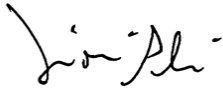


# GIOVANNI PULCI

## Curriculum Vitae

Roma, 21/12/2017



### Part I – General Information

Full Name	Giovanni Pulci
Spoken Languages	Italian, English

### Part II – Education

Type	Year	Institution	Notes (Degree, Experience,...)
University graduation	2003	Università di Roma “La Sapienza”	Master degree (5 years) in Materials Engineering (110/110 con lode)
Post-graduate studies			
PhD	2013	Università di Roma “La Sapienza”	PhD in Materials Engineering
Specialty			
Licensure 01	2004	Università di Roma “La Sapienza” / Ordine degli Ingegneri di Roma	Licensed as a profession engineer
Licensure 02	2017	MIUR	National Scientific Qualification for associate professor - SC 09/D1

### Part III – Appointments

#### IIIA – Academic Appointments

Start	End	Institution	Position
01/02/2005	30/06/2005	Sapienza University of Rome	Temporary research fellow (co.co.pro.)
01/09/2004	31/12/2004	Sapienza University of Rome	Temporary research fellow (co.co.pro.)
01/02/2004	31/07/2004	Sapienza University of Rome	Temporary research fellow (co.co.pro.)

#### IIIB – Other Appointments

Start	End	Institution	Position
04/05/2009	To date	Consorzio INSTM	Tenured INSTM Researcher, working at Dept. of Chemical Engineering, Materials, Environment (DICMA) of Sapienza University of Rome
03/04/2006	02/04/2009	Consorzio INSTM	Non-tenured INSTM Researcher, working at Dept. of Chemical Engineering, Materials, Environment (DICMA) of Sapienza University of Rome
14/11/2005	13/02/2006	Consorzio INSTM	Temporary research fellow (co.co.pro.)
01/07/2005	30/10/2005	Consorzio INSTM	Temporary research fellow (co.co.pro.)

### Part IV – Teaching experience

Year	Institution	Lecture/Course
2012 - present	Sapienza University of Rome	“Ingegneria delle superfici e dei film sottili e materiali nanostrutturati”, modulo “Materiali nanostrutturati” (6 CFU). Masters of Science in “Ingegneria delle Nanotecnologie” LM53. (Titolare del corso)
2011 - 2012	Sapienza University of Rome	“Ingegneria delle superfici e dei film sottili e materiali nanostrutturati”, modulo “Ingegneria delle superfici e dei film sottili” (6 CFU). Masters of Science in “Ingegneria delle Nanotecnologie” LM53. (Titolare del corso)
2009 - 2011	Sapienza University of Rome	“Ingegneria delle superfici e dei film sottili” (9 CFU). Masters of Science in “Ingegneria delle Nanotecnologie” LM53. (Titolare del corso)

2006 - 2007	Sapienza University of Rome	2nd Level Specializing Master "Management dei Materiali e dei loro Sistemi Complessi". Lectures titled "Qualità e Affidabilità dei Materiali" (8 hours).
2012 - present	Sapienza University of Rome	Supervisor of 7 thesis works - Masters of Science in "Ingegneria delle Nanotecnologie" LM53.
2006 - present	Sapienza University of Rome	Lectures and exercitations in the course "Materiali aeronautici", Aerospace Engineering (B. Sc)
2006 - present	Sapienza University of Rome	Lectures and exercitations in the course "Aerospace Materials", Aeronautical Engineering (M. Sc)
2013 - 2016	Sapienza University of Rome	Lectures and exercitations in the course "Materiali non metallici per l'ingegneria", Mechanical Engineering (M.Sc)
2015	AIMAT-SIB	XX Summer-school AIMAT – SIB "Rivestimenti e trattamenti funzionali". Lecture titled "Rivestimenti per componenti strutturali operanti ad alta temperatura ed in ambienti aggressivi" (Ischia, July 21st 2015).
2014	Associazione Italiana Metallurgia	AIM Course "Rivestimenti spessi - Placcatura e termospruzzatura". Lecture titled "Rivestimenti termospruzzati per la protezione di componenti meccanici in ambienti ostili" (Roma, March 5th 2014)
2012	AIMAT	XVIII Summer-school AIMAT "Advances in Materials Sciences and Technologies". Lecture titled "Scudi termici ablativi per applicazioni aerospaziali" (Ischia, July 14th 2012).
2010	INSTM/CNR	XVI National School on Materials Science INSTM/CNR. Lecture titled "Esempi di calcolo strutturale e termo-fluidodinamico per l'aerospazio" (Bressanone, September 30th 2010).

#### Part V - Society memberships, Awards and Honors

Year	Title
2005 – to date	Consorzio Interuniversitario sulla Scienza e Tecnologia dei Materiali (INSTM)
2006 – to date	Associazione Italiana di Ingegneria dei Materiali (AIMAT)
2015 - to date	American Society for Metals (ASM)
2010	Winner of the AIMAT Competition Award 2010, XVI Scuola Aimat-Sib, with the project "Metamateriali focalizzatori di onde acustiche per la bonifica di ambienti con elevato livello di rumore ed il parziale recupero energetico"

**Part VI - Funding Information [grants as PI-principal investigator or I-investigator]**

Year	Title	Program	Grant value
2017-2019	Sviluppo e caratterizzazione di depositi di Nichel Chimico <b>Principal Investigator</b>	Galileo funding program (Ministero Sviluppo Economico-Regione Toscana-GE Oil&gas).  Funded institution: Consorzio INSTM, Research Unit Roma Sapienza (Subcontractor of Nuovo Pignone Tecnologie Srl)	<b>585.000,00 €</b>
2016-2017	Mo.N.S.T.E.R. (Modified Ni-based Surface Treatments for Enhanced Resistance) "Rivestimenti base Electroless Ni-P per applicazioni nel settore Oil&Gas" <b>Principal Investigator</b>	Funded by Nuovo Pignone Tecnologie Srl.  Funded institution: Consorzio INSTM, Research Unit Roma Sapienza	<b>170.000,00 €</b>
2015-2016	"Caratterizzazione di rivestimenti sottili per applicazioni nel campo dell'energia solare". <b>Principal Investigator</b>	Bando PON R&C Progetto ELIOTROPO - Materiali e soluzioni per sistemi fotovoltaici e solari termici di nuova concezione.  Funded institution: Consorzio INSTM, Research Unit Roma Sapienza (Subcontractor of Centro Sviluppo Materiali Spa)	<b>20.000,00 €</b>
2015-2016	"Sviluppo e caratterizzazione di rivestimenti spessi per applicazioni antiusura/anticorrosione in componenti meccanici di generatori eolici" <b>Principal Investigator</b>	Bando PON R&C Progetto EOMAT - Sistemi e materiali innovativi per la produzione e lo stoccaggio di energia rinnovabile.  Funded institution: Consorzio INSTM, Research Unit Roma Sapienza (Subcontractor of Centro Sviluppo Materiali Spa)	<b>40.000,00 €</b>
2015	"Realizzazione di rivestimenti autolubrificanti ottenuti con tecnica PTA su seggi valvola." <b>Principal Investigator</b>	Wartsila Italia/INSTM Contract ID/DB 1187  Funded institution: Consorzio INSTM, Research Unit Roma Sapienza	<b>10.700,00 €</b>

2012-2015	Progetto "ATENE" (Advanced Technologies for Energy Efficiency) <b>Principal Investigator</b>	Bando Unico R&S Anno 2012 della Regione Toscana POR CREO FESR 2007-2013.  Funded institution: Consorzio INSTM	<b>253.750,00 €</b>
2011	"Nanocoat - Realizzazione di campionature di trattamenti superficiali finalizzati a migliorare la resistenza alla corrosione". <b>Principal Investigator</b>	Program "Nanocoat" funded according to art.21 of L.R.26/2005 (Friuli Venezia Giulia).  Funded institution: Consorzio INSTM, Research Unit Roma Sapienza. (Subcontractor of Agemont SpA)	<b>34.500,00 €</b>
2016-2018	"SUPERMET" Trattamenti superficiali di materiali metallici operanti in ambienti ostili <b>Investigator</b>	Bando regione Lombardia 2016  Funded institution: Consorzio INSTM, Research Unit Roma Sapienza	<b>60.000,00 €</b>
2015-2017	"MANUSPACE" Messa a punto di metodologie e sistemi per la realizzazione di componentistica speciale per applicazioni aerospaziali <b>Investigator</b>	Progetto Regione Lazio  Funded institution: DICMA- Sapienza University of Rome	<b>99.000,00 €</b>
2013-2015	"SmartDesign" Applicazione di materiali intelligenti e funzionali nel design di prodotto. <b>Investigator</b>	Bando regione Lombardia  Funded institution: Consorzio INSTM, Research Unit Roma Sapienza	<b>25.000,00 €</b>
2013-2014	Progetto VaPeToRe, sulla valorizzazione dei prodotti di scarto della produzione di etichette stampate. <b>Investigator</b>	Bando Regione Lazio FILAS -CR-2011- 1407  Funded institution: Consorzio INSTM, Research Unit Roma Sapienza (Subcontractor of Carlucci srl)	<b>140.000,00 €</b>
2013-2014	"Materiali Speciali per velivoli ipersonici" <b>Investigator</b>	Programme funded by Amministrazione Difesa.  Funded institution: Consorzio INSTM, Research Unit Roma Sapienza (Subcontractor of Laer srl)	<b>46.400,00 €</b>

2011-2014	<p>“ASA (Advanced Structures Assembly) phase B2”. Development of innovative thermal protection system in plasma sprayed ceramic coating for re-entry vehicles.</p> <p><b>Investigator</b></p>	<p>Programme funded by Agenzia Spaziale Italiana (ASI)</p> <p>Funded institution: DICMA- Sapienza University of Rome (Subcontractor of Thales Alenia Space Italy)</p>	<b>125.000,00 €</b>
2010-2014	<p>“Ambition power” Sviluppo di package, front end e applicazioni industriali di moduli elettronici ad alta densità di potenza.</p> <p><b>Investigator</b></p>	<p>PON - Ricerca e Competitività 2007-2013</p> <p>Funded institution: Consorzio INSTM, Research Unit Roma Sapienza</p>	<b>134.775,00 €</b>
2010-2012	<p>“Metamateriali per la realizzazione di sistemi per il contenimento e l'isolamento acustico in edilizia”</p> <p><b>Investigator</b></p>	<p>Bando regione Lombardia 2009</p> <p>Funded institution: Consorzio INSTM, Research Unit Roma Sapienza</p>	<b>70.000,00 €</b>
2009-2010	<p>“Preparation of a high Velocity Atmospheric Re-entry Flight Testing (BLAST)”</p> <p><b>Investigator</b></p>	<p>Programme ESA (European Space Agency) RFQ/3-12318/08/NL/MP</p> <p>Funded institution: DICMA- Sapienza University of Rome (Subcontractor of Thales Alenia Space Italy)</p>	<b>20.000,00 €</b>
2009-2010	<p>“Crew space transportation system – CSTS”</p> <p><b>Investigator</b></p>	<p>CSTS ESA (European Space Agency) program</p> <p>Funded institution: DICMA- Sapienza University of Rome (Subcontractor of Thales Alenia Space Italy)</p>	<b>50.000,00 €</b>
2006-2009	<p>FP6 “NANOKER” (Structural ceramic nanocomposites for top end functional applications).</p> <p><b>Investigator</b></p>	<p>European Project – FP6</p> <p>Funded institution: Consorzio INSTM, Research Unit Roma Sapienza - responsible of WP5 “Surface functionality and composites” e SP10 “Aeroengines”</p>	<b>350.000,00 €</b>

## Part VII – Research Activities

Keywords	Brief Description
Surface engineering	Deposition, development and characterization of thick and thin metal, ceramic and cer-met coatings obtained by thermal spray techniques (Plasma Spraying, HVOF, Cold Spray, Detonation Gun), PVD and electroless deposition (Ni-P, Ni pure, Ni-Co, metal matrix nanocomposite films). Development and deposition of innovative diffusion NiAl based coatings obtained by slurry and pack cementation and modified by reactive elements and nanoparticles. The developed coatings are optimized to operate at high temperature, in corrosive and oxidizing environments and in anti-wear applications.
Nanostructured materials	Production of nanostructured coatings and bulk materials (thermal barrier coatings, cermet coatings, ceramic composites); evaluation of the effects of nanostructure on mechanical, thermal and thermomechanical (e.g. thermal shock resistance) properties.
Composite materials	Development and manufacturing of composite and nanocomposite ablative materials to be used as thermal protection systems for rockets and aerospace reentry vehicles. Surface functionalization of nanoparticles and optimization of nanofillers dispersion in polymer matrices. Qualification and testing (also in external facilities) of the developed ablative materials in representative high enthalpy conditions, consistent with the atmospheric reentry missions (oxyacetylene torch test, arc-jet plasma wind tunnel, ICP plasma wind tunnel). Technology Readiness Level (TRL): 5-6. FEM modeling of the thermal behavior of ablative materials (in terms of recession/ablation, thermal field, pyrolysis phenomena, thermochemical interactions at boundary layer).
Mechanical characterization	Development and optimization of testing procedures for mechanical characterization of materials in non-standard conditions (e.g. low and very high temperatures, from -190 to 1500 °C). Analysis of materials behavior at micro/nanoscale by instrumented (dynamic) micro/nanoindentation.
Performance evaluation of materials	Characterization of bulk materials, coatings and components in severe environments reproducing the real operating conditions (wear tests, high temperature oxidation tests, hot corrosion tests, high temperature/high heat flux ablation tests).
<b><u>Additional information are reported in the enclosed curriculum vitae</u></b>	

## Part VIII – Summary of Scientific Achievements

Product type	Number	Data Base	Start	End
Papers [international]	30	Scopus	2008	2017
Papers [national]	2	CINECA-Iris	2012	2013
Books [scientific]	1	website of publisher	2016	2016
Proceedings [international]	22	CINECA-Iris	2006	2017
Proceedings [national]	34	CINECA-Iris	2006	2017
Patents	1	European Patent Office	2012	2012

Total Impact factor	45,14
Average Impact factor per Product	1,50
Total Citations	361
Average Citations per Product	12,03
Hirsch (H) index	12
Normalized H index*	1,2

\*H index divided by the academic seniority.



## Part IX– Selected Publications

List of the publications selected for the evaluation. For each publication report title, authors, reference data, journal IF (if applicable), citations, press/media release (if any).

- 1) M. Tului, B. Giambi, S. Lionetti, G. Pulci, F. Sarasini, T. Valente “Silicon carbide based plasma sprayed coatings” *Surface & Coatings Technology* 207 (2012) p. 182–189 doi:10.1016/j.surfcoat.2012.06.062

IF(2016) =2.589      IF(2012) =1.941      5-year IF =2.538      Citations = 18

- 2) I.M. De Rosa, F. Marra, G. Pulci, C. Santulli, F. Sarasini, J. Tirillò, M. Valente, “Post-impact mechanical characterisation of glass and basalt woven fabric laminates”, *Applied Composite Materials* 19 (3-4), pp. 475-490 (2012) DOI 10.1007/s10443-011-9209-8

IF(2016) =1.217      IF(2012) =1.048      5-year IF =1.360      Citations =16



- 3) G. Di Girolamo, F. Marra, L. Pilloni, G. Pulci, J. Tirillò, T. Valente “Microstructure and Wear Behavior of Plasma-Sprayed Nanostructured WC–Co Coatings”, *International Journal of Applied Ceramic Technology*, 10 (1) , pp. 60-71 (2013) DOI: 10.1111/j.1744-7402.2011.02734.x  
 IF(2016) =1.048      IF(2013) =1.215      5-year IF =1.195      Citations =17
- 4) Jean-Marc Tulliani, Edoardo Bemporad, Marco Sebastiani, Giovanni Pulci, Jacopo Tirillò and Cecilia Bartuli "Dense and Cellular Zirconia Produced by Gel Casting with Agar: Preparation and High Temperature Characterization" *Journal of Nanomaterials*, vol. 2013, Article ID 108076, 11 pages, (2013) doi:10.1155/2013/108076.  
 IF(2016) =1.871      IF(2013) =1.611      5-year IF =2.345      Citations = 3
- 5) G. Pulci, J. Tirillò, F. Marra, F. Sarasini, A. Bellucci, T. Valente, C. Bartuli “High Temperature Oxidation and Microstructural Evolution of Modified MCrAlY Coatings” *Metallurgical and Materials Transactions A* (2014) Volume 45, Issue 3, pp 1401-1408 doi: 10.1007/s11661-013-2086-z  
 IF(2016) =1.874      IF(2014) =1.730      5-year IF =2.134      Citations = 3
- 6) G. Di Girolamo, F. Marra, C. Blasi, M. Schioppa, G. Pulci, E. Serra, T. Valente “High-temperature mechanical behavior of plasma sprayed lanthanum zirconate coatings” *Ceramics International* (2014) Volume 40, Issue 7 part B, pp. 11433–11436 DOI: 10.1016/j.ceramint.2014.03.110  
 IF(2016) =2.986      IF(2014) =2.605      5-year IF =2.814      Citations =4
- 7) G. Di Girolamo, F. Marra, M. Schioppa, C. Blasi, G. Pulci, T. Valente “Evolution of microstructural and mechanical properties of lanthanum zirconate thermal barrier coatings at high temperature” *Surface and Coatings Technology*, vol. 268 (2015) pp. 298–302 DOI: 10.1016/j.surfcoat.2014.07.067  
 IF(2016) =2.589      IF(2015) =2.139      5-year IF =2.538      Citations =15
- 8) G. Pulci, J. Tirillo’, F. Marra, F. Sarasini, A. Bellucci, T. Valente, C. Bartuli “High temperature oxidation of MCrAlY coatings modified by Al<sub>2</sub>O<sub>3</sub> PVD overlay” *Surface and Coatings Technology*, vol. 268 (2015) pp. 198–204 doi: 10.1016/j.surfcoat.2014.09.048.  
 IF(2016) =2.589      IF(2015) =2.139      5-year IF =2.538      Citations = 11

- 9) P. Palmero, G. Pulci, F. Marra, T. Valente, L. Montanaro “Al<sub>2</sub>O<sub>3</sub>/ZrO<sub>2</sub>/Y<sub>3</sub>Al<sub>5</sub>O<sub>12</sub> composites: a high-temperature mechanical characterization” *Materials*, Vol. 8, Issue 2, pp. 611-624 (2015); doi:10.3390/ma8020611

IF(2016) =2.654      IF(2015) =2.728      5-year IF =3.236      Citations = 3

- 10) L. Baiamonte, F. Marra, G. Pulci, J. Tirillò, F. Sarasini, T. Valente, C. Bartuli: “High temperature mechanical characterization of plasma-sprayed zirconia-yttria from conventional and nanostructured powders” *Surface and Coatings Technology*, vol. 277, (2015) pp. 289-298; doi:10.1016/j.surfcoat.2015.07.071

IF(2016) =2.589      IF(2015) =2.139      5-year IF =2.538      Citations = 8

- 11) L. Baiamonte, F. Marra, S. Gazzola, P. Giovanetto, C. Bartuli, T. Valente, G. Pulci, “Thermal sprayed coatings for hot corrosion protection of exhaust valves in naval diesel engines”, *Surface and Coatings Technology*, vol. 295, pp. 78-87 (2015), ISSN 0257-8972, doi:10.1016/j.surfcoat.2015.10.072.

IF(2016) =2.589      IF(2015) =2.139      5-year IF =2.538      Citations = 2

- 12) L. Paglia, J. Tirillò, F. Marra, C. Bartuli, A. Simone, T. Valente, G. Pulci Carbon-phenolic ablative materials for re-entry space vehicles: Plasma wind tunnel test and finite element modeling (2016) *Materials and Design*, 90, pp. 1170-1180. DOI: 10.1016/j.matdes.2015.11.066

IF(2016) = 4.364      5-year IF = 4.498      Citations = 8

