractals in Chemical Engineering*”, G. Biardi and M. Giona eds., World Scientific, Singapore-New Jersey-London, pp. 89-101, 1995.
- 3) “Thixotropy in fractal and dense aggregate suspensions”; Lapasin, **M. Grassi**, S. Pricl In “*Fractals and Chaos in Chemical Engineering*”, M. Giona and G. Biardi eds., World Scientific, Singapore-New Jersey-London, pp. 305-316, 1997.
- 4) “Modelling drug release in cardiovascular eluting stents” Grassi G, **Grassi M**, Pontrelli G, Teresi L in *Modelling cardiovascular system and mechanical circulatory support*, Claudio De Lazzari Ed., CNR, pp. 135-151, 2007.
- 5) “*Membranes in Drug Delivery*”, **M. Grassi**, in *Handbook of Membrane Separations: Chemical, Pharmaceutical, Food and Biotechnological Applications*. Ana Maria Sastre, Anil Kumar Pabby and S.S.H Rizvi eds., CRC Press, Boca Raton, 2008, cap 15, pagine 427-471.
- 6) “Characterisation of hammerhead ribozymes potentially suitable for the treatment of hyper-proliferative vascular diseases” G. Grassi, **M. Grassi**, in *RNA Technologies in Cardiovascular Medicine and Research*. Volker A. Erdmann, Wolfgang Poller and Jan Barciszewski eds., Springer Verlag, Heidelberg, 2008, pagine 185-207.
- 7) “Mathematical modelling of nanocrystalline and amorphous drugs release and gastro-intestinal absorption from polymeric particles” G. Grassi, **M. Grassi**, in *Mathematical Modelling, Clustering Algorithms and Applications*, Caroline L. Wilson ed., Nova Science Publishers, Inc., Hauppauge (NY), 2011, pag. 49-82.
- 8) “*Therapeutic potential and delivery strategies for nucleic acid-based drugs*” **Grassi M.**, Scaggiante B., Dapas B., Farra R., Tonon F., S Fiorentino., Abrami M., Grassi G. in *Nucleic-acid based drugs*, Wong J., ed., Future Science, 2013, Chapter 5, 72-88.
- 9) “*Nucleic Acids-based Aptamers and their applications*” Scaggiante B, Dapas B, **Grassi M**, Zanconati F, Farra R, Tonon F, Fiorentino S, Abrami M, Grassi G., in *Nucleic-acid based drugs*, Wong J., ed., Future Science 2013, Chapter 4, 54-71.
- 10) “*Membranes in Drug Delivery*”, Fiorentino S. M., Farra R., Dapas B., Scaggiante B., Tonon F. Grassi G., **Grassi M.**, in *Handbook of Membrane Separations: Chemical, Pharmaceutical, Food and Biotechnological Applications*. Ana Maria Sastre, Anil Kumar Pabby and S.S.H Rizvi eds., CRC Press, Boca Raton, 2<sup>nd</sup> edition, April 2015, cap. 15, pagine 419-464.
- 11) “*Hydrogels mesh size evaluation*” **Grassi M.**, Fiorentino S., Farra R., Dapas B., Grassi G. in: ‘*Polysaccharide hydrogels: Characterization and biomedical applications*’ Matricardi P., Alhaique F., Coviello T. eds., Pan Stanford Publishing, Singapore, chapter 4, 139-165, (2015).
- 12) “*Drug delivery from polymeric matrices*” G. Chiarappa, M. Abrami, R. Farra, B. Dapas, G. Grassi, **M. Grassi** in “*Quantitative Systems Pharmacology: Models and Model-based Systems with Applications*” D. Manca ed., Elsevier, Amsterdam, vol 42, chapter 11, pages 325-356, 2018.

## Books

- 1) “*Understanding drug release and absorption mechanisms: a physical and mathematical approach*”, **M. Grassi**, G. Grassi, R. Lapasin, I. Colombo, CRC Press, Boca Raton (FL, USA), 2007, 1-627, ISBN 0 8493 3087 4.

## Abstracts

- 1) Interazioni sinergiche in sistemi gel misti xantano-locust bean gum”; G. Copetti, **M. Grassi**, R. Lapasin, S. Pricl. *Atti del II° Convegno Nazionale di Reologia Applicata, Sorrento*, pp.7-10, 9-11 Giugno 1994.
- 2) “Release from a scleroglucan hydrogel matrix”; **M. Grassi**, R. Lapasin, S. Pricl, I. Colombo, A. Adrover, M. Giona *Proceedings of the 21<sup>st</sup> International Symposium on Controlled Release of Bioactive Materials*, Nice, pp.533-4, 27 -30 Giugno 1994.
- 3) “A percolation model for the analysis of drug release from swollen gels”; Adrover, M. Giona, **M. Grassi**, R. Lapasin, S. Pricl *Proceeding of the 7<sup>th</sup> International Symposium on Synthetic Membranes in Science and Industry, Dechema e.V., Tuebingen*, pp.155-8, 29 Agosto - 1 Settembre 1994.
- 4) “Two-phase kinetic model of a controlled-release experiment”; Adrover, M. Giona, **M. Grassi**, R. Lapasin, S. Pricl *Proceedings of the 7<sup>th</sup> International Symposium on Synthetic Membranes in Science and Industry, Dechema e.V., Tuebingen*, pp.189-90, 29 Agosto - 1 Settembre 1994.
- 5) “Modeling of suspension rheology”; R. Lapasin, **M. Grassi**, S. Pricl, G. Torriano *Proceedings of the Second Italian Conference on Chemical and Process Engineering*, Firenze, pp. 45-46, 15-17 Maggio 1995.
- 6) “Determinazione sperimentale del coefficiente di diffusione in matrici di idrogel polimerici rigonfiati”; **M. Grassi**, R. Lapasin, S. Pricl, I. Colombo *Atti del 35° Simposio AFI*, Riccione, pp 81, 7-9 Giugno 1995
- 7) “Analysis and modeling of release experiments”; **M. Grassi**, R. Lapasin, S. Pricl, I. Colombo *Proceedings of the 22<sup>nd</sup> International Symposium on Controlled Release of Bioactive Materials*, Seattle (USA), pp 364-5 , 30 Luglio - 2 Agosto 1995.
- 8) “Approccio frattale alla reologia delle sospensioni di particelle aggregate”; R. Lapasin, **M. Grassi**, S. Pricl, G. Torriano, A. Zupancic *Atti del 3° Convegno Nazionale di Reologia Applicata*, San Donato Milanese, pp 104 - 108, 12 - 15 Settembre 1995.
- 9) “Permeabilita’ di membrane reticolate costituite da alginato sodico”; F. Giovannini, **M. Grassi**, I. Colombo, L. Magarotto, R. Lapasin *Atti del “Simposio 1996 AFI - ARDITEL*, Riccione, pp 215, 12 - 14 Giugno 1996.
- 10) “Modeling of drug release from a swellable matrix”; **M. Grassi**, R. Lapasin, S. Pricl, I. Colombo, F. Carli *Proceedings of the Conference on Advances in Controlled Delivery*, Baltimore (USA), pp 167-8 , 19 - 20 Agosto 1996.
- 11) “Fractal approach to the rheological modeling of aggregated suspensions”; R. Lapasin, **M. Grassi**, S. Pricl, *Proceedings of the XIIIth International Congress on Rheology*, Quebec City, pp 524-5, 18-23 August, 1996.
- 12) “Drug release from polymeric matrices with different degree of swelling”; **M. Grassi**, R. Lapasin, S. Pricl *Proceedings of the “The first European Congress on Chemical Engineering”*, Firenze, p. 2093 ,4-7 Maggio, 1997.
- 13) “Permeazione di Acyclovir attraverso pelle di ratto: esperimenti in vitro e modellizzazione matematica”; **M. Grassi**, I. Colombo, N. Cocceani, D. Del Curto *Atti del Simposio AFI - ISPE, Montecatini Terme*, 21 - 23 Maggio 1997.
- 14) “Viscoelasticity of polysaccharide solutions and gels and fractional derivative models”; S. Pricl, R. Lapasin, **M. Grassi** *5<sup>th</sup> Alpe - Adria Rheoworkshop*, Novo mesto, Slovenia, May 28<sup>th</sup> - 29<sup>th</sup>, 1997.

- 15) “Applicazione di modelli viscoelastici frazionari a soluzioni e gel polisaccaridici”; S. Pricl, R. Lapasin, **M. Grassi**                      *5° Convegno Nazionale di Reologia Applicata e Industriale - 1° Convegno Nazionale di Reologia*, Viterbo, 4 – 7, pp. 96 – 102, Giugno 1997.
- 16) “Modeling of drug release from a polymeric matrix”; **M. Grassi**, R. Lapasin, S. Pricl, I. Colombo, F. Carli                      *Proceedings of the 24<sup>th</sup> International Symposium on Controlled Release of Bioactive Materials*, Stoccolma (Svezia), pp 512-3, 15 Giugno - 19 Giugno 1997.
- 17) “Application of fractional viscoelastic models to polysaccharide systems”; S. Pricl, R. Lapasin, **M. Grassi**                      *32ème Colloque Annuel du Groupe Français de Rhéologie*, Volume XV, Numéro 4, pp 448-457, Nantes (Francia), 28 Ottobre - 30 Ottobre 1997.
- 18) “Modeling of penetrant uptake in viscoelastic polymeric matrices”; **M. Grassi** *Proceedings of the Joint Conference of Italian, Austrian, Slovenian Rheologists*, Trieste, 20 – 23 May, 1998, pp. 91 - 96.
- 19) “Permeazione di Acyclovir attraverso la mucosa intestinale di ratto: esperimenti in vivo e modellizzazione matematica”; **M. Grassi**, N. Coceani, G. Cadelli, P. Esposito                      *Atti del 38° Simposio AFI – CRS – ISPE*, Montecatini Terme (PT), 3 – 5 Giugno, 1998, pp. 87.
- 20) “Modeling of penetrant uptake by means of an improved form of the Camera-Roda and Sarti equation”; **M. Grassi**, R. Lapasin, S. Pricl, I. Colombo, F. Carli                      *Proceedings of the 25<sup>th</sup> International Symposium on Controlled Release of Bioactive Materials*, Las Vegas (USA), 5308, 20 Giugno - 25 Giugno 1998.
- 21) “Viscoelastic properties of welan systems”; R. Lapasin, A. Martorana, **M. Grassi**, S. Pricl                      *Proceedings of the Fifth European Rheology Conference*, Portorose (Slovenia), 6 – 11, Settembre 1998.
- 22) “Drug release from a crosslinked polymer particles”; **M. Grassi**, I. Colombo, F. Carli, R. Lapasin                      *European Journal of Pharmaceutical Sciences*, **6** (1),page S65,# 260, 1998, *Proceedings of the Fourth European Congress of Pharmaceutical Sciences*, Milano, 11 – 13 Settembre 1998.
- 23) “Antiinflammatory drug – betacyclodextrin composite by mecanochemistry”; F. Carli, M. Bresciani, **M. Grassi**, L. Magarotto                      *European Journal of Pharmaceutical Sciences*, **6** (1),# 84, 1998, *Proceedings of the Fourth European Congress of Pharmaceutical Sciences*, Milano, 11 – 13 Settembre 1998.
- 24) “Approcci reologici alla soluzione di problemi industriali”; R. Lapasin, S. Pricl, **M. Grassi**                      *Atti del Congresso GRICU*, pp. 191 – 194, Ferrara, 23 – 25 Settembre 1998.
- 25) “Diffusione di principi attivi e solventi in matrici polimeriche impiegate quali sistemi farmaceutici a rilascio controllato”; **M. Grassi**                      *Atti del Congresso GRICU*, pp. 195 – 198, Ferrara, 23 – 25 Settembre 1998.
- 26) “Growth inhibition of smooth muscle cells from human coronary plaque by hammerhead ribozymes”; G. Grassi, A. Kuhn, **M. Grassi**, G. Bauriedel, R. Kandolf                      *Proceedings of the 1998 meeting on Gene Therapy*, 243, Cold Spring Harbor Laboratory, Cold Spring Harbor, New York, 23 – 27 Settembre 1998.
- 27) “Effect of drug dissolution and polymer swelling on drug release from a powdered system”, **M. Grassi**, R. Lapasin                      *Proceedings of The fourth Italian Conference on Chemical and Process Engineering*, pag. 941 – 944, Firenze, 2 – 5 Maggio, 1999.
- 28) “Studio teorico e sperimentale dell’assorbimento intestinale di farmaci in vivo condotto sul ratto”, **M. Grassi**, G. Cadelli, N. Coceani, F. Mantovani,                      *Atti del 39° Simposio AFI – CRS – ISPE*, Montecatini Terme (PT), 26 – 28 Maggio, 1999, pp. 123.

- 29) "Ribozymes as a tool to inhibit artery smooth muscle cell proliferation following percutaneous transluminal angioplasty", G. Grassi, A. Kuhn, J. J. Schorr, H. Koehn, **M. Grassi**, G. Bauriedel, P. Di Nardo, R. Kandolf, *Proceeding Dietary factors and cardiovascular diseases*, Viterbo, 20-23 Giugno 1999.
- 30) "Modeling of drug release from a swellable powder"; **M. Grassi**, R. Lapasin, F. Carli  
*Proceedings of the 26<sup>th</sup> International Symposium on Controlled Release of Bioactive Materials*, Boston (USA), 6332, 20 Giugno - 23 Giugno 1999.
- 31) "Modeling of the in vitro hammerhead ribozymes reaction kinetics", **M. Grassi**, G. Grassi, R. Lapasin, A. Kuhn, G. Bauriedel, R. Kandolf, *Proceedings of the 26<sup>th</sup> International Symposium on Controlled Release of Bioactive Materials*, Boston (USA), 141, 20 Giugno - 23 Giugno 1999.
- 32) "New hydrogels from scleroglucan", F. Alhaique, T. Coviello, **M. Grassi**, G. Rambone, E. Santucci, M. Carafa, E. Murtas, *Proceedings of the 26<sup>th</sup> International Symposium on Controlled Release of Bioactive Materials*, Boston (USA), 6335, 20 Giugno - 23 Giugno 1999.
- 33) "Effects of Polymer addition on the rheology of o/w microemulsions", N. Cocceani, R. Lapasin, **M. Grassi**, *Proceedings of the Southern Europe Conference on Rheology*, Falerna (CZ), 62 – 68, 7 – 11 Settembre 1999.
- 34) "E2F1 and cyclin E directed ribozymes as a tool to inhibit smooth muscle cell proliferation after percutaneous transluminal angioplasty", G. Grassi, A. Kuhn, J. J. Schorr, H. Koehn, **M. Grassi**, G. Bauriedel, R. Kandolf, *European Heart Journal* **20**, 367, 1999.
- 35) "Mathematical modeling of a solid drug dissolution and partitioning in a water/oil environment", **M. Grassi**, L. Magarotto, *Proceedings of the 8<sup>th</sup> European Conference on Applications of Surface and Interface Analysis*, Siviglia (Spagna), 188, 4 - 8 Ottobre 1999.
- 36) "Nimesulide/ $\beta$ -cyclodextrin composite by solid state technology", F. Carli, M. Bresciani, **M. Grassi**, L. Magarotto, *The 18<sup>th</sup> Pharmaceutical Technology Conference*, Royal Dutch Jaarbeurs Conference Centre, Utrecht, The Netherlands, 39 – 43, April 1999.
- 37) "Drug release from o/w microemulsions: experiments and modeling", N. Cocceani, **M. Grassi**, *Acta Technologiae et Legis Medicamenti* **2**, 92, 1999.
- 38) "Physical gels of scleroglucan and derivatives for controlled release", T. Coviello, A. Marino, **M. Grassi**, E. Murtas, E. Santucci, F. M. Riccieri, F. Alhaique, *Acta Technologiae et Legis Medicamenti* **2**, 161, 1999.
- 39) "Ribozymes as a tool to inhibit smooth muscle cell proliferation", G. Grassi, A. Kuhn, **M. Grassi**, G. Bauriedel, R. Kandolf, *Acta Technologiae et Legis Medicamenti* **2**, 86, 1999.
- 40) "Model drug release from polydisperse powdered systems", **M. Grassi**, F. Mantovani, *Acta Technologiae et Legis Medicamenti* **2**, 101, 1999.
- 41) "Experimental and theoretical investigations on drug release from O/W microemulsions", N. Cocceani, **M. Grassi**, F. Carli, *Proceedings of the 7<sup>th</sup> International Perspectives in Percutaneous Penetration Conference*, La Grande Motte (FR), Aprile 2000.
- 42) "Preparazione e caratterizzazione di un nuovo idrogel polisaccaridico", T. Coviello, M. Grassi, R. Lapasin, A. Marino, E. Santucci, M. Carafa, E. Murtas, F. M. Riccieri, F. Alhaique, *Atti del 40° Simposio AFI 2000*, Montecatini Terme(Italy), June 14-16, 2000.
- 43) "Calculation of cleavage kinetic constants from ribozyme carrying non hybridising extra sequences" G. Grassi, **M. Grassi**, R. Lapasin, A. Kuhn, R. Kandolf, *Proceedings of the 27<sup>th</sup> International Symposium on Controlled Release of Bioactive Materials*, Parigi, 7314, 9 luglio - 13 Luglio 2000.

- 44) "A polysaccharidic hydrogel for controlled release: preparation and preliminary characterisation" T. Coviello, **M. Grassi**, A. Marino, F. Alhaique, R. Lapasin, E. Santucci, M. Carafa, *Proceedings of the 27<sup>th</sup> International Symposium on Controlled Release of Bioactive Materials*, Parigi, 7017, 9 luglio - 13 Luglio 2000.
- 45) "Modeling of drug release from high viscosity HPMC tablets" **M. Grassi**, L. Zema, M. E. Sangalli, F. Giordano, A. Gazzaniga, *Proceedings of the 27<sup>th</sup> International Symposium on Controlled Release of Bioactive Materials*, Parigi, 6212, 9 luglio - 13 Luglio 2000.
- 46) "Modeling of drug permeation through a drug interacting swollen membrane" **M. Grassi**, R. Lapasin, F. Carli, *Proceedings of the 27<sup>th</sup> International Symposium on Controlled Release of Bioactive Materials*, Parigi, 7133, 9 luglio - 13 Luglio 2000.
- 47) "Un idrogelo fisico di natura polisaccaridica: preparazione e caratterizzazione", T. Coviello, **M. Grassi**, R. Lapasin, A. Marino, E. Santucci, M. Carafa, E. Murtas, F. M. Riccieri, F. Alhaique, *Memorie XVII Simposio A.D.R.I.T.E.L.F.*, pag 116, Catania, 4-7 ottobre 2000.
- 48) "Drug release and viscoelasticity of gel matrices", **M. Grassi**, R. Lapasin, *Proceedings 35<sup>ème</sup> Colloque annuel du groupe francais de rheologie*, Grenoble, 23 – 25 Ottobre 2000, volume XVII, N° 1, pag. 99 – 112.
- 49) "New polysaccharidic hydrogels for drug delivery: preparation and characterization", T. Coviello, **M. Grassi**, A. Marino, G. Coluzzi, F. Alhaique. *Proceedings of New trends in polymers for oral and parenteral administration from design to receptors*, 274 – 277, Parigi, 12 – 13 March 2001.
- 50) "Transizioni strutturali e proprietà reologiche di sistemi O/W contenenti polisorbato e alcool benzilico" C. Sirotti, R. Lapasin, **M. Grassi**, N. Cocceani, *7° Convegno Nazionale di Reologia*, Faenza, 20 – 22 Giugno 2001, 257 -262.
- 51) "Proprietà reologiche del gel scleroglucano - borace" **M. Grassi**, R. Lapasin, G. Coluzzi, T. Coviello, F. Alhaique, A. Palleschi, *7° Convegno Nazionale di Reologia*, Faenza, 20 – 22 Giugno 2001, 263 -268.
- 52) "DNA release from PLGA microparticles" G. Grassi, N. Cocceani, A. Khun, R. Kandolf, **M. Grassi**, R. Lapasin, *Proceedings of the 28<sup>th</sup> International Symposium on Controlled Release of Bioactive Materials*, 7055, San Diego, 24 Giugno - 27 Giugno 2001.
- 53) "Drug release from microemulsions: a peculiar case" C. Sirotti, N. Cocceani, **M. Grassi**, R. Lapasin, *Proceedings of the 28<sup>th</sup> International Symposium on Controlled Release of Bioactive Materials*, 5138, San Diego, 24 Giugno - 27 Giugno 2001.
- 54) "Reliable experimental setup for the drug release from a polymeric powder loaded by means of co-grinding" L. Dobbetti, G. Cadelli, D. Furlani, M. Zotti, D. Ceschia, **M. Grassi**, *Proceedings of the 28<sup>th</sup> International Symposium on Controlled Release of Bioactive Materials*, 6059, San Diego, 24 Giugno - 27 Giugno 2001.
- 55) "Rilascio da particelle polimeriche caricate con farmaco: approccio teorico", N. Cocceani, D. Ceschia, L. Magarotto, **M. Grassi**, *Atti del XV Convegno Italiano di Scienza e Tecnologia delle Macromolecole*, Trieste, 687 – 690, 24-27 Settembre 2001.
- 56) "Incremento della biodisponibilità della Nimesulide", F. Meriani, M. Grassi, N. Cocceani, *77, 1° Sigma Aldrich Young Chemists Symposium*, Riccione, 18 –19 Ottobre 2001.
- 57) "Phosphorothioate-modified ribozymes as tool to prevent restenosis" G. Grassi, R. Kandolf, **M. Grassi**, G. Bauriedel, A. Kuhn, *Proceedings of the 9<sup>th</sup> Meeting of the European Society of Gene Therapy*, Antalya, Turkey, 2 Novembre - 4 Novembre 2001.

- 58) "In vitro absorption of a novel nimesulide formulation", F. Meriani, N. Coceani, **M. Grassi**, 4<sup>th</sup> *World Meeting on Pharmaceutics Biopharmaceutics Pharmaceutical technology (10<sup>th</sup> APGI Conference, 48<sup>th</sup> annual APV Congress)*, 519, Firenze, 8 – 11 Aprile 2002.
- 59) "Surface characterization of a system improving drug bioavailability", F. Meriani, N. Coceani, C. Sirotti, **M. Grassi**, 4<sup>th</sup> *World Meeting on Pharmaceutics Biopharmaceutics Pharmaceutical technology (10<sup>th</sup> APGI Conference, 48<sup>th</sup> annual APV Congress)*, 521, Firenze, 8 – 11 Aprile 2002.
- 60) "Scleroglucan/borax: a new hydrogel for drug delivery", T. Coviello, **M. Grassi**, R. Lapasin, G. Coluzzi, F. Banishoeib, F. Alhaique, 4<sup>th</sup> *World Meeting on Pharmaceutics Biopharmaceutics Pharmaceutical technology (10<sup>th</sup> APGI Conference, 48<sup>th</sup> annual APV Congress)*, 615, Firenze, 8 – 11 Aprile 2002.
- 61) "Preparation of a sustained release dosage form for theophylline by single step melt extrusion process", E. Franceschinis, D. Voinovich, **M. Grassi**, M. Moneghini, B. Perissutti, 2<sup>nd</sup> *Advanced School for Pharmaceutical Technology*, 4, Crotone (Italy) 8-12 Giugno 2002.
- 62) "Modeling of ribozyme kinetics in presence of alternate ribozyme, substrate and activated complex configurations", **M. Grassi**, G. Grassi, A. Khun, R. Kandolf, R. Lapasin, 5<sup>th</sup> *ESMTB Conference on Mathematical Modelling & Computing in Biology and Medicine*, 139, Milano (Italy) 2-6 Luglio 2002.
- 63) "Modeling of intestinal absorption from a suspension of drug loaded polymeric particles", **M. Grassi**, C. Sirotti, N. Coceani, F. Meriani, R. Lapasin, *Proceedings of the 29<sup>th</sup> International Symposium on Controlled Release of Bioactive Materials*, 23, Seoul, 20 - 25 Luglio 2002.
- 64) "Drug release from a gelled microemulsion" **M. Grassi**, A. Minigher, C. Sirotti, N. Coceani, R. Lapasin, *Proceedings of the 29<sup>th</sup> International Symposium on Controlled Release of Bioactive Materials*, 250, Seoul, 20 - 25 Luglio 2002.
- 65) "Effect of polymer addition to o/w microemulsions" R. Lapasin, A. Minigher, **M. Grassi**, A. Zupancic, *Proceedings of the 6<sup>th</sup> European Conference on Rheology*, 2131 – 2132, Erlangen (D), 1 - 6 Settembre 2002.
- 66) "Studio della composizione interfacciale di un sistema a due fasi", F. Meriani, **M. Grassi**, *Atti del 6° Congresso AIMAT*, SP5, Modena, 8 – 11 Settembre 2002.
- 67) "Application of cyclodextrins in the pharmaceutical industry for drug solubility improvement" **M. Grassi**, L. Magarotto, I. Colombo, *Atti workshop su Ciclodestrine, proprietà e applicazioni*, CRS Italian Chapter, pp. 8-9, Padova, 29-30 Novembre 2002.
- 68) "Mathematical modeling of sparingly soluble drugs partitioning in a three phase liquid system" C. Sirotti, N. Coceani, L. Magarotto, **M. Grassi**, *Proceedings of the CRS Winter Symposium and 11<sup>th</sup> International Symposium on Recent Advances in Drug Delivery Systems*, 051, Salt Lake City, 3 – 6 Marzo, 2003.
- 69) "HPMC and Theophylline co-precipitation from supercritical CO<sub>2</sub>: experimental and theoretical analysis of release kinetics from tablets" **M. Grassi**, I. Kikic, M. Moneghini, B. Perissutti, D. Voinovich, *Proceedings of the 6<sup>th</sup> International Symposium on supercritical fluids*, Versailles, 28 – 30 Aprile, 2003, Tome 3, pp. 1759-1764.
- 70) "Peculiar behaviour of in vitro intestinal absorption from drug loaded polymeric particles" **M. Grassi**, F. Meriani, C. Sirotti, N. Coceani, *Proceedings of the 30<sup>th</sup> International Symposium on Controlled Release of Bioactive Materials*, 103, Glasgow, 19 - 24 Luglio 2003.

- 71) "A new hydrogel for modified release formulations" F. Alhaique, T. Coviello, **M. Grassi**, R. Lapasin, A. Marino, *Proceedings of the 30<sup>th</sup> International Symposium on Controlled Release of Bioactive Materials*, 373, Glasgow, 19 - 24 Luglio 2003.
- 72) "Controlled release from hydrophobic matrices obtained by melt extrusion" **M. Grassi**, D. Voinovich, E. Franceschinis, B. Perissutti, *Proceedings of the 30<sup>th</sup> International Symposium on Controlled Release of Bioactive Materials*, 433, Glasgow, 19 - 24 Luglio 2003.
- 73) "Meccanismi di rilascio di farmaci da matrici polimeriche", **M. Grassi**, Atti del 3° Corso della Scuola Dottorale per la Formazione Avanzata in Discipline Tecnologico-Farmaceutiche, pp 52-55, 19 Settembre 2003, Università della Calabria, Arcavacata di Rende.
- 74) "Investigation on the possibility of producing self-emulsifying pellets by wet granulation in high shear mixer" Franceschinis E., Voinovich D., **Grassi M.**, Perissutti B., Filipovic-Grcic J., Martinac A. *Farm Vestn* 2003; 54, 443. 5<sup>th</sup> European Symposium on Pharmaceutical technology and Biotechnology, Lublijana, September 2003.
- 75) "Effect of milling time on release kinetics from co-grounded drug polymer systems" **M. Grassi**. N. Coceani, L. Magarotto, D. Ceschia. *Proceedings of the 2003 AAPS Annual Meeting and Exposition*, # M1201, Salt lake City, October 2003, USA.
- 76) "Caratterizzazione reologica di sistemi scleroglucano/borace/farmaco", P Matricardi, **M. Grassi**, T. Coviello, F. Alhaique. *VIII Convegno Nazionale della Società Italiana di Reologia*, Sant'Angelo d'Ischia, 19-22 maggio 2004.
- 77) "Drug activation by co-grinding: the effect of particle size", **M. Grassi**, 2004 AAPS Conference on Pharmaceutics and Drug Delivery, page 35, Philadelphia, June 7-9 2004, USA (invited speaker).
- 78) "Ingegneria Chimica e Settore Farmaceutico: interazioni sinergiche per obiettivi comuni", **M. Grassi**, *Convegno GRICU 2004, Nuove Frontiere di Applicazione delle Metodologie dell'Ingegneria Chimica*, Porto d'Ischia (Na), 12-15 Settembre 2004, Volume I, 33-44. (invited speaker)
- 79) "Sistemi farmaceutici a base di microemulsioni O/A per usi topici", R. Lapasin, **M. Grassi**, C. Sirotti, A. Minigher, *Convegno GRICU 2004, Nuove Frontiere di Applicazione delle Metodologie dell'Ingegneria Chimica*, Porto d'Ischia (Na), 12-15 Settembre 2004, Volume I, 119-122.
- 80) "High-Energy Mechanochemical Activation of Active Principles", D. Manca, N. Coceani, L. Magarotto, I. Colombo, **M. Grassi**, *Convegno GRICU 2004, Nuove Frontiere di Applicazione delle Metodologie dell'Ingegneria Chimica*, Porto d'Ischia (Na), 12-15 Settembre 2004, Volume I, 123-126.
- 81) "Granulazione/estrusione per fusione: tecnologia innovativa per la preparazione di forme farmaceutiche solide orali", E. Franceschinis, D. Voinovich, **M. Grassi**, F. Meriani Merlo. *Convegno GRICU 2004, Nuove Frontiere di Applicazione delle Metodologie dell'Ingegneria Chimica*, Porto d'Ischia (Na), 12-15 Settembre 2004, Volume I, 157-160.
- 82) "Theoretical and experimental investigation on the dynamics of a vibrational mill", J. Castillo, N. Coceani, **M. Grassi**, *Convegno GRICU 2004, Nuove Frontiere di Applicazione delle Metodologie dell'Ingegneria Chimica*, Porto d'Ischia (Na), 12-15 Settembre 2004, Volume I, 165-168.
- 83) "Pluronic gel matrices for stent coating", A. Crevatin, R. Farra, G. Grassi, **M. Grassi**, R. Lapasin. 2<sup>nd</sup> Annual European Rheology Conference, April 21-23, 2005, Grenoble – France, p.127.

- 84) "Characterisation of liposomes for the delivery of siRNAs in the treatment of coronary restenosis", R. Farra, D. Voinovich, F. Rubessa, R. Lapasin, **M. Grassi**, G. Grassi, G. Guarnieri, A. Pascotto, B. Rehimers. *6th Central European Symposium on Pharmaceutical Technology and Biothechnology, European Journal of Pharmaceutical Sciences*, 25, Supplement 1, S96-S98, 2005.
- 85) "Physico-chemical characterisation of binary systems with cyclodextrins" G. Zingone, G. Ralza, L. Carboni, **M. Grassi**, R. Lapasin, F. Rubessa. Proc. 5<sup>th</sup> World meeting on Pharmaceutics, Biopharmaceutics and Pharmaceutical Technology, March 27-30, 2006, Geneva, Switzerland.
- 86) "Mathematical modelling and drug release: general concepts and introduction", **M. Grassi**, Atti del 6° Corso della Scuola Dottorale per la Formazione Avanzata in Discipline Tecnologico-Farmaceutiche, Polimeri Idrofili teoria ed Applicazioni, pag 3, 9-15 Settembre 2006, Università della Calabria, Arcavacata di Rende (CS) (invited speaker).
- 87) "Mathematical modelling and drug release: Theophylline release and absorption following oral administration of cylindrical matrices", **M. Grassi**, Atti del 6° Corso della Scuola Dottorale per la Formazione Avanzata in Discipline Tecnologico-Farmaceutiche, Polimeri Idrofili teoria ed Applicazioni, pag 14, 9-15 Settembre 2006, Università della Calabria, Arcavacata di Rende (CS) (invited speaker).
- 88) "Proprietà reologiche di sistemi termoreversibili pluronic/alginate per applicazioni di stent coating", A. Crevatin, E. Noro, G. Grassi, **M. Grassi**, R. Lapasin. Atti del IX Convegno Nazionale della Società Italiana di Reologia, Zambrone (VV), 20-23 Settembre, 2006, pagine 289-296.
- 89) "Pellets contenenti sistemi autoemulsionanti ottenuti per coestrusione e sferonizzazione", T. Iosio, U. Quintavalle, D. Voinovich, **M. Grassi**, J. F. Pinto. Atti del XX Simposio A.D.R.I.T.E.L.F., *La tecnologia farmaceutica nell'Università e nell'Industria*, Università degli Studi di Catania, 4-7 Ottobre 2006, pag.148.
- 90) "La coestrusione per fusione: aspetti tecnologici e farmacocinetici", U. Quintavalle, D. Voinovich, **M. Grassi**, G. Grassi. Atti del XX Simposio A.D.R.I.T.E.L.F., *La tecnologia farmaceutica nell'Università e nell'Industria*, Università degli Studi di Catania, 4-7 Ottobre 2006, pag.163.
- 91) "Rheological and mechanical properties of Pluronic–alginate gels for drug-eluting stent coating" G. Grassi, E. Noro, R. Farra, G. Guarnieri, R. Lapasin, **M. Grassi**, P. Matricardi, T. Coviello, A. DalCortivo, F. Alhaique. *Proceedings of the ninth European Symposium on Controlled Drug Delivery, Journal of Controlled Release*, 116(2), e85-e87, 2006.
- 92) "Interpretazione dei dati di rilascio in vitro ed in vivo mediante l'aiuto di software" **M. Grassi**, D. Voinovich, U. Quintavalle, B. Perissutti, F. Serdoz, Atti del 47° Simposio AFI, Rimini 13-14-15 Giugno 2007, 129 (invited speaker).
- 93) "High-Energy mechanochemical activation of active principles: general concepts", **M. Grassi**, Atti del 7° Corso della Scuola Dottorale per la Formazione Avanzata in Discipline Tecnologico-Farmaceutiche, Tecnologia ed applicazioni nello sviluppo di prodotti di origine vegetale, pag 47-48, 8-14 Settembre 2007, Università della Calabria, Arcavacata di Rende (CS) (invited speaker).
- 94) High-Energy mechanochemical activation of active principles: the case of silybum Marianum", **M. Grassi**, Atti del 7° Corso della Scuola Dottorale per la Formazione Avanzata in Discipline Tecnologico-Farmaceutiche, Tecnologia ed applicazioni nello sviluppo di prodotti di origine vegetale, pag 49, 8-14 Settembre 2007, Università della Calabria, Arcavacata di Rende (CS) (invited speaker).

- 95) “A numerical study of a double,layer gel paving technology in drug-eluting stent”, G. Grassi, **M. Grassi**, G. Pontrelli, L. Teresi, *Proc. Int. Conf. Comp. Biomech. Biol. (ICCBB)*, 253, Pilsen, Czech Republic, Sept. 10-13 2007.
- 96) “Drug release from gel-stent systems: mathematical modelling”, **M. Grassi**, L. Davia, R. Lapasin, D. Voinovich, G. Pontrelli, G. Grassi. *Proceedings of the Innovation in Drug Delivery: from biomaterials to devices, APGI-ADRITELF Symposium*, 117, Hotel Continental, Napoli, 30 Settembre – 3 Ottobre 2007.
- 97) “Self-emulsifying bi-layered pellets prepared by co-extrusion and spheronization”, **M. Grassi**, D. Voinovich, J. F. Pinto, B. Perissutti, D.T. Iosio, F. serdoz, R. Lapasin. *Proceedings of the Innovation in Drug Delivery: from biomaterials to devices, APGI-ADRITELF Symposium*, 151, Hotel Continental, Napoli, 30 Settembre – 3 Ottobre 2007
- 98) “Studio reologico di sistemi polimerici termosensibili a base di chitosano per applicazioni biomedicali”, A. Crevatin, **M. Grassi**, R. Lapasin, A. Valerio, *Atti del X Convegno Nazionale della Società Italiana di Reologia*, Ravenna, 18-21 Maggio 2008, pagine 107-112.
- 99) “Studio della fluidodinamica coronarica in presenza di rivestimento interno atto al rilascio di agenti antiproliferativi”, L. Comel, A. Crevatin, O. Sbaizero, G. Grassi, R. Lapasin, **M. Grassi**, *Atti del X Convegno Nazionale della Società Italiana di Reologia*, Ravenna, 18-21 Maggio 2008, pagine 113-118.
- 100) “Gel di scleroglucano-borace per il rilascio modificato di principi attivi”, **M. Grassi**, R. Lapasin, T. Coviello, P. Matricardi, F. Alhaique, *Atti del Congresso GRICU 2008. Ingegneria Chimica: le nuove sfide*, Le Castella, 14-17 Settembre 2008, pagine 87-92.
- 101) “Studio del rilascio di teofillina da microparticelle lipidiche”, N. Passerini, B. Albertini, L. Rodriguez, D. Q. Craig, **M. Grassi**, *Atti del Congresso GRICU 2008. Ingegneria Chimica: le nuove sfide*, Le Castella, 14-17 Settembre 2008, pagine 93-98.
- 102) “Gel di alginato-pluronic per il rilascio di agenti antiproliferativi”, A. Crevatin, L. Feruglio, D. Perin, G. Grassi, R. Lapasin, G. Lamberti, **M. Grassi**, *Atti del Congresso GRICU 2008. Ingegneria Chimica: le nuove sfide*, Le Castella, 14-17 Settembre 2008, pagine 99-104.
- 103) “Microwaves application for the preparation of dispersed drug systems”, **M. Grassi**, N. De Zordi, G. Zingone, M. Moneghini, *Atti del Congresso GRICU 2008. Ingegneria Chimica: le nuove sfide*, Le Castella, 14-17 Settembre 2008, pagine 105-110.
- 104) “Impiego di vettori policationici a base poliamminoacidica per la veicolazione di siRNA nel trattamento della in stent restenosi”, G. Cavallaro, M. Licciardi, G. Giammona, G. Grassi, B. Dapas, **M. Grassi**, *Atti del Congresso GRICU 2008. Ingegneria Chimica: le nuove sfide*, Le Castella, 14-17 Settembre 2008, pagine 111-116.
- 105) “Micellizzazione e gelazione di un copolimero PEO-PPO-PEO (F127), investigate mediante misure calorimetriche e dielettriche”, A.A.Barba, S.Chirico, M. d’Amore, **M. Grassi**, G. Lamberti, G. Titomanlio, *Atti del Congresso GRICU 2008. Ingegneria Chimica: le nuove sfide*, Le Castella, 14-17 Settembre 2008, pagine 123-128.
- 106) “High-energy mechanochemical activation of herbal drugs: the case of silybum marianum”, B. Perissutti, D. Voinovich, E. Franceschinis, N. Realdon, **M. Grassi**, *proceedings of the 7<sup>th</sup> Central European Symposium on Pharmaceutical technology and Biodelivery Systems*, Ljubljana, Slovenia, 18-20 Settembre 2008. Abstract pubblicato sul numero speciale di *Farmaceutski vestnik*, 2008, 59, 168-169.
- 107) “PEG and MultiPEG-THEO: PK analysis”, M. Zacchigna, F. Cateni, S. Drioli, G.M. Bonora, **M. Grassi**. *XXIII Congresso Nazionale della Società Chimica Italiana*, Sorrento, 5-10 Luglio 2009, pagina 185.

- 108) "Prediction of plasma drug concentration after oral administration of cylindrical matrices", **M. Grassi**, R. Lapasin, G. Grassi, B. Perissutti, D. Voinovich, A. Dal Col. *36<sup>th</sup> Annual meeting & exposition of the Controlled release Society*, Copenhagen, 18 - 22 Luglio 2009, 373.
- 109) "Caratterizzazione reologica e rilassometrica di idrogeli a base di alginato di calcio", G. Turco, **M. Grassi**, G. Marchioli, I. Donati, S. Paoletti. *XI Convegno Nazionale della Società Italiana di Reologia*, Trieste, 23-26 Maggio 2010, 45-50.
- 110) "Caratterizzazione di matrici polimeriche composte da cellulosa ed acido acrilico", N. Halib, M. Amin, G. Turco, R. Lapasin, **M. Grassi**. *XI Convegno Nazionale della Società Italiana di Reologia*, Trieste, 23-26 Maggio 2010, 69-74.
- 111) "Gel di guar/borace: caratterizzazione reologica e studi di rilascio", T. Coviello, **M. Grassi**, P. Matricardi, F. Alhaique, S. Margheritelli, P. Bedin, G. d'Eredità. *XI Convegno Nazionale della Società Italiana di Reologia*, Trieste, 23-26 Maggio 2010, 189-194.
- 112) "Structural characterization of electron beam synthesized bacterial cellulose/acrylic acid hydrogels by means of mechanical and release tests" Halib N., Ahmad I., Amin M., Grassi M., R. Lapasin. *International conference and exhibition on pharmaceutical, nutraceutical and cosmeceutical technology: formulation and applications*, Kuala Lumpur, Malaysia, 25-26 Maggio 2010, 32.
- 113) "Correlazione vitro-vivo e modelli matematici", **Grassi M.**, Voinovich D., Perissutti B., Grassi G. *50° Simposio AFI*, Rimini, 9-11 Giugno 2010, 105.
- 114) "Design and characterization of polymeric blends for biomedical applications", A.A. Barba, G. Lamberti, L. Rabbia, **M. Grassi**, G. Grassi, D. Larobina. *8th Central European Symposium on Pharmaceutical Technology*, Graz (Austria), 16-18 Settembre 2010, PDD28 (Scientia Pharmaceutica, 2010, 78, 617).
- 115) "Multidisciplinary approach on characterizing composites of Vinpocetina and crosopvidone obtained by solid state activation", D. Hasa, D. Voinovich, B. Perissutti, A. Bonifacio, **M. Grassi**, E. Franceschinis, S. Dall'Acqua, M. Speh, J. Plavec. *8th Central European Symposium on Pharmaceutical Technology*, Graz (Austria), 16-18 Settembre 2010, PPAT17 (Scientia Pharmaceutica, 2010, 78, 706).
- 116) "Determination of hydrogels mesh size distribution", **M. Grassi**, CRS Italian Chapter Workshop on Polysaccharides for Pharmaceutical and Biomedical applications, Rome, 25-27 November 2010, 29-30.
- 117) "ENHANCING ORAL BIOAVAILABILITY OF VINPOCETINE THROUGH MECHANOCHEMICAL CITRATE SALT FORMATION", D. Hasa, D. Voinovich, B. Perissutti, **M. Grassi**, S. Bhardwaj, M. R. Chierotti, R. Gobetto. *4th BBBB International Conference on Pharmaceutical Sciences*, Bled (Slovenia), 29 Settembre – 1 Ottobre 2011 (European Journal of Pharmaceutical Sciences).
- 118) "Caratterizzazione reologico/NMR di gel composti da alginato-pluronic per il rilascio di farmaci basati sul DNA", I. D'Agostino, G. Milcovich, F. Asaro, S.M. Fiorentino, R. Lapasin, G. Grassi, **M. Grassi**. *XII Convegno Nazionale della Società Italiana di Reologia*, Ustica (PA), 3-6 Luglio 2012, 9-14.
- 119) "Caratterizzazione reologica ed NMR di miscele sol-gel a base di carbossimetilcellulosa ammidata per applicazioni biomediche", R. Lapasin, **M. Grassi**, M. Battiston, F. Segatti, S. Fusi, D. Mercuri. *XII Convegno Nazionale della Società Italiana di Reologia*, Ustica (PA), 3-6 Luglio 2012, 65-70.

- 120) “Scleroglucano/borace: studio del comportamento reologico al variare del rapporto reticolante/polimero”, T. Coviello, S. Margheritelli, P. Matricardi, F. Alhaique, **M. Grassi**. *XII Convegno Nazionale della Società Italiana di Reologia*, Ustica (PA), 3-6 Luglio 2012, 277-282.
- 121) “Rheological characterization of an injectable polymeric blend for viscosupplementation treatment” R. Lapasin; M. Suerz; **M. Grassi**; F. Segatti; S. Fusi; D. Mercuri; G. De Conti. *XVIth International Congress on Rheology* Lisbon, August 5-10, 2012. Pag 446.
- 122) “Microstructure of pluronic F127 Alginate Composite Hydrogel probed by NMR and Rheology”, F. Asaro, G. Milcovich, **M. Grassi**, I. D’Agostino, R. Lapasin, S. Fiorentino. G. Grassi. *EUROMAR 2012, Magnetic Resonance Conference*, University College Dublin, July 1-5, 2012, N. 475.
- 123) “Realizzazione e controllo del Gel-Paving di stent coronarici medicati”, A. A. Barba, C. Tisi, G. Lamberti, **M. Grassi**, G. Grassi. *Convegno Nazionale GRICU 2012*, Montesilvano (Pescara), 16-19 Settembre 2012, pag. 113-116.
- 124) “Gel biocompatibili Pluronic PF127/Alginato per applicazioni medicali”, D. Larobina, **M. Grassi**, G. Lamberti, L. Petrosino, A. A. Barba. *Convegno Nazionale GRICU 2012*, Montesilvano (Pescara), 16-19 Settembre 2012, pag. 599-602.
- 125) “Improving drug bioavailability by means of mechanochemical activation” **M. Grassi**. *The 9<sup>th</sup> European Symposium on Pharmaceutical Technology*, September 20-22, 2012, Dubrovnik (CRO), pag 36. Invited speaker.
- 126) “Oral bioavailability of vincamine coground nanocomposites with linear polymers”, D. Hasa, B. Perissutti, **M. Grassi**, R. Gobetto, M. Chierotti, I. Grabnar, D. Voinovich. *The 9<sup>th</sup> European Symposium on Pharmaceutical Technology*, September 20-22, 2012, Dubrovnik (CRO), pag 184.
- 127) “Characterization of alginate-pluronic PF127 gels for restenosis prevention” M. Abrami, G. Grassi, D. Voinovich, S. Fiorentino, **M. Grassi**, R. Lapasin. *AERC 2013 - 8th Annual European Rheology Conference - April 2-5 2013*, Leuven – Belgium.
- 128) “A mathematical model for controlled drug delivery in swelling polymers” J. Ferreira, **M. Grassi**, E. Gudino, P. de Oliveira. *Proceedings of the 13th International Conference on Computational and Mathematical Methods in Science and Engineering, CMMSE 2013* 24–27 June, 2013, 12 pages.
- 129) “Structural characterization of polymeric scaffolds for biomedical applications”, S. M. Fiorentino, G. Turco, E. Marsich, **M. Grassi**. *6<sup>th</sup> Central Europe Conference on Chemistry towards Biology*, Trieste, September 10-13<sup>th</sup> 2013, P42.
- 130) “Structure and dynamics of polymer-surfactant hydrogels for bioactive molecule delivery”, G. Milcovich, F. E. Antunes, F. Asaro, **M. Grassi**. *6<sup>th</sup> Central Europe Conference on Chemistry towards Biology*, Trieste, September 10-13<sup>th</sup> 2013, OC6.
- 131) “Product Development: challenges and strategies” **M. Grassi**, 1st European summer school on Formulation development, 22-26 Settembre 2013, Dubrovnik, Croazia, pag 3-58. (invited speaker).
- 132) “Determination of nanocrystals size distribution in polymer-drug systems” **M. Grassi**, A. Piccolo, M. Abrami, S. Fiorentino, R. Farra, G. Grassi, D. Hasa, D. Voinovich, B. Perissutti, I. Colombo. *3rd World Conference on Physico-Chemical Methods in Drug Discovery and Development*, 22-26 Settembre 2013, Dubrovnik, Croazia, pag. 23. (invited speaker).
- 133) “Structural characterization of polymeric scaffolds for biomedical applications”. Simona M. Fiorentino, Eleonora Marsich, Gianluca Turco, Gabriele Grassi, and Mario Grassi. *Tissue*

- Engineering and Regenerative Medicine International Society – EU Meeting -2014, 10-13 Giugno, Genova, Italy. *Journal of Tissue Engineering and Regenerative Medicine*, 2014, 8 (Suppl. 1), 442-443.
- 134) “Hydrogel basati sul PVP per il drug delivery da microcontainer”, P. Marizza, M. Abrami, S. S. Keller, A. Boisen, K. Goswami, A. L. Skov, P. Posocco, R. Lapasin, G. Grassi, **M. Grassi**. *XIII Convegno Nazionale dell’Associazione Italiana di Reologia*, Brescia, 7-10 Settembre 2014, 67-72.
- 135) “Ottimizzazione di hydrogel alginato-pluronic per il rilascio di farmaci basati sul DNA”, M. Abrami, G. Grassi, R. Farra, D. Larobina, A. Barba, G. Lamberti, R. Lapasin, D. Voinovich, **M. Grassi**. *XIII Convegno Nazionale dell’Associazione Italiana di Reologia*, Brescia, 7-10 Settembre 2014, 61-66.
- 136) “2D dynamical simulation of a vibrational mill” M. Abrami, D. Hasa, B. Perissutti, D. Voinovich, G. Grassi, R. Farra, **M. Grassi**. *Proceedings of the 10<sup>th</sup> Central Europe Symposium on Pharmaceutical Technology*, Portorose, Slovenia, 18-20 September 2014, 61-62.
- 137) “Simple, biocompatible and cost-effective Inulin based siRNA delivery systems” C. Sardo, M. Licciardi, C. Scialabba, G. Giammona, G. Cavallaro, F. Tonon, R. Farra, B. Dapas, **M. Grassi**, G. Grassi. *Proceedings of the 10<sup>th</sup> Central Europe Symposium on Pharmaceutical Technology*, Portorose, Slovenia, 18-20 September 2014, 26-27.
- 138) “Effect of composition in the release from melt extruded laminar systems by application of mixture experimental design” D. Hasa, **M. Grassi**, B. Perissutti, S. Golob, I. Grabnar, D. Voinovich. *Proceedings of the 10<sup>th</sup> Central Europe Symposium on Pharmaceutical Technology*, Portorose, Slovenia, 18-20 September 2014, 188-189.
- 139) “Mass balance: an old concept for the new challenges proposed by personalised medicine”, **M. Grassi**, M. Abrami, R. Abbiati, B. Posocco, A. Barba, G. Lamberti, D. Manca, D. Voinovich, G. Grassi. *Proceedings of the 42<sup>th</sup> Controlled release Society Annual meeting & exposition*, Edinburgh, 26 - 29 Luglio 2015, 348. *CRS Newsletter 2015*, 32(6), 13-14.
- 140) “Photocrosslinked microgels for oral delivery of macromolecular based-therapeutics”, P. Marizza, A. Faralli, R. V. Mateiu, A. Müllertz, S. S. Keller, N. B. Larsen, **M. Grassi**, and A. Boisen. *Proceedings of the 42<sup>th</sup> Controlled release Society Annual meeting & exposition*, Edinburgh, 26 - 29 Luglio 2015, 136.
- 141) “Antibacterial drug release from a biphasic polymeric system: mathematical modelling”, **M. Grassi**, Samule Golob, Fabio Pontelli, Michela Abrami, Ginaluca Chiarappa, Gabriele Grassi, Beatrice Perissutti, Dario Voinovich. *Proceedings of the 4<sup>th</sup> World Conference on Physico-Chemical Methods in Drug Discovery and Development*, Red island, Rovigno (HR), 21 - 24 Settembre 2015, 33.
- 142) “Effetto della temperatura sulla strutturazione di un hydrogel termo-sensibile a base di chitosano/ $\beta$ -glicerol-fosfato” M. Abrami, C. Siviello, D. Larobina, G. Grassi, **M. Grassi**. *Atti del XIV Convegno Nazionale dell’Associazione Italiana di Reologia – SIR*, 1-4 June 2016, 7-12.
- 143) “Rilascio di farmaci da matrici viscoelastiche: punto di incontro tra modello e dati sperimentali” G. Chiarappa, M. D. De’Nobili, A. M. Rojas, M. Abrami, R. Lapasin, G. Grassi, P. de Oliveira, J. Ferreira, E. Gudino, **M. Grassi**. *Atti del XIV Convegno Nazionale dell’Associazione Italiana di Reologia – SIR*, 1-4 June 2016, 31-36.
- 144) “Studio matematico di un sistema antiossidante per uso alimentare a base di acido ascorbico” G. Chiarappa, M. D. De’Nobili, A. M. Rojas, M. Abrami, G. Grassi, R. Lapasin, J. Ferreira, E. Gudino, P. de Oliveira, **M. Grassi**. *Atti del XIV Convegno Nazionale dell’Associazione Italiana di Reologia – SIR*, 1-4 June 2016, 75-80.

- 145) “Proprietà reologiche di dispersioni di laponite in matrici acquose di scleroglucano” R. Lapasin, M. Abrami, **M. Grassi**, U. Šebenik. *Atti del XIV Convegno Nazionale dell’Associazione Italiana di Reologia – SIR*, 1-4 June 2016, 189-194.
- 146) “Mathematical Models and Experimental Data in Drug Delivery” **M. Grassi**. Workshop on Modelling and Experiments in Drug Delivery Systems, Departments of Mathematics, Coimbra University, 20-22 June 2016, Coimbra, Portugal.
- 147) “A novel approach based on low field nuclear magnetic resonance for the detection of the pathological components of the sputum of cystic fibrosis patients” M. Abrami, F. Ascenzioni, E. Didomenico, M. Maschio, A. Ventura, M. Confalonieri, S. Di Gioia, M. Conese, G. Grassi, **M. Grassi**. Proceedings of the 8th Conference on Experimental and Translational Oncology – CETO, Portorose (SLO) 21/4/2017- pag 53.
- 148) “The targeting of the elongation factor 1A by a DNA aptamer impairs the viability of hepatocarcinoma cells” B. Dapas, B. Scaggiante, R. Farra, G. Baj, G. Pozzato, **M. Grassi**, F. Zanconati, G. Grassi. Proceedings of the 8th Conference on Experimental and Translational Oncology – CETO, Portorose (SLO) 21/4/2017- pag 109.
- 149) “Evaluation of the contribution of the elongational factor 1 A isoforms in hepatocellular carcinoma cells growth” F. Perrone, R. Farra, B. Scaggiante, C. Guerra, G. Pozzato, **M. Grassi**, F. Zanconati, C. Ferrari, F. Trotta, G. Grassi, B. Dapas. Proceedings of the 8th Conference on Experimental and Translational Oncology – CETO, Portorose (SLO) 21/4/2017- pag 125.
- 150) “Use of Low field NMR for the characterisation of gels and biological tissues”. M. Abrami, G. Chiarappa, R. Farra, G. Grassi, P. Marizza, **M. Grassi**. Sixth World Conference on Physico-Chemical Methods in Drug Discovery & Third World Conference on ADMET and DMPK, Zagreb (CRO) September 4-7, 2017 – O25 page 28.
- 151) “Can low field nuclear magnetic resonance be used to monitor lung functionality of cystic fibrosis patients?” **M. Grassi**, M. Abrami, F. Ascenzioni, E. G. Di Domenico, M. Maschio, A. Ventura, M. Confalonieri, S. Di Gioia, M. Conese, B. Dapas, G. Grassi. The 5<sup>th</sup> Italian Conference on Magnetism, Assisi, September 13-15, 2017 – C2-5.
- 152) “Swelling of viscoelastic matrices by viscoelastic fluids” G. Chiarappa, M. Abrami, R. Farra, R. Lapasin, G. Grassi, M. Minale, **M. Grassi**. Proceedings of the 12<sup>th</sup> Annual European Rheology Conference, Sorrento (IT), April 17 – 20, 2018 – pag 69 - FP1.
- 153) “Aging and rheology of salt-free aqueous Laponite dispersions” R. Lapasin, **M. Grassi**, M. Abrami, U. Šebenik. Proceedings of the 12<sup>th</sup> Annual European Rheology Conference, Sorrento (IT), April 17 – 20, 2018 – pag 104 - CS57.
- 154) “Aging and rheology of TEMPO-oxidized cellulose nanofibril gels” U. Šebenik, M. Krajnc, B. Alic, **M. Grassi**, R. Lapasin. Proceedings of the 12<sup>th</sup> Annual European Rheology Conference, Sorrento (IT), April 17 – 20, 2018 – pag 125 – PO22.

## FUNDING

- 1) *FONDO TRIESTE 2006* (February 1<sup>st</sup> 2007 – February 1<sup>st</sup> 2009): 150000 €  
Prof. Mario Grassi managed this project focused on the “Applications of Low Field NMR in the food, pharmaceutical and biotechnological fields”.
- 2) *LLOYD PHARMA* (Third parties; October 2009 – December 2009): 2400 €  
Prof. Mario Grassi managed this project focused on the “Rheological characterization of polymeric gels provided by LLOYD PHARMA”.
- 3) *PMI* (PN) (Third parties; May 2013 – June 2015): 8500 €

- Prof. Mario Grassi has managed this project focused on the “Development of innovative materials and processes for the designing of rubbery bicycles brakes”.
- 4) *AZAD-PHARMA* (CH) (Third parties; November 2010 – December 2016): 144000 €  
Prof. Mario Grassi has managed this project focused on the “Study of microemulsions for ophthalmic purposes”.
  - 5) *VIVABIOCEL S.p.A.* (UD) (Third parties; June 2015): 3600 €  
Prof. Mario Grassi managed this project focused on the “Characterization of polymers for tissue engineering applications”.
  - 6) *PRIN 2008* (2008HCAJ9T; March 22<sup>nd</sup> 2010 – September 22<sup>nd</sup> 2012): 42474 €  
Prof. Mario Grassi was national coordinator of the project entitled: “Designing and optimisation of polymeric matrices for the delivery of nucleic acid based drugs (NABD)”
  - 7) *CRO-Aviano* (PN) (PhD grant; December 21<sup>st</sup> 2012 – December 31<sup>st</sup> 2015): 96960 €  
Prof. Mario Grassi has been the reference professor for this project focused on the evaluation of different anticancer drugs. This project has been founded by the Centro di Riferimento Oncologico di Aviano (PN).
  - 8) *PRIN 2010-11* (2008HCAJ9T; February 1<sup>st</sup> 2013 – February 1<sup>st</sup> 2016): 178625 €  
Prof. Mario Grassi has been national coordinator of the project entitled: “Identification of optimal delivery systems for the Nucleic Acid Based Drugs and study of the action mechanisms in some models of human tumoral and inflammatory pathologies”.
  - 9) *CRO-Aviano* (PN) (PhD grant; May 19<sup>th</sup> 2015 – December 31<sup>st</sup> 2018): 52579 €  
Prof. Mario Grassi is the reference professor for this project focused on the evaluation of nanotechnology on cancer healing. This project is performed in collaboration with the Centro di Riferimento Oncologico di Aviano (PN).
  - 10) *Finanziamento per la Ricerca di Ateneo - FRA 2016* (January 01<sup>th</sup> 2017 – December 31<sup>st</sup> 2018): 11250 €  
Prof. Mario Grassi is the reference professor for this project entitled: “Use of Low Field NMR for monitoring lungs infections in cystic fibrosis patients”. This project is performed in collaboration with the Child Hospital Burlo Garofolo (TS).
  - 11) *Finanziamento Regionale POR-FESR 1.3b Standard 2016 BIOFLUO* (April 1<sup>st</sup> 2017 – March 31<sup>st</sup> 2018): 103805.4 €  
Il prof. Mario Grassi is the reference professor for this project entitled: “Biotechnological Fluorimetric Detector for the personalized diagnostic”. This project is performed in collaboration with Nealys (TS-Italy) and Delta Instrument (TS-Italy).
  - 12) *Finanziamento AREA Science Park (Padricano – TS) named “MADE in TRIESTE”* (March 01<sup>th</sup> 2018 – February 28<sup>th</sup> 2019): 24000 €  
Prof. Mario Grassi is one of the two reference professors for this project entitled: “Use of Low Field NMR for the evaluation of lungs functionality in cystic fibrosis patients”. This project supports one year activity of a 2Assegno di Ricerca”.
  - 13) *AEP Polymers Srl (TS)* (Third parties; January 16 – March 16 2019): 2030 €  
Prof. Mario Grassi managed this project focused on the “Rheological characterization of epoxy resins for pre-preg and rheological modifiers for paintings”.

## PATENTS

- 1) Italian Industrial patent entitled: "METODO E CONNESSO APPARATO PER ANALISI DI UN CAMPIONE DI ESPETTORATO", number 102016000060004, accepted on December 17<sup>th</sup> 2018.
- 2) European patent application number 17175371.8 entitled: "METODO E CONNESSO APPARATO PER ANALISI DI UN CAMPIONE DI ESPETTORATO".

Trieste, 17/01/2019

A handwritten signature in black ink, reading "Mario Grassi". The signature is written in a cursive style with a prominent initial 'M'.

Prof. Mario Grassi