CURRICULUM VITAE

PERSONAL INFORMATION

Name	**ALESSANDRO PATELLI**
Address (office)	**via Marzolo n° 8, 35131 Padova, Italy**
Telephone (office)	**+39 049 8277039**
Mobile	**+39 339 7979991**
E-mail	**alessandro.patelli@unipd.it**
Nationality	Italian
Date of birth	27TH MAY 1974

WORK EXPERIENCE

The working experience can be divided mainly in 3 periods.
During the first period (1999-2004) I worked for public research institutions. My activity focused on PVD magnetron sputtering technique, the correlation between the deposition parameters and the film growth at the nanoscale, and the use and implementation of various characterisation techniques. During this period, the research was mainly based at the Laboratori Nazionali di Legnaro / INFN (I) and in part was conducted at ESRF synchrotron radiation source (France).
During the second period (2004-2015) I worked in technology transfer centers at first at the Coordinamento InterUniversitario Veneto per le Nanotecnologie (CIVEN) and later on at Veneto Nanotech SCpA. The activity involved the management of the Plasma Technology Unit as well as the coordination of the applied research of the group. Due to private commitments and partnership with industries in different projects it has been possible to develop a wide range of processes and equipment that resulted in several successful proof-of-concepts. On the other hand, the activity in technology transfer required frequent interactions with other disciplines (e.g. biochemistry, polymers and sol-gel), allowing to create synergies and to suggest new research ideas. I've been coordinator of several National and Regional funded projects aiming at technology transfer. Moreover, I've increased my expertise in group leading, team leading, project management, marketing and relationship with customers.
During this second period the strong interaction with the industrial fields gave me the opportunity to set two start-up companies: Nadir Srl and Krystalia Srl. Till the beginning I focused more on Nadir srl (founded in 2008), that is commercialising atmospheric plasma devices and it still active.
In 2016 I'm back to the academic career at the University of Padova as a researcher (fixed-term letter B) at the Department of Physics and Astronomy in the Nanostructures group. My research activity is focused on the atmospheric pressure cold plasma devices and processes for surface treatment and deposition, in particular for nanofabrication.
In the last years, thanks to a European project FP7 that I have coordinated, I patented a plasma device that couples RF and HF frequencies in order to catch the best compromise between stability, efficacy and processing temperature. The novel plasma regime due to this coupling is under study since the resulting plasma is not just the overlap of the two sources: in particular HF streamers are blown out and a nearly glow RF plasma appears oscillating between the HF electrodes. The peculiarity of this plasma allows low temperature processing that found interesting application in thermal sensitive materials such as biopolymer or in the deposition of smart functional coating. The chemical precursors indeed can be introduced in the plasma not only in vapour phase but also by aerosols widening the coatings possibilities from nanocomposites to non-volatiles precursors. This improved process flexibility find application in the research of nanostructured surfaces for cells growth, activity supported also by the scientific coordination of a H2020 project on 3D printing of scaffolds for bone tissue regeneration. The nearly glow features of the plasma allows also the reactive etching of surface in order to produce nanostructures avoiding localised overheating, similar to vacuum processes. However, regards vacuum processes ions energies are low and the effects on the surfaces are mainly due to chemical reaction or to the electric fields or currents. In particular the last two effects can be used to induce in particular cases modifications below the surface.

Dates (from – to)	**FEBRUARY 2016 – ONWARDS**
Name and address of employer	**University of Padova**, Dept. Physics and Astronomy, via Marzolo 8, 35121 Padova, Italy – http://www.dfa.unipd.it
Type of business or sector	Education
Occupation or position held	Researcher, fixed-term letter B

Main activities and responsibilities	Teaching Research
Dates (from – to)	**APRIL 2008 – DECEMBER 2015**
Name and address of employer	**Nadir srl**, via F. Zugno 9, 35134 Padova, Italy – http://www.nadir-tech.it
Type of business or sector	Atmospheric plasma equipment (start-up company)
Occupation or position held	Chief Executive Officer (CEO)
Main activities and responsibilities	Management and coordination of employees' activities. Definition of the development strategies. Coordination of the technical development of the plasma torch Procurement of new projects and new customers. Marketing and administration Budget management Employee recruitment
Dates (from – to)	**JANUARY 2012 – DECEMBER 2015**
Name and address of employer	**Veneto Nanotech SCpA**, via delle Industrie 5, 30175 Venezia, Italy – http://www.venetonanotech.it
Type of business or sector	Research & Development / Technology Transfer
Occupation or position held	Vacuum Plasma Technology Unit Manager
Main activities and responsibilities	Coordination of the activities of 4 members of Vacuum Plasma Technology Unit. The equipment of the Unit is composed by 1 PVD and 2 PECVD all of about 1m^3 size chamber and 1 barrel PVD/PECVD coater for half liter powders. Definition of Vacuum Plasma Technology Unit strategy. Planning and coordination of the in-house research and committed research activity. Procurement of new projects and new customers. Proposals application for research projects for the regional, national and European funding. Collaborators recruitment. Evaluation of project ideas, proposals, or engineering data to determine feasibility, find and evaluate solutions, cost, or production time. Management of instrument working schedule and maintenance. Supervisor of several graduation theses. Responsible for Unit budget and expenses. ***Main private commitments involve the following sectors:*** *Decorative / Corrosion protection* (ex: Luxottica, Ferrari, Agusta Westland, Condevo, Carel, Luigi Da Via', Anodica Industries, …) *Tribology* (ex: Safilo, Avio, Selex, Campagnolo, Manetti Battiloro, Danieli, ENI Tecnomare, Alternor, …) *Medical device* (ex: Nuova Ompi, Telea, …) *Functional coatings* (ex: Faber, Franke, GVS, SIPA, Galileo, Ducati, Ronda, …) *Coatings on powders and fibers* (ex: De Nora, Alstom, BASF, Nuovi Gioielli, …) *Plastic moulding* (ex: Uniteam, Meccano Stampi, Luigi Da Via', …) *Packaging* (ex: Proplast, …)
Dates (from – to)	**JULY 2011 – FEBRUARY 2013**
Name and address of employer	**Krystalia srl** , via XIII Martiri n. 161, 30027 San Dona' di Piave, Italy – http://www.krystalia.it
Type of business or sector	Diamonds for cutting tools (Veneto Nanotech spin-off company)
Occupation or position held	Chief Technology Officer (CTO)
Main activities and responsibilities	Coordination of the R&D activities in vacuum plasma
Dates (from – to)	**NOVEMBER 2004 – DECEMBER 2011**
Name and address of employer	**CIVEN** (Coordinamento InterUniversitario Veneto per le Nanotecnologie), via delle Industrie 5, 30175 Venezia, Italy – http://www.civen.org
Type of business or sector	Research & Development / Technology Transfer
Occupation or position held	Senior Scientist / Vacuum Plasma Technology Unit Manager
Main activities and responsibilities	Coordination of the activities of the 4 members of Vacuum Plasma Technology Unit.

	Definition of the Vacuum Plasma Technology Unit strategy. Planning and coordination of the in-house research and committed research activity. Management of instrument schedule and maintenance. Supervisor of several graduation theses. Collaborators recruitment.
Dates (from – to)	**JANUARY 2006 – DECEMBER 2011**
Name and address of employer	**Veneto Nanotech SCpA**, via delle Industrie 5, 30175 Venezia, Italy – http://www.venetonanotech.it
Type of business or sector	Research & Development / Technology Transfer
Occupation or position held	Consultant in the technological transfer to industry and SMEs.
Main activities and responsibilities	Procurement of new projects and new customers. Proposals application for research projects for the regional, national and European funding. Collaborators recruitment. Analysis of project requests, proposals, or engineering data to determine feasibility, find and evaluate solutions, cost, or production time.
Consulting experiences	Transparent anti-scratch coatings for plastics Transparent and flexible gas barrier coatings for packaging and electronics Transparent anticorrosion coatings for jewellery, glasses industry and decorative surfaces Hard corrosion resistance coatings for mechanics Hard temperature resistant coatings for mechanics Optical coatings and antireflective coatings Moth eye structures on surfaces Anti-fingerprint coatings Functionalization of carboxylic or ammine groups for bio applications Self-lubricant coatings based on carbides and sulphides Photocatalytic coatings for self-cleaning or filtering applications Decorative coatings on metals and plastics Oxide coatings for electronics and photovoltaic
Dates (from – to)	**NOVEMBER 2010 – OCTOBER 2011**
Name and address of employer	**Università degli Studi di Padova**, Dipartimento di Scienza dei Materiali, Via Marzolo 1, 35131 Padova, Italy
Type of business or sector	Education
Occupation or position held	Lecturer at the Materials Science PhD School
Main activities and responsibilities	Course Title: “Plasmi debolmente ionizzati e rivestimenti nanostrutturati.“ (10 hours)
Dates (from – to)	**NOVEMBER 2008 – OCTOBER 2009**
Name and address of employer	**Università degli Studi di Padova**, Dipartimento di Scienza dei Materiali, Via Marzolo 1, 35131 Padova, Italy
Type of business or sector	Education
Occupation or position held	Lecturer at the Materials Science PhD School
Main activities and responsibilities	Course Title: “Sintesi di Film Sottili tramite tecnica di plasma in vuoto.“ (10 hours)
Dates (from – to)	**NOVEMBER 2004 – OCTOBER 2009**
Name and address of employer	**CIVEN**, (Coordinamento InterUniversitario Veneto per le Nanotecnologie), via delle Industrie 5, 30175 Venezia, Italy – http://www.civen.org
Type of business or sector	Education
Occupation or position held	Lecturer at the Interuniversity Master in Nanotechnologies (IMN)
Main activities and responsibilities	Course Title: “Proprietà meccaniche dei film sottili.“ (6 hours)
Dates (from – to)	**NOVEMBER 2003 – NOVEMBER 2004**
Name and address of employer	**Università degli Studi di Padova**, Dipartimento di Ingegneria dell’Informazione, via Gradenigo, 6/B, 35131 Padova
Type of business or sector	Research
Occupation or position held	Research Contract
Main activities and responsibilities	Development of multilayer optics for EUV and Sof X-ray radiation.

Dates (from – to)	**OCTOBER 2003 – OCTOBER 2004**
Name and address of employer	**Università degli Studi di Padova**, Dipartimento di Scienza dei Materiali, Via Marzolo 1, 35131 Padova, Italy
Type of business or sector	Education
Occupation or position held	Teaching Assistant (Cultore della Materia)
Main activities and responsibilities	Teaching Assistant in the course: "Physics of Materials – Module A: Synthesis of thin film with physical methods".
Dates (from – to)	**NOVEMBER 2002 – OCTOBER 2004**
Name and address of employer	**Università degli Studi di Padova**, Dipartimento di Scienza dei Materiali, Via Marzolo 1, 35131 Padova, Italy
Type of business or sector	Education
Occupation or position held	Lecturer at the Master course "Trattamenti di superficie per l'industria"
Main activities and responsibilities	Course Title: "Proprietà meccaniche dei film sottili." (6 hours)
Dates (from – to)	**APRIL 2000 – OCTOBER 2003**
Name and address of employer	**Università degli Studi di Padova**, Dipartimento di Ingegneria dell'Informazione, via Gradenigo, 6/B, 35131 Padova
Type of business or sector	Research
Occupation or position held	Research Fellowship (*Assegno di ricerca, art. 51, comma 6, della Legge 27 dicembre 1997, n. 449 e successive modificazioni*)
Main activities and responsibilities	Development of multilayer optics for EUV and Sof X-ray radiation in the frame of FIRB project "Tecnologie per specchi EUV".
Dates (from – to)	**APRIL 1999 – MARCH 2000**
Name and address of employer	**Istituto Nazionale di Fisica dei Materiali** (INFM), Università di Padova, Dipartimento di Fisica, via Marzolo, 8, 35131 Padova
Type of business or sector	Research
Occupation or position held	European Social Fund Fellowship
Main activities and responsibilities	Development of self-lubricant coatings via magnetron sputtering.
Dates (from – to)	**DECEMBER 1998 – MARCH 1999**
Name and address of employer	**Istituto Nazionale di Fisica Nucleare** (INFN), Laboratori Nazionali di Legnaro, viale dell'Università 2, 35020 Legnaro (PD)
Type of business or sector	Research
Occupation or position held	Fellowship for Master Thesis
Main activities and responsibilities	Characterization of Ti-MoS_2 coatings. (In collaboration with Teer Coatings Ltd.)

EDUCATION AND TRAINING

Dates (from – to)	**TORNATA 2012**
Name and type of organisation providing education and training	**Italian Ministry of Education, University and Research (MIUR)**
Principal subjects/occupational skills covered	FISICA SPERIMENTALE DELLA MATERIA (FIS 02/B1) 11/12/2013 – 11/12/2019 FISICA APPLICATA (FIS 02/B3) 27/12/2013 – 27/12/2019
Title of qualification awarded	Associate Professor National Scientific Qualification
Dates (from – to)	**APRIL 2004 – JULY 2004**
Name and type of organisation providing education and training	**European Synchrotron Radiation Facility (ESRF)**, CS 40220, 38043 Grenoble Cedex 9, France
Principal subjects/occupational skills covered	Refl-EXAFS measurement on multilayers for interface studies and analysis software development in Python.
Title of qualification awarded	Stage

Dates (from – to)	**APRIL 2000 – APRIL 2003**
Name and type of organisation providing education and training	**Università degli Studi di Catania**, Dipartimento di Scienza dei Materiali, Viale A. Doria 6, 95125 Catania, Italy
Principal subjects/occupational skills covered	Thesis Title: "Process related effects on a-Si/Mo and a-Si(H)/Mo EUV multilayer mirrors grown by RF-magnetron sputtering. " Magnetron sputtering deposition with angstrom layer thickness control, Study of the ion effect on layer nucleation and growth, TRIM and TRIDYN simulations, Sample characterization by RBS, NRA, ERDA, AFM, SEM – EDS, XRD, XRR. Python and BASIC programming. OES spectroscopy system with feedback implementation and programming. Design of magnetron sputtering systems and maintenance.
Title of qualification awarded	PhD in Material Science
Dates (from – to)	**SEPTEMBER 2001** (10 DAYS)
Name and type of organisation providing education and training	**Istituto Nazionale di Fisica dei Materiali** (INFM), Corso Ferdinando Maria Perrone, 24, 16152 Genova, Italy
Principal subjects/occupational skills covered	Participation to "National School of Materials Physics", focusing on quantum and non-linear optics and on low-dimensional transition phase systems.
Dates (from – to)	**MARCH 2001** (5 DAYS)
Name and type of organisation providing education and training	**Università degli Studi di Trento**, Strada alla Funivia 66 - 38123 Sardagna (TN), Italy
Principal subjects/occupational skills covered	Participation to Winter School on "Micro-optoelectronics: Materials, Devices and Integration".
Dates (from – to)	**OCTOBER 1993 – JULY 1999**
Name and type of organisation providing education and training	**Università degli Studi di Padova**, Dipartimento di Fisica, via Marzolo 8, 35131 Padova, Italy
Title of qualification awarded	Academic Master Degree in Physics (with honours) – 110/110 e lode

PARTICIPATION TO R&D PUBLIC FUNDED PROJECTS

In the Technology Transfer activity in CIVEN and Veneto Nanotech the **platform technology under my leadership** resulted in **funded projects** for contracts over **2.5 M€** and **direct private commitments** produced an income of 100 k€/year. In 2012-2014 I played a pivotal role as coordinator of an EU Cooperation project in FP7 "PANNA" (2011-2014) and now I am principal investigator of an EU RIA H2020 project "FAST" (2015-2019)

EUROPEAN PROJECTS

Dates (from – to)	**DECEMBER 2015 – NOVEMBER 2019**
Funding organisation	**EU Commission**
Call identifier	H2020 NMP-PILOTS 07
Title of the project	Functionally graded Additive Manufacturing scaffolds by hybrid manufacturing
Position held	Project Coordinator / Scientific Coordinator
Duration	48 months
Website	http://project-fast.eu/en/home
Project budget	4.917.125 €
Dates (from – to)	**NOVEMBER 2011 – OCTOBER 2014**
Funding organisation	**EU Commission**
Call identifier	EU FP7 ENV-NMP.2011.2.2-5
Title of the project	PANNA "Plasma And Nano for New Age "soft" conservation"
Position held	Project Coordinator
Duration	36 months
Website	http://www.panna-project.eu/
Total budget	2.800.000 €
Dates (from – to)	**JULY 2010 – JUNE 2013**

Funding organisation	**EU Commission**
Call identifier	EU COST Action
Title of the project	MP0804 'Highly Ionised Pulse Plasma Processes'
Position held	Italian Coordinator – Member of the steering committee
Duration	36 months
Website	http://hipp-cost.eu/en/welcome/
Unit budget	travels and an early stage researcher mission at the Uppsala University (S)

NATIONAL RESEARCH PROJECTS

Dates (from – to)	**March 2017 – February 2019**
Funding organisation	**Università degli Studi di Padova**
Call identifier	BIRD 2016 – Assegni di Ricerca
Title of the project	MagnetoPlasmonic Metamaterials for Ultrasensitive Label-Free BioSensing
Position held	Project Coordinator
Duration	24 months
Project budget	48.000 €

Dates (from – to)	**SEPTEMBER 2008 – AUGUST 2011**
Funding organisation	**Provincia Autonoma di Trento** - GP
Title of the project	"NAno on MIcro approach to a multispectral analytical system for protein assays (NAOMI)"
Position held	Team member / Veneto Nanotech
Duration	36 months
Unit budget	80.000 €

Funding organisation	**Italian Ministry of University and Research** (MIUR)
Call identifier	**FIRB** - RBNE01ABPB Bando 2001
Title of the project	Prototype for the nanofabrication of electronic chips and optoelectronic devices based on EUV lithography
Position held	Team member / Universita' degli Studi di Padova
Duration	36 months
Unit budget	65.000 €

Dates (from – to)	**MARCH 2000 – FEBRUARY 2003**
Funding organisation	**Italian Institute of Nuclear Physics** (INFN Gruppo V)
Title of the project	"ARCHItects of Mirrors for Euv Devices" (ARCHIMEDE)
Position held	Team member / LNL-INFN
Duration	36 months

APPLIED RESEARCH PROJECTS

Dates (from – to)	**JULY 2014 – JUNE 2015**
Funding organisation	**Regione del Veneto**
Call identifier	DGR n. 2054/2013 – POR 5.1.1
Title of the project	Product and processes development for the cleaning and protection of Cultural Heritage by atmospheric plasma
Position held	Project Coordinator
Duration	12 months
Nadir budget	100.000 €

Dates (from – to)	**SEPTEMBER 2014 – AUGUST 2017**
Funding organisation	**Italian Ministry of Economic Development** (MISE)
Call identifier	Industria 2015 – Made in Italy
Title of the project	MARS "Self-lubricating materials with high specific resistance for the "Made in Italy" automation
Position held	Team Leader - Veneto Nanotech
Project Main contractor	Penlab srl, Pandolfo Alluminio, Selex Finmeccanica, Biesse

Duration	36 months
Unit budget	100.000 €
Dates (from – to)	**DECEMBER 2012 – NOVEMBER 2013**
Funding organisation	**European Space Agency** (ESA)
Call identifier	ESA ITT AO/1-7137/12/NL/CP
Title of the project	Development of nano-structured cryogenic foam insulation
Position held	Team Leader - Veneto Nanotech
Project Main contractor	Alta Space SpA
Duration	12 months
Unit budget	65.000 €
Dates (from – to)	**JUNE 2012 – NOVEMBER 2013**
Funding organisation	**Regione del Veneto**
Call identifier	L.R. 18.05.2007, n.9
Title of the project	Plasma and nanotechnologies for the restoration of frescos
Position held	Team Leader - Veneto Nanotech
Project Main contractor	Lorenzon Costruzioni srl
Duration	18 months
Unit budget	55.000 €
Dates (from – to)	**SEPTEMBER 2011 – JULY 2014**
Funding organisation	**Italian Ministry of Economic Development** (MISE)
Call identifier	Industria 2015 – Made in Italy
Title of the project	HYBRID Multifunction extraction fans
Position held	Team Leader - Veneto Nanotech
Project Main contractor	Faber SpA
Duration	36 months
Unit budget	160.000 €
Dates (from – to)	**FEBRUARY 2012 – JANUARY 2015**
Funding organisation	**Italian Ministry of Economic Development** (MISE)
Call identifier	PON CONV FESR RICERCA E COMPETITIVITÀ
Title of the project	Technologies for the seismic protection and the promotion of Cultural Heritage assets
Position held	Team Leader - Veneto Nanotech
Project Main contractor	Stress scarl
Duration	36 months
Unit budget	600.000 €
Dates (from – to)	**DECEMBER 2010 – MAY 2012**
Funding organisation	**Regione del Veneto**
Call identifier	L.R. 18.05.2007, n.9
Title of the project	Development of an innovative atmospheric plasma microtorch
Position held	Project Coordinator
Project Main contractor	Nadir srl
Duration	18 months
Unit budget	50.000 €
Dates (from – to)	**FEBRUARY 2011 – AUGUST 2011**
Funding organisation	**Italian Space Agency** (ASI)
Call identifier	Nanotechnologies for the aerospace transport vehicles
Title of the project	Nanospace
Position held	Team Leader - Veneto Nanotech
Project Main contractor	D'Apollonia SpA
Duration	6 months

Unit budget	90.000 €
Dates (from – to)	**DECEMBER 2010 – NOVEMBER 2012**
Funding organisation	**Regione del Veneto**
Call identifier	L.R. 18.05.2007, n.9
Title of the project	Innovative materials in highly integrate systems for the plastic materials manufacturing
Position held	Team Leader - Veneto Nanotech
Project Main contractor	UniTeam srl
Duration	24 months
Unit budget	25.000 €
Dates (from – to)	**MARCH 2010 – FEBRUARY 2013**
Funding organisation	**Italian Ministry of University and Research** (MIUR)
Call identifier	L. 297/1999 DM38025
Title of the project	Study of nanostructured coatings by vacuum and cold-spray techniques for advanced mechanical application in the bicycle industry.
Position held	Team Leader - Veneto Nanotech
Project Main contractor	Campagnolo srl
Duration	36 months
Unit budget	300.000 €
Dates (from – to)	**MARCH 2010 – FEBRUARY 2013**
Funding organisation	**Italian Ministry of University and Research** (MIUR)
Call identifier	L. 297/1999 DM37844
Title of the project	Transparent and nanostructured innovative coatings
Position held	Team member - Veneto Nanotech
Project Main contractor	Nuova Ompi srl
Duration	36 months
Unit budget	100.000 €
Dates (from – to)	**DECEMBER 2010 – NOVEMBER 2012**
Funding organisation	**Regione del Veneto**
Call identifier	L.R. 18.05.2007, n.9
Title of the project	Development of innovative fiber reinforced concrete by the improvement of the fiber/matrix bond
Position held	Team member - Veneto Nanotech
Project Main contractor	BASF Construction Chemicals
Duration	24 months
Unit budget	80.000 €
Dates (from – to)	**FEBRUARY 2012 – JANUARY 2015**
Funding organisation	**Italian Ministry of Economic Development** (MISE)
Call identifier	PON CONV FESR RICERCA E COMPETITIVITÀ
Title of the project	"Laboratory on Repair" (LabRep)
Position held	Team member - Veneto Nanotech
Project Main contractor	Avio Aero – General Electrics Aviation
Duration	36 months
Unit budget	150.000 €

SUPERVISOR OF

Elena Cherubini, Bachelor of Arts: Materials Engineering (2014) – University of Padova
Giuditta Avesani, Bachelor of Arts: Biotechnology (2014) – University of Verona
Silvia Grigoletto, Master of Arts: Physics (2014) – University of Padova
Andrea Dona', Bachelor of Arts: Materials Engineering (2014) – University of Padova

Silvia Grigoletto, Master of Arts: Physics (2014) – University of Padova
Filippo D'Armellina, Master of Arts: Physics (2013) – University of Padova
Roberto Olivotto, Master of Arts: Materials Chemistry (2013) University of Venezia
Giulia Venturato, Bachelor of Arts: Materials Engineering (2013) – University of Padova
Francesca Mattiazzo, Master of Arts: Chemical Science for CH restoration (2013) – University of Venezia
Laura Teresin, Bachelor of Arts: Chemical Science for CH restoration (2013) – University of Venezia
Diego Giordani, Master of Arts: Physics (2012) – University of Padova
Giacomo Bettella, Master of Arts: Physics (2011) – University of Padova
Giovanni Santagiuliana, Master of Arts: Materials Science (2011) – University of Padova
Giulia Franceschin, Bachelor of Arts: Materials Engineering (2011) – University of Padova
Alberto Sabinot, Master of Arts: Aerospace Engineering (2010) – University of Padova
Enrico Menin, Bachelor of Arts: Materials Engineering (2009) – University of Padova
Mauro Ometto, Bachelor of Arts: Materials Engineering (2008) – University of Padova
Lorenzo Zottarel, Master of Arts: Materials Science (2006) – University of Venezia

COLLABORATORS

The management activity of the Vacuum Plasma Technology Unit in CIVEN and later in Veneto Nanotech included the possibility to coordinate the work of a group, on average, of 3 collaborators.

Dr. Simone Vezzu'	(2004 – 2006)
Dr. Francesco Enrichi	(2004 – 2005)
Dr. Stefano Costacurta	(2008 – 2010)
Lorenzo Zottarel	(2007 – 2013)
Marino Colasuonno	(2008 – 2014)
Dr. Alessandro Surpi	(2011 – 2012)
Dr Stefano Voltolina	(2011 – 2014)
Enrico Pontoglio	(2012 – 2014)
Dr. Winder Gonzalez	(2014 – 2015)

PATENTS

	Italian Patent n° 1384641
Date	30th December 2010
Authors	A. Patelli, S. Vezzù
Applicant	Veneto Nanotech SCpA
Title	Rivestimenti protettivi multistrato a composizione modulare e metodo di preparazione degli stessi
	Italian Patent n° 1390531
Date	1st September 2011
Authors	A. Patelli, S. Vezzù, P. Falcaro, S. Costacurta
Applicant	Veneto Nanotech SCpA
Title	Rivestimenti nanostrutturati con migliorate proprietà funzionali o meccaniche e metodo di preparazione degli stessi
	WO2015071746A1 / US9693441B2
Date	14 November 2013
Authors	A. Patelli, S. Vezzù, P. Scopece, E. Verga Falzacappa, R. Pierobon
Applicant	Nadir srl
Title	Method for generating an atmospheric plasma jet and atmospheric plasma minitorch device
	WO2016082949A1
Date	27 November 2014
Authors	R. Magarotto, F. Moratti, S. Moro, M. Colasuonno, A. Patelli, B.E. Barragan

Applicant	Construction Research & Technology GmbH
Title	Surface-modified polyolefin fibers

AWARDS

Competition Type	**Business Plan Competition**
Date	November 2010
Competition Name	NanoChallenge
Awards	1st prize 300.000 euros
Team	Krystalia
Business Plan Topic	Vacuum plasma coatings on diamonds for cutting tools.

Competition Type	**Business Plan Competition**
Date	September 2007
Competition Name	Start Cup Veneto
Awards	1st prize 10.000 euros
Team	NADIR
Business Plan Topic	Innovative sensor for DNA arrays.

ASSOCIATIONS MEMBER

Date	**DECEMBER 1998 – NOVEMBER 2004**
Association name Name	National Institute of Nuclear Physics (INFN)
Date	**DECEMBER 1999 – NOVEMBER 2004**
Association name Name	National Institute of Materials Physics (INFM)
Date	**JANUARY 2009 – DECEMBER 2014**
Association name Name	Italian Vacuum Association (AIV)
Date	**JANUARY 2009 – DECEMBER 2013**
Association name Name	Virtual Institute of NanoFilms (VINF) http://vinf.eu

INTERNATIONAL CONFERENCES ORGANISATION

9 – 14 June 2019	Member of the Local Organizing Committee	"24th International Symposium on Plasma Chemistry", Napoli (I)
1 – 5 July 2018	Member of the Local Organizing Committee	"ISNTP 11 - International Symposium on non-thermal/thermal plasma pollution control technology & sustainable energy", Montegrotto Terme (I)
16 – 18 May 2018	Member of the Technical Program Committee	"Florence Heri-tech", Palazzo dei Congressi – Villa Vittoria, Firenze (I)
12 – 16 September 2016	Session Chairman	Session "Atmospheric and in-liquid plasmas" at the 15th International Conference on Plasma Surface Engineering, Garmisch (D),
June 2012	Member of the Scientific Committee and Session Chairman	Session D of the Conference: "European Conference on NanoFilms 2012 (ECNF 2)", Ancona (I)

INVITED TALKS

27 February 2017 Graz University of Technology (A)	**Invited presentation** "Atmospheric plasma as a new tool for micro/nano fabrication", Simposium "Structuralization, characterization and facilitating technologies for porous materials",
26-30 September 2016 Padova (I)	**Invited presentation** "Atmospheric Pressure Plasma Jet: a cleaning tool for cultural heritage: results and perspectives", 102° Congresso Nazionale Societa' Italiana di Fisica,
19 March 2015 Jena (D)	**Invited presentation** "Atmospheric plasma treatments with a very cold plasma jet for industrial applications: from joining dissimilar materials up to photocatalytic coatings" at Workshop des ak-adp "Oberflächentechnik für die Praxis" – Fokus: Kombination von AD-Plasmatechnologien mit anderen Verfahren,
15 September 2014 Garmisch (D)	**Keynote Lecture** "Atmospheric pressure plasma jet as a cleaning tool for cultural heritage: results and perspectives" at the conference Plasma Surface Engineering 2014 (PSE 2014),
12 November 2014 Firenze (I)	**Invited presentation** "EU project PANNA: Project and "Full-life protocol" at IMAT FP7 Project Final Conference,
17 October 2014 Venezia (I)	**Invited presentation** "EU project PANNA: Project and "Full-life protocol" at NANOMATCH FP7 Project Final Conference,
19 February 2014 Brussels (B)	**Invited** at the Workshop/Final Event of the FP7 EU project **NANOINDENT+** as **expert referee**, CENELEC
14 September 2011 Montpellier (F)	**Highlighted presentation** "Synthesis and characterization of TiC nanocomposite using DC and High Power Pulse magnetron sputtering" at the conference "European Congress and Exhibition on Advanced Materials and Processes (EUROMAT 2011)"
5-8 September 2010 Bressanone (I)	**Invited presentation** "Nanotechnologies for Surface Engineering" at the VII Convegno Nazionale dell'Associazione Italiana Chimica dell'Ingegneria - AICIng 2010

UNIVERSITY SEMINARS

13/12/2017	"Atmospheric plasma as a new tool for micro/nanofabrication", Universita' di Trento, Dipartimento di Ingegneria Industriale
30/6/2016	"Atmospheric Pressure Plasma Jet: a cleaning tool for cultural heritage: results and perspectives" University of Antwerp
30/4/2016	"A novel tool for nanostructuring" CNR-ISMAC (Istituto per le macromolecole) Milan
14/12/2014	"Atmospheric Plasma Jets as a Cleaning Tool for Cultural Heritage: results and perspectives" Department of Industrial Engineering and Industrial, Research Centre for Advanced Mechanics and Materials, Alma Mater Studiorum - Università di Bologna

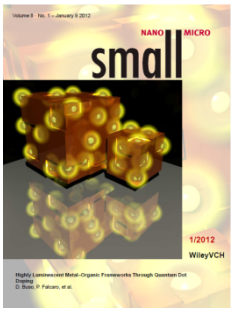
IN THE MEDIA

Radio Interview Radio Rai 1 16/09/2012	Interview on the EU FP7 PANNA project in the radio programme "Eta Beta" with Massimo Cerofolini as anchorperson. Title of the episode: "Nanotecnologie, al centro della Conferenza mondiale sulle scienze"
ESRF News Dec 2014 Page 15	"X-rays show first photos in new light" About at the ESRF's ID13 beamline has revealed chemical processes that take place in daguerreotype photos, helping conservators preserve and enhance these unique artefacts.

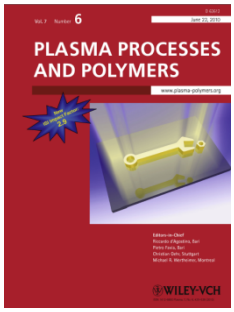
ORAL PRESENTATIONS AT INTERNATIONAL CONFERENCES

ISNTP 11 - International Symposium on non-thermal/thermal plasma pollution control technology & sustainable energy Montegrotto Terme (I) 4/7/2018	Surface functionalisation, nanoroughness and drug delivery by atmospheric plasma jet on 3D printed scaffolds
BioM&M -The First International Conference on Materials, Mimicking, Manufacturing from and for Bio Application Milan (I) 28/6/2018	Surface functionalisation, nanoroughness and drug delivery by atmospheric plasma jet on 3D printed scaffolds
Florence Heri-tech Firenze (I) 18/5/2018	Atmospheric pressure plasma jet as a cleaning tool for cultural heritage: results and perspectives
3rd NanoBio Surfaces and Interfaces in Healthcare and Science Workshop EPFL, Lausanne, Switzerland 8/5/2018	Surface functionalisation, nanoroughness and drug delivery by atmospheric plasma jet on 3D printed scaffolds
6rd International Conference on HIPIMS Braunschweig (D) 10/6/2015	TiCN(H) nano-composites deposited by two gases reactive HiPIMS
19th International Vacuum Conference Paris (F) 9/9/2013	Syntheses and characterization of TiC nanocomposite using DC and HiPIMS magnetron sputtering
International Conference on Cultural Heritage and Digital Libraries Lemessos (Cyprus) 2/11/2012	PANNA Project - Plasma and Nano for New Age Soft Conservation. Development of a Full-Life Protocol for the Conservation of Cultural
13th International Conference on Plasma Surface Engineering Garmisch-Partenkirchen (D) 12/9/2012	TiC nanocomposite differences between HiPIMS and DCMS
3rd International Conference on HIPIMS Sheffield (UK) 20/6/2012	ZrSiN coatings deposited by HiPIMS for hard coating corrosion protection on aluminum
2nd European Conference on NanoFilms Ancona (I) 19/6/2012	PECVD SiOx-based multilayer water barrier coatings on PLA
36th International Conference on Metallurgical Coatings and Thin Films San Diego (USA) 28/4/2009	Nano Multilayer Transparent SiOx-Based PECVD Coatings for Barrier and Protective Applications
11th International Conference on Plasma Surface Engineering Garmisch-Partenkirchen (D) 18/9/2008	SiOx-based multilayer barrier coatings produced by a single PECVD process

COVERS



Cover Picture of Small - July 8, 2013, Volume 9, Issue 13, Pages 2201–2367
Microfabrication: Simultaneous Microfabrication and Tuning of the Permselective Properties in Microporous Polymers Using X-ray Lithography (Small 13/2013) (page 2201)
Sang Hoon Han, Cara M. Doherty, Benedetta Marmiroli, Hye Jin Jo, Dario Buso, Alessandro Patelli, Piero Schiavuta, Plinio Innocenzi, Young Moo Lee, Aaron W. Thornton, Anita J. Hill and Paolo Falcaro



Cover Picture of Plasma Processes and Polymers – June 22, 2010, Volume 7, Issue 6, Pages 427-526
Plasma Process. Polym. 6/2010
Stefano Costacurta, Luca Malfatti, Alessandro Patelli, Paolo Falcaro, Heinz Amenitsch, Benedetta Marmiroli, Gianluca Grenci, Massimo Piccinini and Plinio Innocenzi

EDITOR'S CHOICE

"Reclaiming the image of daguerreotypes: Characterization of the corroded surface before and after atmospheric plasma treatment" by Eva Grieten et al. published in **Journal of Cultural Heritage**, Volume 28, 2017, Pages 56-64, ISSN 1296 2074, https://doi.org/10.1016/j.culher.2017.05.008

ACADEMIC COMMITTEES

2017-2020	**Member** of the "Commissione per il Presidio della Qualita' della Terza Missione" - University of Padova
2018-2019	**Member** of the Collegio dei Docenti del corso di Dottorato in Scienza ed Ingegneria dei Materiali
2016-2018	**Member** of the "Gruppo di lavoro per il Trasferimento Tecnologico e il Job Placement" – Dept. Physics and Astronomy - University of Padova

PHD FINAL EXAM / EXTERNAL MEMBER

4/5/2018	XXX ciclo / Dottorato in Meccanica e Scienza Avanzate dell'Ingegneria – **Universita' di Bologna** (PhD Candidates E. Simoncelli, S. Vichi, E. Traldi, P. Battistoni)
5/12/2017	XXX ciclo / PhD in Complex System for Life Sciences – **Universita' di Torino** (PhD Candidate E. Quaglia)
30/6/2016	PhD in Conservation and restoration - **Universiteit Antwerpen** (PhD Candidate E. Grieten)

BIBLIOGRAPHIC OVERVIEW

	Results obtained using Scopus in date February 13th, 2017
Author ID: Patelli, A.	Indexed articles: 64 h-index: 15 Total citations: 647

Source titles (IF 2016 scopus)

Source	Documents	citing score	percentile	SJR	SNIP
Nature Communications	1	11.8	97	6.399	2.995
Chemistry Of Materials	2	8.89	99	4.114	1.905
Small	1	8.11	98	3.324	1.505
ACS Applied Materials And Interfaces	1	7.60	95	2.524	1.528
Analytical Chemistry	1	6.08	92	2.255	1.491
Earth And Planetary Science Letters	1	4.53	98	3.171	1.558
Crystal Growth And Design	1	4.00	93	1.167	1.234
Applied Surface Science	3	3.37	92	0.951	1.225
Applied Clay Science	1	3.37	93	0.892	1.449
Spectrochimica Acta Part B Atomic Spectroscopy	1	3.23	94	1.108	1.389
Wear	1	3.00	89	1.558	2.071
Colloids And Surfaces A Physicochemical And Engineering Aspects	1	2.93	57	0.797	1.104
Applied Geochemistry	1	2.76	80	1.019	1.329
Plasma Processes And Polymers	3	2.69	84	0.869	1.044
Surface And Coatings Technology	9	2.56	84	0.874	1.359
Journal Of Contaminant Hydrology	1	2.26	85	0.982	1.065
Journal Of Cultural Heritage	2	2.09	99	0.548	1.458
Plasma Sources Science And Technology	1	1.93	71	0.708	0.882
Thin Solid Films	3	1.83	81	0.64	0.897
Journal Of Electron Spectroscopy And Related Phenomena	1	1.72	68	0.962	0.837
Vacuum	1	1.67	73	0.556	1.053
Applied Optics	1	1.61	64	0.633	1.095
Journal Of Sol Gel Science And Technology	1	1.53	74	0.472	0.671
Applied Physics A Materials Science And Processing	1	1.52	61	0.509	0.756
Science Of Advanced Materials	1	1.51	61	0.364	0.451
Physics And Chemistry Of The Earth	2	1.30	58	0.378	0.793
Nuclear Instruments And Methods In Physics Research Section B	4	1.22	59	0.691	0.906
Surface And Interface Analysis	1	1.19	56	0.439	0.661
Lecture Notes In Computer Science	1	0.67	42	0.315	0.552
Proceedings Of SPIE The International Society For Optical Engineering	4	0.42	27	0.228	0.384
Aip Conference Proceedings	2	0.21	8	0.163	0.236
Materials Research Society Symposium Proceedings	6	0.13	13	0.138	0.078
Computational And Experimental Methods	1				
Proceedings International Symposium On Advanced Packaging Materials	1				
Proceedings Of The 10th International Conference Of The European Society For Precision Engineering And Nanotechnology Euspen 2010	1				

Subject Area

Physics and Astronomy	41
Materials Science	39
Engineering	15
Chemistry	13
Earth and Planetary Sciences	6
Computer Science	4
Mathematics	4
Biochemistry, Genetics and Molecular Biology	2
Environmental Science	2
Chemical Engineering	1
Arts and Humanities	1
Social Sciences	1

PERSONAL SKILLS AND COMPETENCES

MOTHER TONGUE | **ITALIAN**

OTHER LANGUAGES

	ENGLISH	**FRENCH**	**SPANISH**
Reading skills	Excellent	Excellent	Good
Writing skills	Good	Good	Basic
Verbal skills	Good	Good	Basic

SOCIAL SKILLS AND COMPETENCES

Very good interpersonal skills, experience in team workingt. I've participated to the scouts from 12 up to 20 years old and then I continued as an educator up to 29 years old at the local, regional and national level, participating also to the formation and training events. I experienced the participation as volunteer also in an Italian ONG "Manitese" for raise funding for cooperation projects in developing countries from 30 up to 36 years old. From age of 24 I'm also rescuer and driver as volunteer of ambulance emergency support "Croce Verde" in Padova.
I had practiced also sports; in particular for more than 8 years I've practiced rowing in single and double sculls.

ORGANISATIONAL SKILLS AND COMPETENCES

I have a long experience in team organisation derived by personal and working experience, from young scouts to volunteers to students up to researchers and now also employees and national and European project teams. I think that in order to have a successful result all the elements of the team must have a role and have to feel their importance, growth and satisfaction.

TECHNICAL SKILLS AND COMPETENCES

Linux, Windows, OS X operating systems and programs. Python, Fortran and Basic programming. Good knowledge of MS Office package, MS Project, data analysis and graphing software (Origin, Statistic), image analysis (Image J, SPIP), nuclear reaction analyses software, XRD patterns and spectra analyses, XPS analysis, EXAFS analysis, AutoCAD, TRIM, SRIM, TRIDYN and project management application (Ganttproject).
Vacuum equipment in particular PVD and PECVD equipment, system design and maintenance.
Vacuum plasma depositions, atmospheric plasma systems and deposition.
Characterization: Nanoindentation, microscratch, pin-on-disc, RBS, ERDA, NRA, XRD, XRR, EXAFS, XPS, Raman, FT-IR, Ellipsometry, UV-VIS spectroscopy, AFM, GDA, Optical and stylus profilometry, Salt Fog.

ARTISTIC SKILLS AND COMPETENCES

I played the guitar, and I like drawing and acquarello. I like also gardening.

DRIVING LICENCE(S)

Motorbike and car

ANNEXES

LIST OF PUBLICATIONS IN INTERNATIONAL JOURNALS

LIST OF PUBLICATIONS IN INTERNATIONAL JOURNALS

1. Patelli A, Verga Falzacappa E, Nodari L, Petrillo SM, Delva A, Ugo P, Scopece P (2018), A customised atmospheric pressure plasma jet for conservation requirements, **IOP Conference Series: Materials Science and Engineering**, *accepted*
2. Sanchez-Lopez JC, Dominguez-Meister S, Rojas TC, Colasuonno M, Bazzan M, Patelli A, Tribological properties of TiC/a-C:H nanocomposite coatings prepared via HiPIMS (2018), **Applied Surface Science** vol. 440, pp. 458-466, doi: 10.1016/j.apsusc.2018.01.135
3. Schalm O, Storme P, Gambirasi A, Favaro M, Patelli A, How effective are reducing plasma afterglows at atmospheric pressure in removing sulphide layers: Application on tarnished silver, sterling silver and copper (2018), **Surface and Interface Analysis**, vol. 50(1), pp. 32-42, doi: 10.1002/sia.6329
4. Mussano F, Genova T, Verga Falzacappa E, Scopece P, Munaron L, Rivolo P, Mandracci P, Benedetti A, Carossa S, Patelli A, In vitro characterization of two different atmospheric plasma jet chemical functionalizations of titanium surfaces (2017), **Applied Surface Science**, vol. 409, pp. 314–324 ISSN 01694332, doi: 10.1016/j.apsusc.2017.02.035
5. Grieten E, Schalm O, Tack P, Bauters S, Storme P, Gauquelin N, Caen J, Patelli A, Vincze L, Schryvers D, Reclaiming the image of daguerreotypes: Characterization of the corroded surface before and after atmospheric plasma treatment (2017), **Journal of Cultural Heritage**, vol. 28, pp. 56-64 , ISSN 12962074, doi: 10.1016/j.culher.2017.05.008
6. Voltolina S, Nodari L, Aibéo C, Egel E, Pamplona M, Simon S, Verga Falzacappa E, Scopece P, Gambirasi A, Favaro M, Patelli A, Assessment of plasma torches as innovative tool for cleaning of historical stone materials (2016), **Journal of Cultural Heritage**, vol. 22, pp 940–950, ISSN 12962074, doi: 1016/j.culher.2016.05.001
7. Spagnolo S, Zuin M, Cavazzana R, Martines E, Patelli A, Spolaore M, Colasuonno M, Characterization of electromagnetic fluctuations in a HiPIMS plasma (2016), **Plasma Sources Science and Technology**, vol. 25:065016, 11pp, 27 October 2016, ISSN 09630252, doi: 10.1088/0963-0252/25/6/065016
8. Schalm O, Crabbe A, Storme P, Wiesinger R, Gambirasi A, Grieten E, Tack P., Bauters S., Kleber C, Favaro M, Schryvers D, Vincze L, Terryn H, Patelli A, The corrosion process of sterling silver exposed to a Na2S solution: monitoring and characterizing the complex surface evolution using a multi-analytical approach (2016), **Applied Physics A**, vol. 122:903, 16pp, 20 September 2016, ISSN 09478396, doi: 10.1007/s00339-016-0436-6
9. Beggio A, Fantin M, Scopece P, Surpi A, Patelli A, Benedetti A, Cristofori D, Enrichi F, Incorporation of Eu–Tb codoped nanophosphors in silica-based coatings assisted by atmospheric pressure plasma jet technology (2015), **Thin Solid Films**, vol. 578, 2 March 2015, pp. 38-44, ISSN 0040-6090, doi:10.1016/j.tsf.2015.02.014
10. Alonso U, Missana T, Patelli A, Ceccato D, Garcia-Gutierrez M, Rigato V, Se(IV) uptake by Äspö diorite: Micro-scale distribution (2014), **Applied Geochemistry**, vol. 49, pp. 87-94, ISSN 0883-2927, doi: 10.1016/j.apgeochem.2014.06.013
11. Falcaro P, Trinchi A, Doherty C, Buso D, Costacurta S, Hill A J, Patelli A, Scopece P, Marmiroli B, Amenistch H, Lasio B, Pinna A, Innocenzi P, Malfatti L (2014) 3D Spatially Controlled Chemical Functionalization on Alumina Membranes, **Science of Advanced Materials**, VOL. 6 (7), pp. 1520-1524(5), ISSN 1947-2935, doi: 10.1166/sam.2014.1841
12. Surpi A, Kubart T, Giordani D, Tosello M, Mattei G, Colasuonno M, Patelli A (2013) HiPIMS deposition of TiOx in an industrial-scale apparatus: Effects of target size and deposition geometry on hysteresis. **SURFACE AND COATINGS TECHNOLOGY**, vol. 235, p. 714-719, ISSN: 0257-8972, doi: 10.1016/j.surfcoat.2013.08.053
13. Han S H, Doherty C M, Marmiroli B, Jo H J, Buso D, Patelli A, Schiavuta P, Innocenzi P, Lee Y M, Thornton A W, Hill A J and Falcaro P (2013) Simultaneous Microfabrication and Tuning of the Permselective Properties in Microporous Polymers Using X-ray Lithography. **SMALL**, vol. 9 (13), p. 2277-2282, ISSN: 1613-6810, doi: 10.1002/smll.201202735
14. Scopece P, Maistro G, Patelli A, Meneghetti M, Vascotto V, Schiavuta P, Pierobon R. (2013) A new combined process based on MWCNT spray deposition and atmospheric pressure plasma jet fixing for large scale production of transparent and flexible conductive coatings. **ADVANCED PACKAGING MATERIALS (APM), 2013 IEEE International Symposium** on, p 258-273, ISSN: 1550-5723, doi: 10.1109/ISAPM.2013.6510410
15. Rech S, Surpi A, Vezzù S, Patelli A, Trentin A, Glor J, Frodelius J, Hultman L, Eklund P (2013) Cold-spray deposition of Ti_2AlC coatings. **VACUUM**, vol. 94, p. 69-73, ISSN: 0042-207X, doi: 10.1016/j.vacuum.2013.01.023
16. Alonso U, Missana T, Garcia-Gutierrez M, Patelli A, Rigato V, Ceccato D Ion beam analyses of radionuclide migration in heterogeneous rocks, **AIP Conference Proceedings**, 1530, 87-94 (2013), doi: 10.1063/1.4812909
17. Alonso U, Missana T, Garcia-Gutierrez M, Rojo H, Patelli A, Rigato V, Ceccato D (2012) Characterisation of concrete, mortar and calcium silicate hydrated phases (CSH) and thorium retention analyses by ion beam techniques. **MRS Proceedings**, 1475, imrc11-1475-nw35-p52, doi:10.1557/opl.2012.599.
18. Patelli A, Favaro M, Simon S, Storme P, Scopece P, Kamenova V., Kamenarov Z, Lorenzon A, De Voeght F (2012) PANNA Project – Plasma and Nano for New Age Soft Conservation. Development of a Full-Life Protocol for the Conservation of Cultural Heritage. Progress in Cultural Heritage Preservation. **Lecture Notes in Computer Science**, Volume 7616 pp. 793-800
19. Costacurta S, Falcaro P, Vezzu S, Colasuonno M, Scopece P, Zanchetta E, Guglielmi M, Patelli A (2011). Fabrication of functional nanostructured coatings by a combined sol-gel and plasma-enhanced chemical vapour deposition method. **JOURNAL OF SOL-GEL SCIENCE AND TECHNOLOGY**, vol. 60, p. 340-346, ISSN: 0928-0707, doi: 10.1007/s10971-011-2573-x
20. Buso D, Hill A J, Colson T, Whitfield H ., Patelli A, Scopece P, Doherty C M, Falcaro P (2011). Complete Characterization of alpha-Hopeite Microparticles: An Ideal Nucleation Seed for Metal Organic Frameworks. **CRYSTAL GROWTH & DESIGN**, vol. 11, p. 5268-5274, ISSN: 1528-7483, doi: 10.1021/cg200717a
21. Carta D, Villanova L, Costacurta S, Patelli A, Poli I, Vezzu S, Scopece P, Lisi F, Smith-Miles K, Hyndman R J, Hill A J, Falcaro P (2011). Method for Optimizing Coating Properties Based on an Evolutionary Algorithm Approach. **ANALYTICAL CHEMISTRY**, vol. 83, p. 6373-6380, ISSN: 0003-2700, doi: 10.1021/ac201337e
22. Marinello F, Schiavuta P, Vezzu S, Patelli A, Carmignato S, Savio E (2011). Atomic force acoustic microscopy for quantitative nanomechanical characterization. **WEAR**, vol. 271, p. 534-538, ISSN: 0043-1648, doi: 10.1016/j.wear.2010.03.032
23. Falcaro P, Hill A J, Nairn K M, Jasieniak J, Mardel J I, Bastow T., Mayo S C, Gimona M, Gomez D, Whitfield H J, Ricco R, Patelli A, Marmiroli B, Amenitsch H, Colson T, Villanova L, Buso D (2011). A new method to position and functionalize metal-organic framework crystals. **NATURE COMMUNICATIONS**, vol. 2, ISSN: 2041-1723, doi: 10.1038/ncomms1234

24. Falcaro P, Costacurta S, Malfatti L, Buso D, Patelli A, Schiavuta P, Piccinini M, Grenci G, Marmiroli B, Amenitsch H, Innocenzi P (2011). Chemical Tailoring of Hybrid Sol-Gel Thick Coatings As Hosting Matrix for Functional Patterned Microstructures. **ACS APPLIED MATERIALS & INTERFACES**, vol. 3, p. 245-251, ISSN: 1944-8244, doi: 10.1021/am100901m
25. Alonso U, Missana T, Garcia-Gutierrez M, Patelli A, Albarran N, Rigato V (2011). Colloid diffusion coefficients in compacted and consolidated clay barriers: Compaction density and colloid size effects. **PHYSICS AND CHEMISTRY OF THE EARTH**, vol. 36, p. 1700-1707, ISSN: 1474-7065, doi: 10.1016/j.pce.2011.10.017
26. Costacurta S, Malfatti L, Patelli A, Falcaro P, Amenitsch H, Marmiroli B, Grenci G, Piccinini M, Innocenzi P (2010). Deep X-ray Lithography for Direct Patterning of PECVD Films. **PLASMA PROCESSES AND POLYMERS**, vol. 7, p. 459-465, ISSN: 1612-8850, doi: 10.1002/ppap.200900147
27. Alonso U, Missana T, Patelli A, Ceccato D, Albarran N, Garcia-Gutierrez M, Lopez-Torrubia T, Rigato V (2009). Quantification of Au nanoparticles retention on a heterogeneous rock surface. **COLLOIDS AND SURFACES. A, PHYSICOCHEMICAL AND ENGINEERING ASPECTS**, vol. 347, p. 230-238, ISSN: 0927-7757, doi: 10.1016/j.colsurfa.2009.04.046
28. Alonso U, Missana T, Garcia-Gutierrez M, Patelli A, Siitari-Kauppi M, Rigato V (2009). Diffusion coefficient measurements in consolidated clay by RBS micro-scale profiling. **APPLIED CLAY SCIENCE**, vol. 43, p. 477-484, ISSN: 0169-1317, doi: 10.1016/j.clay.2008.12.005
29. Patelli A, Vezzu S, Zottarel L, Menin E, Sada C, Martucci A, Costacurta S (2009). SiOx-Based Multilayer Barrier Coatings Produced by a Single PECVD Process. **PLASMA PROCESSES AND POLYMERS**, vol. 6, p. S665-S670, ISSN: 1612-8850, doi: 10.1002/ppap.200931703
30. Scopece P, Viaro A, Sulcis R, Kulyk I, Patelli A, Guglielmi M (2009). SiOx-Based Gas Barrier Coatings for Polymer Substrates by Atmospheric Pressure Plasma Jet Deposition. **PLASMA PROCESSES AND POLYMERS**, vol. 6, p. S705-S710, ISSN: 1612-8850, doi: 10.1002/ppap.200931707
31. Alonso U, Missana T, Garcia-Gutierrez M, Patelli A, Ceccato D, Rigato V (2009). RBS and mu PIXE study of I and Cs heterogeneous retention on concrete. **MATERIALS RESEARCH SOCIETY SYMPOSIA PROCEEDINGS**, vol. 1124, p. 339-344, ISSN: 0272-9172
32. Alonso U, Missana T, García-Gutiérrez M, Patelli A, Albarran N, Lopez-Torrubia T, Ceccato D, Rigato V (2009). Characterisation of granite fractures from the in-situ FEBEX experiment (Grimsel, Switzerland): possible effects on bentonite colloid and radionuclide transport. **MATERIALS RESEARCH SOCIETY SYMPOSIA PROCEEDINGS**, vol. 1193, p. 561-569, ISSN: 0272-9172, doi: http://dx.doi.org/10.1557/PROC-1193-561
33. Alonso U, Missana T, Patelli A, Rigato V, Ravagnan J (2007). Colloid diffusion in crystalline rock: An experimental methodology to measure diffusion coefficients and evaluate colloid size dependence. **EARTH AND PLANETARY SCIENCE LETTERS**, vol. 259, p. 372-383, ISSN: 0012-821X, doi: 10.1016/j.epsl.2007.04.042
34. Cinque G, Grilli A, Cibin G, Raco A, Patelli A, Mattarello V, Marcelli A, Rigato V (2007). Preliminary synchrotron radiation characterization of first multilayer mirrors for the soft X-ray water window. S**PECTROCHIMICA ACTA, PART B: ATOMIC SPECTROSCOPY**, vol. 62, p. 586-592, ISSN: 0584-8547, doi: 10.1016/j.sab.2007.03.028
35. Alonso U, Missana T, Patelli A, Rigato V (2007). Bentonite colloid diffusion through the host rock of a deep geological repository. **PHYSICS AND CHEMISTRY OF THE EARTH**, vol. 32, p. 469-476, ISSN: 1474-7065, doi: 10.1016/j.pce.2006.04.021
36. Leskinen A, Penttinen L, Siitari-Kauppi M, Alanso U, Garcia-Gutierrez M, Missana T, Patelli A (2007). Determination of granites' mineral specific porosities by PMMA method and FESEM/EDAX. **MATERIALS RESEARCH SOCIETY SYMPOSIA PROCEEDINGS**, vol. 985, p. 599-604, ISSN: 0272-9172
37. Cinque G, Raco A, Frani A, Grilli A, Marcelli A, Mattarello V, Patelli A, Rigato V, Cibin G (2007). A vacuum soft X-ray reflectometer for the characterization of multilayer mirrors by synchrotron radiation at DAPhNE. **AIP CONFERENCE PROCEEDINGS**, vol. 879, p. 575-578, ISSN: 0094-243X
38. Rovezzi M, D'Acapito F, Patelli A, Rigato V, Salmaso G, Bontempi E, Davoli I (2006). Characterization of thermally treated Mo/Si multilayer mirrors with standing wave-assisted EXAFS. **NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH. SECTION B, BEAM INTERACTIONS WITH MATERIALS AND ATOMS**, vol. 246, p. 127-130, ISSN: 0168-583X, doi: 10.1016/j.nimb.2005.12.023
39. Patelli A, Rigato V, Salmaso G, Carvalho N J M, De Hosson J Th M, Bontempi E, Depero L E (2006). Ion bombardment effects on nucleation of sputtered Mo nano-crystals in Mo/B4C/Si multilayers. **SURFACE & COATINGS TECHNOLOGY**, vol. 201, p. 143-147, ISSN: 0257-8972, doi: 10.1016/j.surfcoat.2005.11.072
40. Patelli A, Alonso U, Rigato V, Missana T, Restello S (2006). Validation of the RBS analysis for colloid migration through a rough granite surface. **NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH. SECTION B, BEAM INTERACTIONS WITH MATERIALS AND ATOMS**, vol. 249, p. 575-578, ISSN: 0168-583X, doi: 10.1016/j.nimb.2006.03.058
41. Vezzu S, Patelli A, Enrichi F, Da Corta G, Fullin L, Barbante C (2006). Occhio al rivestimento. **TRATTAMENTI & FINITURE**, ISSN: 0041-1833
42. Della Mea G, Patelli A, Restello S, Rigato V, Vomiero A (2005). N-14(alpha,p)O-17 nuclear reaction cross-section at 4.9-6.1 MeV. **NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH. SECTION B, BEAM INTERACTIONS WITH MATERIALS AND ATOMS**, vol. 240, p. 803-809, ISSN: 0168-583X, doi: 10.1016/j.nimb.2005.06.213
43. Maggioni G, Quaranta A, Carturan S, Patelli A, Tonezzer M, Ceccato R, Della Mea G (2005). Deposition of copper phthalocyanine films by glow discharge-induced sublimation for gas sensing applications. **SURFACE & COATINGS TECHNOLOGY**, vol. 200, p. 476-480, ISSN: 0257-8972, doi: 10.1016/j.surfcoat.2005.02.052
44. Nicolosi P, Garoli D, Pelizzo MG, Rigato V, Patelli A, Rigato F (2005). VUV reflectance measurements and optical constants of SiC thin films. **JOURNAL OF ELECTRON SPECTROSCOPY AND RELATED PHENOMENA**, vol. 144, p. 987-992, ISSN: 0368-2048, doi: 10.1016/j.elspec.2005.01.248
45. Maggioni G, Quaranta A, Carturan S, Patelli A, Tonezzer M, Ceccato R, Della Mea G (2005). Deposition of copper phthalocyanine films by glow-discharge-induced sublimation. **CHEMISTRY OF MATERIALS**, vol. 17, p. 1895-1904, ISSN: 0897-4756, doi: 10.1021/cm0487122
46. Patelli A, Ravagnan J, Rigato V, Salmaso G, Silvestrini D, Bontempi E, Depero LE (2004). Structure and interface properties of Mo/B4C/Si multilayers deposited by rf-magnetron sputtering. **APPLIED SURFACE SCIENCE**, vol. 238, p. 262-268, ISSN: 0169-4332, doi: 10.1016/j.apsusc.2004.05.176
47. Pelizzo MG, Gardiol D, Nicolosi P, Patelli A, Rigato V (2004). Design, deposition, and characterization of multilayer coatings for the Ultraviolet and Visible-Light Coronagraphic Imager. **APPLIED OPTICS**, vol. 43, p. 2661-2669, ISSN: 0003-6935, doi: 10.1364/AO.43.002661

48. Ambrosone G, Coscia U, Lettieri S, Maddalena P, Minarini C, Ferrero S, Patelli A, Rigato V (2004). Deposition of microcrystalline silicon-carbon films by PECVD. **THIN SOLID FILMS**, vol. 451, p. 274-279, ISSN: 0040-6090, doi: 10.1016/j.tsf.2003.11.023
49. Alonso U, Missana T, Garcia-Gutierrez M, Patelli A, Ravagnan J, Rigato V (2004). Study of the uranium heterogeneous diffusion through crystalline rocks and effects of the "clay-mediated" transport. **MATERIALS RESEARCH SOCIETY SYMPOSIA PROCEEDINGS**, vol. 807, p. 621-626, ISSN: 0272-9172
50. Alonso U, Missana T, Patelli A, Ravagnan J, Rigato V (2004). Experimental study of colloid interactions with rock surfaces. **MATERIALS RESEARCH SOCIETY SYMPOSIA PROCEEDINGS**, vol. 824, p. 461-466, ISSN: 0272-9172
51. Poletto L, Naletto G, Tondello G, Patelli A, Rigato V, Salmaso G, Silvestrini D, Larruquert JI, Mendez JA, BE Fineschi S, Gummin MA (2004). Grazing-incidence reflectivity of Si-Au coatings for optics with high thermal load. **PROCEEDINGS OF SPIE, THE INTERNATIONAL SOCIETY FOR OPTICAL ENGINEERING**, vol. 5171, p. 344-353, ISSN: 0277-786X, doi: 10.1117/12.522983
52. Rigato V, Patelli A, Maggioni G, Salmaso G, Mattarello V, Pelizzo MG, Nicolosi P, Depero L, Bontempi E, Mazzoldi P (2003). Effects of ion bombardment and gas incorporation on the properties of Mo/a-Si : H multilayers for EUV applications. **SURFACE & COATINGS TECHNOLOGY**, vol. 174, p. 40-48, ISSN: 0257-8972, doi: 10.1016/S0257-8972(03)00706-0
53. Rigato V, Patelli A, Maggioni G, Restello S, Vezzu S, Cooke KE, Teer DG, Boscarino D, Figueras A, Depero LE, Bontempi E (2003). Physical properties and microstructure of sputter deposited aluminum and zirconium oxynitride multilayers. **SURFACE & COATINGS TECHNOLOGY**, vol. 174, p. 266-272, ISSN: 0257-8972, doi: 10.1016/S0257-8972(03)00793-X
54. Maggioni G, Carturan S, Quaranta A, Patelli A, Della Mea G, Rigato V (2003). Deposition of fluorescent organic coatings by glow discharge induced sublimation. **SURFACE & COATINGS TECHNOLOGY**, vol. 174, p. 1151-1158, ISSN: 0257-8972, doi: 10.1016/S0257-8972(03)00620-0
55. Alberts L, Boscarino D, Patelli A, Rigato V, Ahn H, Rie KT (2003). Ion beam analysis of low-temperature MO-PACVD coatings. **SURFACE & COATINGS TECHNOLOGY**, vol. 169, p. 388-392, ISSN: 0257-8972, doi: 10.1016/S0257-8972(03)00062-8
56. Alonso U, Missana T, Patelli A, Ravagnan J, Rigato V (2003). RBS and mu PIXE analysis of uranium diffusion from bentonite to the rock matrix in a deep geological waste repository. **NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH. SECTION B, BEAM INTERACTIONS WITH MATERIALS AND ATOMS**, vol. 207, p. 195-204, ISSN: 0168-583X, doi: 10.1016/S0168-583X(03)00454-3
57. Ambrosone G, Ballarini V, Coscia U, Ferrero S, Giorgis E, Maddalena P, Patelli A, Rava P, Rigato V (2003). Properties of a-SiC : H films deposited in high power regime. **THIN SOLID FILMS**, vol. 427, p. 279-283, ISSN: 0040-6090, doi: 10.1016/S0040-6090(02)01144-6
58. Alonso U, Missana T, Patelli A, Rigato V, Rivas P (2003). Study of the contaminant transport into granite microfractures using nuclear ion beam techniques. **JOURNAL OF CONTAMINANT HYDROLOGY**, vol. 61, p. 95-105, ISSN: 0169-7722, doi: 10.1016/S0169-7722(02)00116-X
59. Pelizzo MG, Patelli A, Nicolosi P, Rigato V, Salmaso G, Bontempi E, Gardiol D (2003). Development of multilayer coatings for solar space experiments. **PROCEEDINGS OF SPIE, THE INTERNATIONAL SOCIETY FOR OPTICAL ENGINEERING**, vol. 4853, p. 381-392, ISSN: 0277-786X, doi: 10.1117/12.460433
60. Rigato V, Patelli A, BE Bianconi A, Marcelli A, Saini NL (2003). Novel methods of synthesis of a-Si(H)/Mo multilayers for Extreme UV applications. **AIP CONFERENCE PROCEEDINGS**, vol. 652, p. 103-111, ISSN: 0094-243X
61. Maggioni G, Carturan S, Quaranta A, Patelli A, Della Mea G (2002). Deposition of thin dye coatings by glow discharge induced sublimation. **CHEMISTRY OF MATERIALS**, vol. 14, p. 4790-4795, ISSN: 0897-4756, doi: 10.1021/cm0201910
62. Alonso U, Missana T, Patelli A, Rigato V, Ravagnan J (2002). Size effects on colloids diffusion in granite micro fractures. **GEOCHIMICA ET COSMOCHIMICA ACTA**, vol. 66, p. A15, ISSN: 0016-7037
63. Rigato V, Maggioni G, Patelli A, Antoni V, Serianni G, Spolaore M, Tramontin L, Depero L, Bontempi E (2001). Effects of plasma non-homogeneity on the physical properties of sputtered thin films. **SURFACE & COATINGS TECHNOLOGY**, vol. 142, p. 943-949, ISSN: 0257-8972, doi: 10.1016/S0257-8972(01)01258-0
64. Nicolosi P, Patelli A, Pelizzo MG, Rigato B, Maggioni G, Depero L, Bontempi E, Mattei G, Poletto L, Mazzoldi P, Tondello G (2001). First realization and characterization of multilayer EUV reflective coatings. **PROCEEDINGS OF SPIE, THE INTERNATIONAL SOCIETY FOR OPTICAL ENGINEERING**, vol. 4506, p. 76-83, ISSN: 0277-786X, doi: 10.1117/12.450947
65. Rigato V, Maggioni G, Patelli A, Boscarino D, Renevier NM, Teer DG (2000). Properties of sputter-deposited MoS2/metal composite coatings deposited by closed field unbalanced magnetron sputter ion plating. **SURFACE & COATINGS TECHNOLOGY**, vol. 131, p. 206-210, ISSN: 0257-8972, doi: 10.1016/S0257-8972(00)00797-0