CURRICULUM VITAE

of Prof. Massimiliano Barletta

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In February 2000, he graduated in Chemical Engineering at University of Naples "Federico II" with honor degree, discussing a thesis entitled: "*Simulation of turbulent flames in confined environments*"

In March 2000, he got an annual grant at RTM SpA, Vico Canavese, Turin. He has developed a research entitled: "*Development of laser systems for surface treatments*"

In October 2000, he won the competitive examination and, then, attended the PhD course in "*Engineering for Energy – Environment*" at University of Rome Tor Vergata. During PhD, he has developed a PhD thesis entitled "*Fluidized Bed Manufacturing*". In June 2004, he graduated Philosophy Doctor in "*Engineering for Energy – Environment*" at University of Rome Tor Vergata

Since June 2001, he is member of A.I.TE.M (Associazione Italiana Tecnologia Meccanica), Italian Association of Manufacturing Technology

In 2003, he got an annual grant at University of Rome Tor Vergata during which he has developed a research entitled: "*Usage of fluidized beds in manufacturing processes*"

In June 2003, he won an award in the "*PREMIO IDEA 2002*" call of BIC Lazio, a society of the promotion of innovative ideas in the companies of Region Lazio, concerning the relationship between Academia and Industrial World. The awarded idea concerned the development of a prototypal system for the deposition of organic coatings on organic and inorganic substrates.

In September 2003, he has attended the A.I.Te.M. Summer School on the topic "*Experimental investigation for the quality in the technological processes: theory and application*", held at University of Cassino

In September 2004, he has attended the A.I.Te.M. Summer School on the topic "*Methodologies, acquisition systems and signals elaboration*", held at University of Calabria

In September 20o4, he won the competitive examination for a permanent position as researcher in the scientific field ING/IND-16 "*Technologies and Manufacturing Systems*" at University of Rome Tor Vergata

In October 2004, he started his research and teaching activities at Department of Mechanical Engineering of University of Rome Tor Vergata. He was also involved in several industrially oriented research programs

Since academic year 2004-2005, he started teaching the course of Computer Aided Manufacturing for students in Mechanical Engineering at University of Rome Tor Vergata. He has also cooperated in the development of additional classes in disciplines within the scientific field ING/IND-16 "Technologies and Manufacturing Systems"

In June 2006, he has attended the VIIth Summer School P. Giordano Orsini about "*Microstructural characterization of engineering materials*", held at University of Trento. He has specialized in the usage of field emission gun - scanning electron microscopy, FT-IR and Raman spectroscopy and XRD diffractometry

In November 2006, he won a second award in the call "*Award for Research and Innovation 2005*" of BIC Lazio. The awarded idea concerned the development of an "*Innovative integrated system for surface pretreatment and powder coating of plastic substrates*"

Since 2007, he is member of the editorial board of the International Meeting of Abrasion (TIMA Conference)

In March 2007, he won a third award in the "*Call for Ideas*" of Iunet (Network of academic incubators for innovative spin-offs) for the selection of innovative ideas for promoting the birth of new companies. The awarded idea was entitled "*Photo-catalysis of titanium dioxide: development of systems for the deposition of smart films*". The idea was awarded with a grant.

In October 2007, he was confirmed in the permanent position of researcher at Department of Mechanical Engineering of University of Rome Tor Vergata

In 2008, he was "invited editor" in a special number of the *International Journal of Surface Science and Engineering - Special Issue on Micromachining Systems and Tailored Surfaces* (2008 Vol. 2 No. 3/4); Guest Editors: Dr. Massimiliano Barletta and Dr. Riccardo Polini

From 2008 to 2010, it was member of the faculty of PhD course in "*Materials Engineering*" (Cycles XXIV, XXV and XXVI) at University of Rome Tor Vergata

In April 2008, he was the scientific manager of the research program entitled: "*Photocatalysis of titanium dioxide: development of system for the deposition of smart films (SDFI)*". The research program was supported by FILAS (Finanziaria Laziale di Sviluppo), a public body devoted to the promotion of innovations to the company of the Region Lazio, within the call *Business Lab - Centro Atena* aimed at the promotion of new innovative companies in the field of self-cleaning surfaces and materials

In July 2008, he won the "*Best Paper Award*" in joined call of the International Federation of Automatic Control (IFAC) and Elsevier Publisher. The paper *BARLETTA M, GISARIO A, GUARINO S, Modelling of electrostatic fluidized bed (EFB) coating process using artificial neural networks, ENGINEERING APPLICATIONS OF ARTIFICIAL INTELLIGENCE, vol. 20 (6), 2007, 721-733 ISSN: 0952-1976, doi:10.1016/j.engappai.2006.06.013* was considered the best paper submitted in the period 2005-2008. The award was assigned during the XVII IFAC World Congress 08, held in Soul (South Korea)

In July 2009, he won an award in the call "*Technological promoters for Innovation*" of Rome Province with a project entitled: "*Chemical deposition of ultra-nano crystalline diamond films in high vacuum*". The project was developed in cooperation with the Cecom Srl, Guidonia Montecelio, Roma

In August 2009, the paper "*A. GISARIO, BARLETTA M., R. STANCAMPIANO, On the interaction mechanisms between a high power diode laser source and silver alloys: the case of aesthetic welding, OPTICS AND LASERS IN ENGINEERING, vol. 47 Issue 7-8; p. 821-830*" was reviewed on Nature Photonics, Nature Publishing Group

From September 2009 to September 2013, he was member of the executive board of A.I.Te.M. (Associazione Italiana Tecnologia Meccanica). He was the person in charge of the section "Awards".

From 2005 to 2008, he was the scientific manager of two research projects incubated in the program *"Academic Incubator for innovative enterprises in Rome (SPIN OVER)"*. He has followed the research projects of the company Cecom Srl and SRS Srl. Cecom Srl has developed a fluidized bed equipment for finishing of metal substrates. SRS Srl has developed simulative tools for engineering of mechanical components.

In March 2010, he was the scientific manager for the University of Rome Tor Vergata of the research project *"Lu.Ce. - Light for Ceramics"*. The research project was supported by public funds in the call "*Industria 2015 - Bando PII Nuove Tecnologie per il Made in Italy*" on topics concerning the development of photoluminescent materials and the related manufacturing technologies. The project was developed in partnership with the University of Modena and Reggio Emilia and the companies System Spa, Laminam Spa, Florim Ceramiche Spa, Aton Luce Srl, Euroelettra Sistemi Spa, Vetriceramici Spa, SKG Italia Spa, Jcoplastic Spa

In June 2010, he was visiting professor at Texas Agricoltural & Mechanical University, College Station, Texas, USA. He was invited to have a talk entitled: "*Design, manufacturing and characterization of organic coatings with high performance*" at the Department of Mechanical Engineering of TAMY by the TEES prof. Hung-Jue Sue

In October 2010, he was entitled of the title of Aggregate Professor in the scientific field ING/IND-16 – Technologies and Manufacturing Systems at the Department of Mechanical Engineering of University of Rome Tor Vergata

From 2011 to 2013, he was member of faculty in the PhD course in "*Industrial Engineering*" (Cicles XXVII, XXVIII and XXIX) at University of Rome Tor Vergata

In March 2011, he was invited by Prof. Bekir Sami Yilbas, Mechanical Engineering Department, King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia to contribute with a chapter on lasers in surface treatments in the compendium '*Comprehensive Materials Processing*' edited by Elsevier

In October 2011, he started teaching the course of Manufacturing Technology (10 credits) for students in Energy Engineering

Since 2012, he has been cooperating with CRR (Consorzio Roma Ricerche), Rome Research Consortium for the development of applied research activities with small, medium and large national companies

In October 2012, he started teaching the course of Manufacturing Technology (9 credits) for students in Energy Engineering and the course of Laboratory of Capital Goods (6 credits) for students in Mechanical Engineering

Since October 2012, he has been cooperating with FILAS (Finanziaria Laziale di Sviluppo) a public body of Region Lazio for the promotion of research and innovation in the evaluation of research projects presented by innovative companies

Since March 2013, he has been serving the Department of Enterprise Engineering of University of Rome Tor Vergata, where he was involved in both teaching and research activities

Since October 2013, he has been teaching the course of Manufacturing Engineering (9 credits) for students in Management Engineering

Since 2014, he is member of the editorial board of the International Conference on Advances in Mechanical Engineering and Mechanics (ICAMEM Conference)

Since 2014, Prof. Barletta is co-Editor of the International Journal *Advances in Materials Science and Engineering* (Impact Factor 0.744) published by *Hindawi Publishing Corporation*

Since 2014, he is member of the faculty of the PhD course in "Engineering for Industrial Design and Manufacturing" (Cycles XXX, XXXI) at University of Rome Tor Vergata

Since 2014, he is expert for European Commission – ECAS and he has been serving as reviewer for European research and innovation programs

In January 2014, he got the National Scientific Habilitation according to the Art 16 of the law n. 240 of 2010 for the competitive sector 09/B1 – Manufacturing Engineering

In July 2014, he won the competitive examination to Associate Professor in the scientific field ING/IND-16 – Technologies and Manufacturing Systems

Since October 2014, he has been teaching the courses of Manufacturing Engineering (9 credits) and Laboratory of Manufacturing Engineering (6 credits) for students in Management Engineering

Since November 2014, he is Associate Professor in the scientific field ING/IND-16 – Technologies and Manufacturing Systems at the Department of Enterprise Engineering of University of Rome Tor Vergata

Since May 2015, he is selected as reviewer for research projects of ANR - Agence Nationale de la Recherche, France

Since July 2015, he is the scientific manager of the European project entitled *PLA4COFFEE, LIFE14 ENV/IT/000744* supported with public funds in the field of research program *LIFE+*. The research program will last 30 months from 2015 to 2018

In October 2015, he is invited speaker at Moscow State University of Mechanical Engineering (MAMI) for a lecture entitled: "*Innovation and technological transfer from universities and research centers to small, medium and large companies*"

Since October 2015, he is member of ASME (American Society of Mechanical Engineering)

Brief description of the research activities

The research activities of Prof. Barletta are entirely developed within the field of Manufacturing and Materials Engineering. Most of his research efforts was paid to the design, development and implementation of innovative engineered materials and the related manufacturing technologies. The research activities of Prof. Barletta is documented by more than 100 papers published on peer reviewed indexed and high impact factor international journals. Interest of academic readers is confirmed by approximately 1000 citations (Google Scholar), Prof. Barletta's papers got in the last years. In addition, Prof. Barletta has held more than 60 lectures, some of them as invited speaker, to international conferences, events or fairies. Lastly, he deposited 7 national and international patents.

A pointwise list of the topics touched by Prof. Barletta is herein reported:

1) *Finishing and surface processing by fluidized beds;*
2) *Design and manufacturing of surface coatings based on organic, colloidal and inorganic materials;*
3) *Design and melt processing of polymeric and nano- and micro-reinforced composite materials;*
4) *Other materials, processes and manufacturing technologies.*

Finishing and surface processing by fluidized beds:

in the early stage of his academic career (15 years ago), Prof. Barletta was mostly involved in the development of an innovative processing technology based on fluidized beds of powder or granulate materials. Prof. Barletta was convinced of the enormous potential of fluidized beds in a number of attractive manufacturing segments, where their applications were still unexplored. He attempted to perform surface finishing of metals, coating process with organic and inorganic materials, industrial washing of industrial components by prototypal fluidized beds. These researches have allowed to increase knowledge about base principles of fluidized bed processing in unprecedented industrial domains. In addition, the experimental investigations

have progressively allowed to familiarize with the most viable operational windows for each technology. The large amount of experimental data available has thus permitted the calibration of accurate predictive and theoretical models, which have found several applications in the development of automation and process control tools for industrially-oriented problems. The research results have also found practical demonstration in the development of numerous industrial plants, especially plants for finishing and washing of metal components as well as for electrostatic and hot dipping coating of complex-shaped substrates. Some of the most prominent research results have been patented in Italy and/or Europe.

Design and manufacturing of surface coatings:
in the last decade, Prof. Barletta has shown an increasing interest in the design, manufacturing and characterization of organic, colloidal and inorganic coatings. The research efforts were essentially focused on the design of innovative materials, related manufacturing processes and validation of the performance. At the beginning, he has developed several research activities concerning the deposition of diamond films for tooling applications. He was particularly attentive to the criterion to improve the adhesion of the diamond coatings on unsuitable substrates, as for example the cobalt-base hard metals for the manufacturing of cutting tools. Similarly, he was involved in the development of thermally sprayed coatings for thermal insulation and corrosion protection, with the aim of improving the final properties of the coatings and their adhesion to the substrate. The most relevant results he achieved concern the development of facile routes to pre-treat the substrates by the surface pretreatment with a high power diode laser in protective (Ar) or reactive (N_2) environments. More recently, the research efforts have been driven by the design and manufacturing of innovative organic and organic inorganic coating systems. The most relevant research products concern the development of coatings in polymeric and/or composite materials, using as-is or reinforced (often nano-reinforced) thermosetting, thermoplastic and silicone-derived resins. Interfacial adhesion to substrate and within the polymeric matrices was also often faced in the research products of Prof. Barletta, where the recourse to the chemistry of organo-silanes and of the related manufacturing technologies is often documented.

Design and melt processing of polymeric and nano- and micro-reinforced composite materials:
in the last years, Prof. Barletta has started to research in the field of polymers and polymer-based composites, suitable for melt processing. Attention was drawn on the development of nano- and micro-reinforced polymer-based composite in the light of fast, cheap and effective shaping technology by extrusion, injection moulding or thermo-forming. Innovative methods of dispersing nano- and micro-fillers inside polymeric matrices are the most prominent results achieved in this field by Prof. Barletta. The results have benefitted of a long term cooperation with the Evonik Industry, the leading German company in the field of organic chemistry, which has provided continuous assistance and support to the research activities. At the same time, his knowledge in the field of thermosetting, thermoplastic and silicone polymers, developed in years of experience with the manipulation of coating materials, have permitted significant and fast advance in the compatibilization of a number of fillers inside many different polymeric matrices suitable for melt processing. In this research field, Prof. Barletta is recently launching research initiatives to develop eco-friendly biodegradable and/or compostable engineered polymeric materials, especially those suitable for food and drugs packaging. He is studying the possibility to increase the mechanical response, thermal stability, chemical endurance and barrier properties of a number of not-oil relied polymers. His research efforts are supported by international cooperation with leading academic (Prof. Sue, Texas A&M University; Prof. Gauthier, University of Strasbourg) and industrial (Evonik Industry) partners as well as sustained by a number of private and public funds, he has recently received to proceed with the experimental investigations.

Other materials, processes and manufacturing technologies:
the last research line of Prof. Barletta has prevalently concerned the usage of laser systems in material processing. Most of the research efforts were focused on the pre-treatments or post-treatments of engineered materials. Analysis of operational parameters, interactions between laser beam and irradiated materials, study of the most promising laser scanning patterns were investigated. Additional studies have regarded the feasibility of laser processing in forming or shaping of difficult-to-machine materials. More recently, Prof. Barletta has been involved in manufacturing, forming and shaping of metallic foams.

Patents

Prof. Barletta is author or co-author of seven industrial patents developed on the results of his research efforts. The patents are hereby summarized:

(i) Year 2015; Authors: BARLETTA M, POZZA G, TAGLIAFERRI V, VESCO S; Title: *Procedimento per la realizzazione di superfici auto-pulenti ed auto-igienizzanti su pellame rifinito*; Reference number: VI2015A000031

(ii) Year 2009; Authors: BARLETTA M, RUBINO G, TAGLIAFERRI V; Title: *Procedimento di verniciatura multistrato*; Reference number: RM2009A000327

(iii) Year 2006; Authors: BARLETTA M, TAGLIAFERRI V; Title: *Nuovo procedimento di pretrattamento di substrati in materiale non conduttore per processi di deposizione elettrostatica di polveri polimeriche*; Reference number: RM2006A000210

(iv) Year 2004; Authors: BARLETTA M, TAGLIAFERRI V; Title: *Dispositivo per eseguire l'asportazione di impurità superficiali da oggetti metallici e non metallici*; numero di deposito: BO2004A000381

(v) Year 2004; Authors: BARLETTA M, TAGLIAFERRI V; Title: *Dispositivo per eseguire la deposizione di polveri metalliche*; Reference number: BO2004A000427

(vi) Year 2004; Authors: BARLETTA M, SPAGOCCI S, ZAMBONI A, TERUZZI A; Title*: Washing plant for mechanical components*; Reference number: 04076941.6-2307

(vii) Year 2003; Authors: BARLETTA M, SPAGOCCI S, ZAMBONI A, TERUZZI A; Title: *Impianto di lavaggio per componenti meccanici*; Reference number: MI2003A001386

Brief description of the teaching activities

Prof. Barletta has cooperated in teaching the courses of the scientific sector "Technologies and Manufacturing Systems" since 2000. Since 2004, he has been the supervisor of approximately 50 bachelor, master and PhD degree thesis for students in Mechanical Engineering, Energy Engineering, Environmental Engineering, Automation Engineering, Informatic Engineering and Management Engineering. In October 2004, he started his teaching activities at Department of Mechanical Engineering of University of Rome Tor Vergata. Since academic year 2004-2005, he started teaching the course of Computer Aided Manufacturing for students in Mechanical Engineering at University of Rome Tor Vergata. He has also cooperated in the development of additional classes in disciplines within the scientific field ING/IND-16 "Technologies and Manufacturing Systems". From 2008 to 2010, it was member of the faculty of PhD course in "*Materials Engineering*" (Cycles XXIV, XXV and XXVI) at University of Rome Tor Vergata. In October 2010, he was entitled of the title of Aggregate Professor in the scientific field ING/IND-16 – Technologies and Manufacturing Systems at the Department of Mechanical Engineering of University of Rome Tor Vergata. From 2011 to 2013, he was member of faculty in the PhD course in "*Industrial Engineering*" (Cicles XXVII, XXVIII and XXIX) at University of Rome Tor Vergata. In October 2011, he started teaching the course of Manufacturing Technology (10 credits) for students in Energy Engineering. In October 2012, he started teaching the course of Manufacturing Technology (9 credits) for students in Energy Engineering and the course of Laboratory of Capital Goods (6 credits) for students in Mechanical Engineering. Since October 2013, he has been teaching Manufacturing Engineering (9 credits) for students in Management Engineering. Since 2014, he is member of the faculty of the PhD course in "Engineering for Industrial Design and Manufacturing" (Cycles XXX, XXXI) at University of Rome Tor Vergata. Since October 2014, he has been teaching the courses of Manufacturing Engineering (9 credits) and Laboratory of Manufacturing Engineering (6 credits) for students in Management Engineering. He has also well established cooperation with University of Rome Tre and Sapienza University of Rome, where he has held several lectures about manufacturing systems and materials engineering for students in Mechanical Engineering and Management Engineering.

He has also held lesson on topics related to improvement of fatigue behavior of metallic materials during AIM (Italian Association of Metallurgy) summer schools. He has held lesson for specialist courses organized by KPMG Advisory and TECSEO on topics related to surface coatings and finishing. He has held lessons in Tecnica Group (Giavera del Montello (TV), Italia) on industrial painting of injection moulding components. Lastly, he

has held lessons in Cap Arreghini (Portogruaro (VE), Italia) on topics related to photo-catalysis and the mechanical behavior of organic and hybrid organic inorganic coatings.

Other activities

Organization or participation as speaker to national and international conferences, events, fairies:

Dissemination and communication activities of Prof. Barletta are confirmed by more than 60 lectures, he held to the most prestigious International Conferences of his scientific sector as Coatings Science International (COSI), Wear of Materials (WOM), ICMCTF (International Conference of Metallurgical Coatings and Thin Films), International Congress on Applications of Lasers & Electro-Optics (ICALEO), International Thermal Spray Conference (ITSC), International Conference on Surfaces, Coatings and Nanostructured Materials (ICSCnanoSMat 2005) as well as several thematic conferences sponsored by EMRS (European Materials Research Society), ASME (American Society of Mechanical Engineering) and CIRP (The International Academy for Production Engineering). He has held lectures to relevant national and international events and fairies as the European Coating Show, the Biennial of Machine Tools and Manufacture, the MECSPE Innovation for Technologies. He was invited speaker to national and international conference and events like Verplast (the event sponsored by the Italian Association of Paint Manufacturers), ECC (European Coating Conference) and Wear of Materials (WOM). He was recently invited to the International Conference in Energy and Transportation Materials (ETM), held in 2014 at Chengdu. He has represented the University of Rome Tor Vergata in several events and fairies, where he promoted the results of his research efforts and the patents to small, medium and large companies.

Management or participation to research groups featuring national or international cooperations:

Prof. Barletta has been the scientific leader of several research and innovation programs within Academia or in cooperation with small, medium and large national and international companies. In particular, in 2009 he was the scientific leader of the research project entitled "*Chemical Deposition of ultra-nano diamond films in high vacuum*" developed in partnership with Cecom Srl and financed by the region Lazio to promote the development of vertical actions of technological transfer [art. 182 comma 4 letter c) of L.R. 04/06]. From 2011, he is the scientific leader of the research project *"Lu.Ce. - Light for Ceramics"*. The three-year research project was supported by public funds in the call "*Industria 2015 - Bando PII Nuove Tecnologie per il Made in Italy*" on topics concerning the development of photoluminescent materials and the related manufacturing technologies. The project, sponsored by MISE (Ministry of Economical Devlopment), was developed in partnership with the University of Modena and Reggio Emilia and the companies System Spa, Laminam Spa, Florim Ceramiche Spa, Aton Luce Srl, Euroelettra Sistemi Spa, Vetriceramici Spa, SKG Italia Spa, Jcoplastic Spa. Since July 2015, he is the scientific manager of the European project entitled *PLA4COFFEE, LIFE14 ENV/IT/000744* supported with European public funds in the field of research program *LIFE+*. The research program will last 30 months from 2015 to 2018 and will focus on the design of compostable coffee capsules. The project was developed in partnership with the companies Aroma Spa, API Spa and the consortium CrdC (Center of Competence) on polymeric materials.

Prof. Barletta was also member of large research groups involved in national and international innovation and development programs. A partial list of the project is reported below:

(i) Title: *Rete di Incubatori Universitari per l'avvio di imprese innovative (IUNET)*; Partnership: *Politecnico di Milano, Politecnico di Torino, Scuola Superiore S. Anna di Pisa, Università di Roma "Tor Vergata" e Università di Napoli "Federico II"*; Measure: *Call Miur*; Starting Year: 2005; Ending Year: 2008

(ii) Title: *Incubatore universitario per imprese innovative a Roma (SPIN OVER)*; Partnership: *Università di Roma "Tor Vergata"*; Measure: *Bando MISE*; Starting Year: 2005; Ending Year: 2008

(iii) Title: *Promozione e valorizzazione della ricerca e della proprietà intellettuale (PROVARE)*; Partnership: *Università degli studi di Palermo, di Catania, di Napoli Federico II e di Roma Tor Vergata*; Measure: *Call Miur*; Starting Year: 2005; Ending Year: 2008

(iv) Title: *Tecnologie e materiali innovativi per rivestimenti resistenti all'ossidazione ad elevata temperatura per componenti aerospaziali ad altissime prestazioni (TRIAL)*; Partnership: *Consorzio Matris*; Measure: *Call Miur*; Starting Year: 2007; Ending Year: 2009

(v) Title: *Analisi integrata materie prime, ciclo di trasformazione, prestazioni finali nella produzione di substrati cartacei per la realizzazione dei consumi energetici e dell'impiego di risorse naturali*; Partnership: *Università degli Studi di Roma Tor Vergata*; Measure: *Call Laboratori, Agenzia Sviluppo Lazio*; Starting Year: 2008; Ending Year: 2010

(vi) Title: *Materiali e trattamenti superficiali per strutture avanzate leggere destinate ad applicazioni spaziali e di ricaduta (STRALE)*; Partnership: *Consorzio Matris*; Measure: *Call Miur*; Starting Year: 2008; Ending Year: 2011

Lastly, he is currently involved in the project CAEF in which the partnership is developing new compostable polymers for food packaging base on the polymers of lactic acid. The project is reported below:

(i) Title: *Progetto CAEF – Contenitori Alimentari con elevate funzionalità*; Partnership: C*omital, University of Rome Tor Vergata, Point Plastic, Engico, PMS Tecno Electric, Consorzio Roma Ricerche, Mizzon Progettazioni*; Measure: *Insieme per vincere "Progetti VAL"*; Starting Year: 2014; Ending Year: 2016

Technological transfer and cooperation with industrial partners:

A remarkable part of Prof. Barletta's research activities was focused to develop programs in cooperation with several national and international small, medium and large companies. In the early stage of his career, prof. Barletta has often been effective member for University of Rome Tor Vergata in this kind of research projects. The most important topics which were touched by these research programs concerned the development of advanced engineered material and/or innovative manufacturing processes: (i) development of innovative solutions for powder coatings of industrial components in partnership with the companies Electrolux Home Products, Taiver, Naddeo; (ii) development of innovative systems for the manufacturing of water gas in partnership with Fornitecnica; (iii) development of innovative plants for industrial washing of metal components in cooperation with Latofres, Trafime, SAT; (iv) development of innovative solutions for the deposition of organic layers on paper or ceramic substrates in cooperation with Cartiere di Guarcino, Fincuoghi; (v) development of non destructive technique for the characterization of wooden-based materials in cooperation with Colella Legnami; (vi) development of hard coatings on die for aluminium extrusion in cooperation with Compess; (vii) development of surface finishing systems for casted aluminium components in cooperation with Nuova Renopress and Simi; (vii) development of coating of metal components by hot dipping fluidized bed in cooperation with Comien and Pasell; (viii) development of innovative solutions for the energetic valorization of production scarps in cooperation with Enel and Riso Scotti; (ix) design of pretreatment process for the improvement of surface adhesion of diamond coatings on tungsten carbide cutting tools.

More recently, Prof. Barletta has been the scientific leader of several research programs with national and international small, medium and large companies. A list of the most relevant projects is hereby reported:

(i) Title: Development of washing and painting plant for metal frames; Company: "Renato Nisi Srl, (Forlì, Italy)"; Year: 2007

(ii) Title: Design, manufacturing and evaluation of the performance of clear coats on PMMA substrates; Company: "JSR MicroElectronics, (Leuven, Belgium)"; Year: 2008

(iii) Title: Design and manufacturing of an abrasive fluidized bed for finishing of jewelry; Company: "Cetehor, (Besancon, France)"; Year: 2008

(iv) Title: Dry ice blasting for washing of metal frames; Company: "De Angelis Rimorchi Spa, (Ravenna, Italy)"; Year: 2009

(v) Title: Material and processing innovations for aluminium coils; Company: "Comital, (Volpiano, Italy)"; Year: 2013

(vi) Title: "*Technologies for the deposition of anti-fogging films on polymeric lenses*"; Company: ZEISS VISION ITALIA SPA; Year: 2010;

(vii) Title: "*Design and Manufacturing of self-cleaning coatings for domestic ovens*"; Company: Candy Hoover SPA; Year: 2010;

(viii) Title: "Development of a fluidized bed prototypal system for finishing/barrelling of polyester buttons"; Company: BONETTI SRL; Year: 2012;

Prof. Barletta has been also the scientific leader of several research projects in cooperation with Italian companies and partially supported by public funds. In particular, he was the scientific leader of the following projects:

(i) POR CRO parte FESR Azione 1.1.2. “Contributi a favore dei processi di trasferimento tecnologico e allo sviluppo di strutture di ricerca interne alle imprese” – Regione Veneto
(ii) POR FESR 2007 – 2013 Obiettivo “Competitività regionale e occupazione”. Attività 1.1.a)2 - settore industria. Incentivi per la realizzazione di progetti di ricerca, sviluppo e innovazione da parte delle imprese industriali del Friuli Venezia Giulia
(iii) Progetto Ecostela Legge 598/94 – Regione Marche
(iv) POR FESR Lazio 2007-2013 - Asse I - Ricerca, Innovazione e Rafforzamento della base produttiva: "CO-RESEARCH - Avviso pubblico per la presentazione di progetti di R&S in collaborazione, da parte delle PMI del Lazio"; "Avviso pubblico per la presentazione di progetti di innovazione delle micro e piccole imprese"

A list of the related projects is reported below:

(i) Title: "*Tecnologie per la deposizione di film ad attività fotocatalitica nel settore edile*"; Company: CAP ARREGHINI SPA, (Portogruaro, Italy); Measure: POR CRO, Veneto; Year: 2008;
(ii) Title: "*Sviluppo di un sistema prototipale a letto fluido per la finitura superficiale/burattatura di componenti in materiale metallico e plastico per l'industria dell'occhialeria*; Company: PAI CRISTAL ITALIA SRL, (Domegge di Cadore, Italy); Measure: POR CRO, Veneto; Year: 2010;
(iii) Title: "*Sviluppo di soluzioni innovative per il rivestimento estetico e funzionale di molle*"; Company: SPECIAL SPRINGS SRL, (Rosà, Italy); Measure: POR CRO, Veneto; Year: 2010;
(iv) Title: "*Finitura superficiale di minuteria metallica per l'industria dell'occhiale*"; Company: VISOTTICA INDUSTRIE SPA, (Conegliano, Italy); Measure: POR CRO, Veneto; Year: 2010;
(v) Title: "*Sviluppo di un sistema prototipale a letto fluido per la finitura superficiale/burattatura di componenti plastici*"; Company: SOLE SPA (EX PLASTAL); Measure: POR CRO, Veneto; Year: 2011;
(vi) Title: "*Funzionalizzazione mediante film ad attività fotocatalitica di filati e/o tessuti tecnici*"; Company: PLASTITEX SPA, (Carmignano di Brenta, Italy); Measure: POR CRO, Veneto; Year: 2010;
(vii) Title: "*Sviluppo di un sistema prototipale per l'essiccazione di materiali granulari a base legno*"; Company: LA SOLE EST SRL, (Percoto, Italy); Year: 2009;
(viii) Title: "*Sviluppo di soluzioni innovative per il rivestimento estetico e funzionale di grigliati in polimero rinforzato*"; Company: MM GRIGLIATI SRL, (Udine, Italy); Measure: POR FESR, Friuli Venezia Giulia; Year: 2011;
(ix) Title: "Sviluppo di rivestimento anti-graffio su ante per cucina laccate"; Company: ILCAM SPA, (Cormons, Italy); Measure: POR FESR, Friuli Venezia Giulia; Year: 2011;
(x) Title: "*Progetto per la realizzazione di un laboratorio tecnologico per l'applicazione e la messa a punto di processi a letto fluido industriali nella pulizia/finitura di prodotti di interesse*; “BROVEDANI SPA, (San Vito al Tagliamento, Italy)”; Measure: POR FESR, Friuli Venezia Giulia; Year: 2012;
(xi) Title: "*Sistemi per la finitura di manufatti generici dell'industria meccanica*"; Company: NARDI SNC, (Udine, Italy); Measure: POR FESR, Friuli Venezia Giulia; Year 2012;
(xii) Title: "*Sviluppo di un sistema prototipale per il lavaggio finale di componenti stampati assial-simmetrici*"; Company: BORA SRL, (Maiolati Spontini, Italy); Measure: Ecostela; Year: 2012;
(xiii) Title: “*Studio e sviluppo di una nuova ed innovativa carta decorativa da impregnazione ad elevata stabilità dimensionale”;* Company*: Cartiera di Guarcino*; Measure: *Co-Research, POR FESR, Lazio; Year 2012*
(xiv) Title: "*Sviluppo di soluzioni DMAIC - Strumenti statici per l'elaborazione dati*"; Company: CECOM SRL, (Guidonia Montecelio, Italy); Measure: Microinnovazione, POR FESR, Lazio;Year: 2013

Awards, Membership, Editorship, Reviewing:

In June 2003, Prof. Barletta won an award in the "*PREMIO IDEA 2002*" call of BIC Lazio, a society of the promotion of innovative ideas in the companies of Region Lazio, concerning the relationship between Academia and Industrial World. The awarded idea concerned the development of a prototypal system for the deposition of organic coatings on organic and inorganic substrates. In November 2006, he won a second award in the call "*Award for Research and Innovation 2005*" of BIC Lazio. The awarded idea concerned the development of an "*Innovative integrated system for surface pretreatment and powder coating of plastic substrates*". In March 2007, he won a third award in the "*Call for Ideas*" of Iunet (Network of academic incubators for innovative spin-offs) for the selection of innovative ideas for promoting the birth of new companies. The awarded idea was entitled "*Photo-catalysis of titanium dioxide: development of systems for the deposition of smart films*". The idea was awarded with a grant. In July 2008, he won the "*Best Paper Award*" in joined call of the International Federation of Automatic Control (IFAC) and Elsevier Publisher. The paper *BARLETTA M, GISARIO A, GUARINO S, Modelling of electrostatic fluidized bed (EFB) coating process using artificial neural networks, ENGINEERING APPLICATIONS OF ARTIFICIAL INTELLIGENCE, vol. 20 (6), 2007, 721-733 ISSN: 0952-1976, doi:10.1016/j.engappai.2006.06.013* was considered the best paper submitted in the period 2005-2008. The award was assigned during the XVII IFAC World Congress 08, held in Soul (South Korea) In July 2009, he won an award in the call "*Technological promoters for Innovation*" of Rome Province with a project entitled: "*Chemical deposition of ultra-nano crystalline diamond films in high vacuum*". The project was developed in cooperation with the Cecom Srl, Guidonia Montecelio, Roma. In August 2009, the paper "*A. GISARIO, BARLETTA M., R. STANCAMPIANO, On the interaction mechanisms between a high power diode laser source and silver alloys: the case of aesthetic welding, OPTICS AND LASERS IN ENGINEERING, vol. 47 Issue 7-8; p. 821-830*" was reviewed on Nature Photonics, Nature Publishing Group.

Since June 2001, he is member of A.I.TE.M (Associazione Italiana Tecnologia Meccanica), Italian Association of Manufacturing Technology. Since October 2015, he is member of ASME (American Society of Mechanical Engineering).

In June 2010, he was visiting professor at Texas Agricoltural & Mechanical University, College Station, Texas, USA. He was invited to have a talk entitled: "*Design, manufacturing and characterization of organic coatings with high performance*" at the Department of Mechanical Engineering of TAMY by the TEES prof. Hung-Jue Sue. In March 2011, he was invited by Prof. Bekir Sami Yilbas, Mechanical Engineering Department, King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia to contribute with a chapter on lasers in surface treatments in the compendium '*Comprehensive Materials Processing*' edited by Elsevier. In October 2015, he is invited speaker at Moscow State University of Mechanical Engineering (MAMI) for a lecture entitled: "*Innovation and technological transfer from universities and research centers to small, medium and large companies*".

Since 2000, Prof. Barletta is referee for International Journals as Journal of Machine Tools & Manufacture, Surface & Coatings Technology, Progress in Organic Coatings, Vacuum, Materials Science & Engineering, Journal of Laser Applications, Optics and Lasers in Engineering, Optics and Lasers Technology, Journal of Polymer Research, Journal of Applied Polymer Science, Journal of Thermal Spray Technology, Macromolecular Materials and Engineering, Materials Science and Engineering, Journal of Manufacturing Science and Engineering (ASME), Journal of American Ceramic Society.

Prof. Barletta was *Guest Editor*' of the special number 2008 Vol. 2 N°. 3/4 of *International Journal of Surface Science* edited by *Inderscience Publishers*. The title of the volume is: Micromachining Systems and Tailored Surfaces. Since 2007, he is member of the editorial board of the International Meeting of Abrasion (TIMA Conference).Since 2014, he is member of the editorial board of the International Conference on Advances in Mechanical Engineering and Mechanics (ICAMEM Conference). Since 2014, Prof. Barletta is co-Editor of the International Journal *Advances in Materials Science and Engineering* (Impact Factor 0.744) published by *Hindawi Publishing Corporation.*

The undersigned is aware that, in accordance with art. 26 of Law 15/68, false statements, falsified acts and use of false acts are punishable under the Penal Code and special laws. In addition, the processing of personal data is authorized, as provided by Law 196/03

The Identity Card #AV3010232 released from COMUNE DI ROMA on 26/09/2015 is hereby enclosed

Letto, confermato e sottoscritto.
Luogo e data ROMA, 26/09/2015

Firmato
MASSIMILIANO BARLETTA
(firma per esteso e leggibile)