

**MAURIZIO MASI, MSc PhD**  
*Professor in Applied Physical Chemistry - Politecnico di Milano (Italy)*

**A. Personal Information:**

*Place and date of Birth:*

*Marital Status :*

*Home Address :*

*Affiliation:*

Politecnico di Milano, *Dipartimento di Chimica, Materiali e Ingegneria Chimica "Giulio Natta"*, Piazza Leonardo da Vinci 32, 20133 Milano, Italy

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**B. Education:**

<i>Diploma di Perito Chimico Industriale (High School), I.T.I.S. "T. Buzzzi" Prato (Italy) - 60/60</i>	1979
<i>Laurea (M.Sc.) in Chemical Engineering, Politecnico di Milano (Italy) - 100/100 cum laude</i>	1985
<i>Dottorato di Ricerca (Ph.D.) in Electrochemical Engineering, Politecnico di Milano (Italy)</i>	1989

**C. Professional and Management Experiences:**

Enichem Polimeri fellow, Politecnico di Milano	1985
Visiting Student, Università Autonoma Metropolitana Itzapalapa, (Mexico)	1987
Postdoctoral fellow, Politecnico di Milano	1989-90
Ricercatore (Assistant Professor) in <i>Chemical Engineering</i> , Politecnico di Milano	1990-98
Visiting Scientist, Massachusetts Institute of Technology, Cambridge MA (USA)	1991-92
Professore Supplente (Joint Professor) in <i>Chemical Engineering Unit Operations</i> , Università di Parma (Italy)	1995-03
Professore Associato (Associate Professor) in <i>Applied Physical Chemistry</i> , Politecnico di Milano	1998-02
Professore Ordinario (Full Professor) in <i>Applied Physical Chemistry</i> , Politecnico di Milano	2002-
President, Chemical Engineering Council, Politecnico di Milano	2005-09
Associated Editor, <i>Chemical Papers</i> , Springer	2007-13
Preside (Dean), Facoltà di ingegneria dei Processi Industriali, Politecnico di Milano	2010-12
Board, Academic Senate, Politecnico di Milano	2010-12
Board, Italian Conference of Engineering Schools Deans	2011-12
Vice Secretary, USPUR Union of University Professors and Researchers	2012-14
National Secretary, USPUR Union of University Professors and Researchers	2015-
Direttore (Head), Dipartimento di Chimica, Materiali e Ingegneria Chimica "Giulio Natta", Politecnico di Milano	2013-
Board, Italian Conference for Engineering	2013-
Scientific Director, Centro Europeo di Nanomedicina, Milano	2013-18

**D. Main Research Interest Keywords:**

- **Chemical Kinetics and Chemical Reaction Engineering** (*development of complex chemical mechanisms through computational quantum chemistry, gas-liquid reactors, aerosol reactors, bioreactors*)
- **Microelectronics Materials & Advanced Inorganic Materials Processing** (*thermal and plasma assisted Chemical Vapor Deposition processes, Crystal Growth processes, aerosol systems*)
- **Biomedical Engineering** (*cells and tissue growth in scaffold supporting media, biopolymers for controlled drug delivery, modeling of controlled drug delivery processes*)
- **Transport Phenomena** (*diffusional processes in complex systems and media*)

Author of more than 150 scientific papers on international journals, besides numerous presentation at conferences (several invited) and four books (*"Esercitazioni di termodinamica dell'ingegneria chimica"* and *"Termodinamica Chimica Applicata"* authored with R. Rota, *"Silicon Epitaxy"* edited with D. Crippa and D.L. Rode, *"Controlled Drug Delivery Systems - Towards New Frontiers in Patient Care"* authored with F. Rossi and G. Perale).

### **E. Consulting Activity:**

Abbott, Roma; Alerion, Milano; Arthur D. Little, Milano; Assomineraria, Roma; Becromal, Milano; Bozzetto, Filago; Caffaro-Snia, Torviscosa; Cardiocentro Ticino, Lugano; Carlo Gavazzi Space, Milano; CEA, Milano; Cimbali, Binasco; CMA, Susegana; Condotte, Roma; Consorzio SGS, Santa Croce sull'Arno; DSM, Geleen NL; ECIR, Pavia; Enel CRA, Milano; Eni, Milano; ETC, Catania; Eurotecnica, Milano; Fater, Pescara; Fondazione Enrico Mattei, Milano; Fonderia Battaglia, Milano; Garbo Servizi, Cerano; Gimac, Castronno; Glaris, Caronno Pertusella; Golden Lady, Castiglione delle Stivere; IBChem, Brindisi; Industria e Innovazione, Milano; Isoltech, Verdellino; Istituto dell'Autodisciplina Pubblicitaria, Milano; Johnson&Johnson, Roma; Kendeil, Gallarate; Lineapelle, Milano; LPE Epitaxial Technology, Bollate; Mazzucchelli1849, Varese; MEMC, Novara; Meliorbanca, Milano; Metalli Preziosi, Paderno Dugnano; MG Chemtex, Tortona; Microsphere, Lugano; NBS Morena Pelli, Santa Croce sull'Arno; NeoDecorTech, Filago; Novaceta, Magenta; Novachem, Milano; Evonik, Novara; Pirelli Cavi e Sistemi, Milano; Polioli, Milano; Prophos, S.Giovanni in Croce; Provincia di Bolzano, Remedica, Milano; RePlegal, Torino; Silbemi, Milano; Snamprogetti, Milano; SOL, Pioltello; Solarventures, Milano; Stahl, Paderno Dugnano; ST Microelectronics, Grenoble; Tecnoforniture, Milano; T&P, Tradate; TRM, Torino; TognanaSuperroof, Treviso; VeneziaTecnologie, Venezia; Wave, Milano.

### **F. Bibliometric Parameters @ June 2019:**

Database:	Web of Science
WoS indexed publications:	119
Sum of the Times Cited:	1665
Average Citations per Article:	13.99
h-index:	21

### **G. Teaching Activities:**

*"Processes and Chemical Unit Operations II"*, Università di Parma, School of Science, College of Industrial Chemistry, 5<sup>th</sup> year 1995-01

*"Technology Fundamentals"*, Politecnico di Milano, School of Architecture, College of Architecture, 1<sup>st</sup> year 1994-98

*"Materials Engineering"*, Politecnico di Milano, School of Engineering, College of Civil Engineering, 3<sup>rd</sup> year 1998

*"Physical Chemistry of Electronic Materials"*, Politecnico di Milano, School of Engineering, College of Chemical Engineering, 5<sup>th</sup> year 1999-04

*"Thermodynamics for Chemical Engineers"*, Politecnico di Milano, School of Engineering, College of Chemical Engineering, 3<sup>rd</sup> year 1997-08

*"Applied Chemical Kinetics"*, Politecnico di Milano, School of Engineering, College of Chemical Engineering, 3<sup>rd</sup> year 1999

*"Bulk Materials Processing"* Politecnico di Milano, School of Engineering, College of Chemical Engineering, 5<sup>th</sup> year 2005-07

*"Electrochemical Energy Generators"*, Politecnico di Milano, School of Industrial and Information Engineering, College of Chemical Engineering, 2<sup>nd</sup> year MSc level 2003-

*"Thin Solid Films Processing"*, Politecnico di Milano, School of Industrial and Information Engineering, College of Chemical Engineering, 2<sup>nd</sup> year MSc level 2005-13

*"Fluid Mechanics"*, Politecnico di Milano, School of Industrial and Information Engineering, College of Materials Engineering and Nanotechnology 2012-

## Selected Publications:

### 1988-1990

- M. Masi, M. Sangalli, S. Carrà, G. Cao, M. Morbidelli, "Kinetics of Ethylene Hydrogenation on Supported Platinum - Analysis of Multiplicity and Nonuniformly Active Catalyst Particle Behavior", *Chemical Engineering Science*, **43**, pp. 1849-1854, (1988).
- G. Storti, M. Masi, R. Paludetto, M. Morbidelli, S. Carrà, "Adsorption separation processes: Countercurrent and simulated countercurrent operations", *Computers & Chemical Engineering*, **12**, Issue 5, pp. 475-482, (1988).
- G. Storti, M. Masi, S. Carrà and M. Morbidelli, "Modeling and Design of Simulated Moving-bed Adsorption Separation Units", *Preparative Chromatography*, **1**, pp. 1-28, (1988).
- G. Storti, M. Masi, S. Carrà, M. Morbidelli, "Optimal design of multicomponent countercurrent adsorption separation processes involving nonlinear equilibria", *Chemical Engineering Science*, **44**, pp. 1329-1345, (1989).
- S. Carrà, M. Masi, M. Morbidelli, "Fundamentals of Convection in Melt Growth", *Journal of Crystal Growth*, **97**, pp. 1-8, (1989).
- M. Masi, S. Carrà, M. Morbidelli and V. Scaravaggi, F. Preti, "Monodimensional Model of Cold Wall Reactors for Epitaxial Silicon Chemical Vapor Deposition", *Chemical Engineering Science*, **45**, pp. 3551-3561, (1990).

### 1991-1995

- M. Masi, H. Simka, K.F. Jensen, T.F. Kuech, R. Potemski, "Simulation of Carbon Doping of GaAs during MOVPE", *Journal of Crystal Growth*, **124**, pp. 483-492, (1992).
- H. Simka, M. Masi, T.P. Merchant, K.F. Jensen, T.F. Kuech, "Mechanism of Carbon Incorporation in OMCVD of GaAs and Related Compounds", in *Chemical Vapor Deposition XII*, K.F. Jensen and G.W. Cullen (Eds), The Electrochemical Society, Pennington NJ, ISBN 1-56677-074-2, pp. 205-213, (1993).
- M. Masi, G. Besana, L. Canzi, S. Carrà, "Modeling of Silicon Nitride Deposition by RF Plasma Enhanced Chemical Vapor Deposition", *Chemical Engineering Science*, **49** (5), pp. 669-679, (1994).
- S. Fogliani, M. Masi, S. Carrà, G. Guadalupi, B. Smith, L. Meregalli, "Thermal Analysis of Liquid-encapsulated Czochralski-grown InP Crystals", *Material Science & Engineering*, **B28**, pp. 72-75, (1994).
- S. Fogliani, M. Masi, S. Carrà, B. Molinas, G. Guadalupi, L. Meregalli, "Thermal stresses and dislocation formation in liquid-encapsulated Czochralski-grown InP crystals", *Material Science & Engineering*, **B28**, pp. 76-79, (1994).
- M. Masi, S. Fogliani, S. Carrà, "Simulation of Epitaxial Silicon Chemical Vapor Deposition in Barrel Reactors", *Journal de Physique IV*, **5Pr5**, pp. 261-268 (1995).

### 1996-2000

- S. Carrà, S. Fogliani, M. Masi, L. Zanotti, C. Muchino, C. Paorici, "Melt-solid Interface Shape in L.E.C. GaAs Crystals: Comparison between Calculated and experimentally Observed Shapes", *Journal of Crystal Growth*, **166**, pp. 641-645 (1996).
- M. Masi, R. Zonca, S. Carrà, "Estimation of the Dopant Effect on the Surface Kinetics in CVD Systems through the Charge-transfer Theory", in *Chemical Vapor Deposition XIII*, T.M. Besmann, M.D. Allendorf, McD. Robinson, R.K. Ulrich (Eds), The Electrochemical Society, Pennington NJ, ISBN 1-56677-155-2, pp. 47-52, (1996).
- M. Masi, S. Fogliani, S. Carrà, "Modeling and Optimization of Barrel Reactors for Epitaxial Silicon CVD", in *Chemical Vapor Deposition XIII*, T.M. Besmann, M.D. Allendorf, McD. Robinson, R.K. Ulrich (Eds), The Electrochemical Society, Pennington NJ, ISBN 1-56677-155-2, pp. 125-130, (1996).
- M. Masi, D. Colella, G. Radaelli, L. Bertolini, "Simulation of chloride penetration in cement-based materials", *Cement and Concrete Research*, **27**, pp. 1591-1601, (1997).
- M. Masi, C. Cavallotti, S. Carrà, "Simulation of diamond-like carbon deposition in PECVD reactors", in *Chemical Vapor Deposition XIV*, M.D Allendorf, C. Bernard (Eds), The Electrochemical Society, Pennington NJ, ISBN 1-56677-178-1, pp. 278-285, (1997).
- M. Masi, S. Carrà, G. Vaccari, D. Crippa, "Optimization of SiO<sub>2</sub> atmospheric deposition in continuous belt systems", in *Chemical Vapor Deposition XIV*, M.D Allendorf, C. Bernard (Eds), The Electrochemical Society, Pennington NJ, ISBN 1-56677-178-1, pp. 1167-1174, (1997).
- R. Fornari, E. Gilioli, G. Mignoni, M. Masi, "A study of convection, striations and interface shape in InP crystals grown by the double-crucible LEC technique", *Crystal Research Technology*, **32**, pp. 1085-1093, (1997).
- M. Masi, C. Cavallotti, G. Radaelli, S. Carrà, "Kinetics of indium phosphide epitaxial growth using metal organic precursors", *Crystal Research Technology*, **32**, pp. 1125-1136, (1997).
- S. Carrà, M. Masi, "Kinetic Approach to material synthesis by gas phase deposition", *Progress in Crystal Growth and Characterization of Materials*, **37**, pp. 1-46 (1998).
- C. Cavallotti, M. Masi, S. Carrà, "Modeling plasma-assisted deposition of diamond-like carbon films", *Journal of the Electrochemical Society*, **142**, pp. 4332-4341 (1998).
- C. Cavallotti, C. Medeossi, C. Turconi, M. Masi, S. Carrà, "A kinetic model for the MOCVD of CdTe", in *Fundamental gas-phase and surface chemistry of vapor phase materials synthesis*, M.D Allendorf, M.R. Zachariah, L. Mountziaris, A.H. McDaniel (Eds), The Electrochemical Society, Pennington NJ, ISBN 1-56677-217-6, pp. 46-51, (1998).
- M. Masi, C. Cavallotti, G. Radaelli, S. Carrà, "Detailed kinetics modeling of indium phosphide films in MOCVD reactors", in *Thin Films for Photovoltaics*, E.D. Jones, J. Kalejs, R. Noufi, B. Sopori (Eds.), Material Research Society, Warrendale PA, ISBN 1-55899-390-8, pp. 229-324, (1998).
- M. Masi, G. Radaelli, N. Roda, P. Raimondi, S. Carrà, G. Vaccari, D. Crippa, "Towards the optimization of AMT barrel reactors for silicon epitaxy", in *Semiconductor Processes and Device Performance Modeling*, S.T Dunham, J.S. Nelsoni (Eds.), Material Research Society, Warrendale PA, ISBN 1-55899-395-9, pp. 187-192, (1998).

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- M. Masi, C. Cavallotti, S. Carrà, "Different approaches for methane plasma modeling", *Chemical Engineering Science*, **53**, pp. 3875-3886 (1998).
- M. Masi, R. Zonca, S. Carrà, "Kinetic modeling and dopant effect on silicon deposition: low pressure and plasma assisted chemical vapor deposition", *Journal of the Electrochemical Society*, **146**, pp. 103-110 (1999).
- C. Cavallotti, V. Bertani, M. Masi, S. Carrà, "A kinetic model for metallorganic chemical vapor deposition of CdTe", *Journal of the Electrochemical Society*, **146**, pp. 3277-3284 (1999).
- M. Masi, C. Cavallotti, S. Carrà, "Gas phase and surface kinetics of diamond-like carbon films growth in PECVD reactors", in *Properties and Processing of Vapor-Deposited Coatings*, R.N. Johnson, W.Y Lee, M.A. Pickering, B. W. Sheldon (Eds), Material Research Society, Warrendale PA, ISBN 1-55899-461-0, pp. 321-326, (1999).
- M. Masi, S. Fogliani, S. Carrà, "Sensitivity analysis on indium phosphide liquid encapsulated Czochralski growth", *Crystal Research Technology*, **34**, pp. 1157-1167 (1999).
- C. Cavallotti, M. Masi, N. Lovergine, P. Prete, A.M. Mancini, S. Carrà, "A density functional theory study of surface and gas phase processes occurring during the MOCVD of ZnS", *Journal de Physique IV*, 9Pr8, pp. 33-40 (1999).
- A.M. Rinaldi, S. Carrà, M. Rampoldi, M.C. Martignoni, M. Masi, "LPCVD vertical furnace optimization for undoped polysilicon film deposition", *Journal de Physique IV*, 9Pr8, pp. 189-196 (1999).
- C. Cavallotti, M. Masi, S. Carrà, "A statistical thermodynamic approach to model plasma reactors", *Journal de Physique IV*, 9Pr8, pp. 197-204 (1999).
- M. Masi, C. Cavallotti, F. Di Muzio, S. Carrà, D. Crippa, G. Vaccari, "2D and 1D modeling of AMT barrel reactors for silicon deposition", *Journal de Physique IV*, 9Pr8, pp. 273-280, (1999).
- D. Colella, D. Vinci, R. Bagatin, M. Masi, E. Abu Bakr, "A study on coalescence and breakage mechanisms in three different bubble columns", *Chemical engineering Science*, **54**, pp. 4767-4777 (1999).
- P. Pelegatti, A. Bacchi, M. Carcelli, M. Costa, A. Fochi, P. Ghidini, E. Leporati, M. Masi, C. Pelizzi, G. Pelizzi, "Palladium(II) complexes containing a P,N chelating ligand. Part III: influence of the basicity of tridentate hydrazonic ligands on the hydrogenating activity of unsaturated C-C bonds", *Journal of Organometallic Chemistry*, **583**, pp. 94-105 (1999).
- M. Masi, V. Bertani, C. Cavallotti, S. Carrà, "Epitaxial silicon growth between Scylla and Charybdis", *Chemical Vapor Deposition*, **6**, pp. 206-214, (2000).
- M. Masi, S. Carrà, M. Polli, M. Ratti, G. Guadalupi, "Transient dynamics and control of indium phosphide LEC furnaces", *Materials Chemistry and Physics*, **66**, pp. 236-245 (2000).
- F. Di Muzio, M. Masi, S. Carrà, "Modeling of aerosol deposition of titania thin films", *Materials Chemistry and Physics*, **66**, pp. 286-293 (2000).
- G. Attolini, S. Carrà, F. Di Muzio, R. Fornari, M. Masi, C. Pelosi, "A vertical reactor for deposition of gallium nitride", *Materials Chemistry and Physics*, **66**, pp. 213-218 (2000).
- V. Bertani, C. Cavallotti, M. Masi, S. Carrà, "Density Functional Study of the Interaction of Palladium Clusters with Hydrogen and CH<sub>x</sub> Species", *Journal of Physical Chemistry A*, **104**, pp. 11390-11397, (2000)

#### 2001-2005

- G. Valente, C. Cavallotti, M. Masi, S. Carrà, "Reduced order model for the CVD of epitaxial silicon from silane and chlorosilanes", *Journal of Crystal Growth*, **230**, pp. 247-257 (2001).
- M. Masi, "Multiscale approach to material synthesis by gas phase deposition", *Journal de Physique IV*, 11Pr3, pp. 117-128 (2001).
- M. Masi, C. Cavallotti, S. Carrà, "Gas phase and surface kinetics of silicon chemical vapor deposition from silane and chlorosilanes", *Silicon-Based Materials and Devices*, H. S. Nalwa (editor), Academic Press, San Diego CA, ISBN: 0-12-513909-8, vol. 1, chapter 4, pp. 155-186, (2001).
- M. Masi, S. Carrà, "Reactor design and process simulations for silicon vapor epitaxy", *Encyclopedia of Materials: Science and Technology*, Elsevier Science, Oxford UK, ISBN: 0-08-0431256, chapter 6.6.36, pp. 8687-8593 (2001).
- M. Masi and S. Kommu, "Epitaxial Reactor Modeling", in *Silicon Epitaxy*, Eds. D. Crippa, M. Masi, D.L. Rode, Academic Press, San Diego CA, ISBN: 0-12-752181-x, chapter 6, pp. 185-224 (2001).
- C. Cavallotti and M. Masi, "Epitaxial Growth Theory: Vapor Phase and Surface Chemistry", in *Silicon Epitaxy*, Eds. D. Crippa, M. Masi, D.L. Rode, Academic Press, San Diego CA, ISBN: 0-12-752181-x, Chapter 2, pp. 51-88 (2001).
- M. Di Stanislao, G. Valente, S. Fascella, C. Spampinato, S. Carrà, M. Masi, "Multi-model hierarchy approach to simulate barrel reactors for epitaxial silicon deposition", *Journal de Physique IV*, 12Pr4, pp. 121-128 (2001).
- M. Polli, M. Di Stanislao, R. Bagatin, E. Abu Bakr, M. Masi, "Bubble size distribution in the sparger region of bubble columns", *Chemical Engineering Science*, **57**, pp. 197-205 (2002).
- D. Moscatelli, C. Cavallotti, M. Masi, S. Carrà, "A quantum chemistry investigation of the gas phase and surface chemistry of the MOCVD of ZnSe", *Journal of Crystal Growth*, **248**, pp. 31-36 (2003).
- V. Bertani, C. Cavallotti, M. Masi, S. Carrà, "A theoretical analysis of the molecular events involved in hydrocarbons reactivity on palladium clusters", *Journal of Molecular Catalysis A*, **204-205**, pp. 771-778 (2003).
- M. Masi, M. Di Stanislao, A. Veneroni, "Fluid-dynamics during vapor epitaxy and modeling", *Progress in Crystal Growth and Characterization of Materials*, **77**, pp. 239-270 (2003).
- M. Rondanini, C. Cavallotti, D. Moscatelli, M. Masi, S. Carrà, "A combined fluid dynamics and 3D kinetic monte carlo investigation of the selective deposition of GaAs and InP", *Journal of Crystal Growth*, **272**, pp. 52-58 (2004).
- C. Cavallotti, D. Moscatelli, M. Masi, S. Carrà, "Accelerated decomposition of gas phase metal organic molecules determined by radical reactions", *Journal of Crystal Growth*, **266**, pp. 363-370 (2004).
- M. Masi, "Crescita cristallina da fase vapore", *Enciclopedia del Novecento*, supplemento III, volume A-G, pp. 277-287, Istituto dell'Enciclopedia Italiana, Roma (2004).



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**Professor in Applied Physical Chemistry - Politecnico di Milano (Italy)**

- A. Veneroni, D. Moscatelli, M. Masi, "Modeling of large scale horizontal reactor for silicon epitaxy", *Journal of Crystal Growth*, **275**, pp. e289-e293 (2005).
- A. Veneroni, F. Omarini, D. Moscatelli, M. Masi, S. Leone, M. Muaceri, G. Pistone, G. Abbondanza, "Modeling of epitaxial silicon carbide deposition", *Journal of Crystal Growth*, **275**, pp. e295-e300 (2005).
- A. Veneroni, F. Omarini, M. Masi, "Silicon carbide growth mechanism from SiH<sub>4</sub>, SiHCl<sub>3</sub> and nC<sub>3</sub>H<sub>8</sub>", *Crystal Research Technology*, **40**, pp. 967-971 (2005).

**2006-2010**

- F. La Via, G. Galvagno, F. Roccaforte, F. Giannazzo, S. Di Franco, A. Ruggiero, R. Reitano, L. Calcagno, G. Foti, M. Mauceri, S. Leone, G. Pistone, F. Portuese, G. Abbondanza, G. Abbagnale, A. Veneroni, F. Omarini, L. Zamolo, M. Masi, G.L. Valente, D. Crippa, "High growth rate process in a SiC horizontal CVD reactor using HCl", *Microelectronic Engineering*, **83**, pp. 48–50 (2006).
- C. Pelosi, G. Attolini, M. Bosi, D. Moscatelli, A. Veneroni, M. Masi, "A new MOVPE reactor for heteroepitaxial GaAs deposition on large-scale Ge substrates", *Journal of Crystal Growth*, **287**, pp. 652–655 (2006).
- A. Veneroni, M. Masi, "Gas-Phase and Surface Kinetics of Epitaxial Silicon Carbide Growth Involving Chlorine-Containing Species", *Chemical Vapor Deposition*, **12**, pp. 562–568 (2006).
- F. La Via, G. Galvagno, G. Foti, M. Mauceri, S. Leone, G. Pistone, G. Abbondanza, A. Veneroni, M. Masi, G. L. Valente, D. Crippa, "4H SiC Epitaxial Growth with Chlorine Addition", *Chemical Vapor Deposition*, **12**, pp. 509–515 (2006).
- A. Fiorucci, D. Moscatelli, M. Masi, "p-doping mechanism in HTCVD silicon carbide", *Journal of Crystal Growth*, **303**, pp. 349–351 (2007).
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- V. Busini, P. Arosio, M. Masi, "Mechanistic modelling of avascular tumor growth and pharmacokinetics influence—Part I", *Chemical Engineering Science*, **62**, pp. 1877–1886 (2007).
- A. Fiorucci, D. Moscatelli, M. Masi, "Homoepitaxial silicon carbide deposition processes via chlorine routes", *Surface & Coatings Technology*, **201**, pp. 8825–8829 (2007).
- A. Veneroni, M. Masi, "Reduced Gas Phase and Surface Kinetics for Silicon Carbide Epitaxial Growth", *ECS Transactions*, **2**, pp. 11-20 (2007),
- G. Perale, G. Pertici, C. Giordano, F. Daniele, M. Masi, S. Maccagnan, "Nondegradative Microextrusion of Resorbable Polyesters for Pharmaceutical and Biomedical Applications: The Cases of Poly-Lactic-Acid and Poly-Caprolactone", *Journal of Applied Polymer Science*, **108**, pp. 1591–1595 (2008).
- G. Perale, C. Giordano, F. Daniele, M. Masi, "A Novel Process for the Manufacture of Ceramic Microelectrodes for Biomedical Applications", *International Journal of Applied Ceramic Technology*, **5**, pp. 37–43 (2008).
- G. Perale, C. Giordano, F. Daniele, M. Tunesi, P. Colombo, L. Gottardo, S. Maccagnan, M. Masi, "Extruded ceramic microelectrodes for biomedical applications", *The International Journal of Artificial Organs*, **31**, pp. 272-278 (2008)
- G. Perale, F. Bianco, C. Giordano, M. Matteoli, M. Masi, A. Cigada, "Engineering injured spinal cord with bone marrow-derived stem cells and hydrogel-based matrices: a glance at the state of the art", *Journal of Applied Biomaterials & Biomechanics*, **6**, pp. 1-8 (2008).
- P. Arosio, V. Busini, G. Perale, D. Moscatelli, M. Masi, "A new model of resorbable device degradation and drug release - part I: zero order model", *Polymer International*, **57**, pp.912–920 (2008).
- G. Perale, P. Arosio, D. Moscatelli, V. Barri, M. Müller, S. Maccagnan, M. Masi, "A new model of resorbable device degradation and drug release: Transient 1-dimension diffusional model", *Journal of Controlled Release*, **136**, pp. 196–205 (2009).
- G. Manenti, M. Masi, "Numerical investigation on new configurations for vapor-phase aerosol reactors", *Chemical Engineering Science*, **64**, pp.3525-3535 (2009).
- D. Moscatelli, M. Dossi, A. Fiorucci, M. Masi, "A density functional theory study of chlorosilanes polymerization in silicon epitaxy", *ECS Transactions*, **25**, pp.33-40 (2009).
- M. Masi, A. Fiorucci, M. Camarda, A. La Magna, F. La Via, "Multiscale simulation for epitaxial silicon carbide growth by chlorides route", *Thin Solid Films*, **518**, pp. S6–S11 (2010).
- F. Rossi F, G. Perale G, M. Masi, "Biological buffered saline solution as solvent in agar-carbomer hydrogel synthesis", *Chemical Papers*, **64**, pp. 573-578 (2010).
- G. Perale, T. Casalini, V. Barri, M. Muller, S. Maccagnan, M. Masi, "Lidocaine Release from Polycaprolactone Threads", *Journal of Applied Polymer Science*, **117**, pp. 3610-3614 (2010).

**2011-2015**

- G. Perale, F. Rossi, E. Sundstrom, S. Bacchiaga, M. Masi, G. Forloni, P. Veglianese, "Hydrogels in Spinal Cord Injury Repair Strategies", *ACS Chemical Neuroscience*, **2**, pp. 336–345 (2011).
- G. Manenti, M. Masi, "Simulation study of production of fine ceramic powders in a cyclone reactor", *Chemical Engineering and Processing*, **50**, pp. 151–159 (2011).
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