

CURRICULUM VITAE



PERSONAL INFORMATION

Name	CHIERUZZI MANILA
Working Address	STRADA DI PENTIMA 4, 05100 TERNI (TR), ITALY
Telephone	+39 0744492914 +39333 4624490
E-mail	manila.chieruzzi@unipg.it
Nationality	Italian
Date of birth	TERNI (ITALY) , 05/12/1974

CURRENT OCCUPATION

01/03/2014- to date
Researcher at University of Perugia working on Nanomaterials (Project name: "Innovazione, Tecnologie e Ricerca Avanzata per i Materiali e i Nanomateriali –IN.TE.R.A.M.NA. Innovation, technologies and Advanced Research for materials and nanomaterials)

EDUCATION AND TRAINING

- Dates (from – to) November 2001 – January 2005
- Name and type of organisation providing education and training University of Perugia
- Title of qualification to be awarded **PhD in "Industrial Engineering"**
- Title of the thesis "Design, realization and verification of reflective sandwich panels for solar concentrators"
- Principal subjects/occupational skills covered Development and characterization of thermoset fiber reinforced composite and nanocomposite materials. Finite element modeling of thermal and mechanical behavior of composite panels. The work was carried out in collaboration with ENEA (Italian National agency for new technologies, *Energy and sustainable economic development*) in the "Thermodynamic Solar Project"
- Dates (from – to) 1993 – 2001
- Name and type of organisation providing education and training University of Perugia
- Title of qualification awarded **Degree in Materials Engineering**
- Principal subjects/occupational skills covered Title of thesis: "Characterization and verification of composite materials for the consolidation of masonry vaults"
- Level in national classification Analytical mathematics I and II; Physics I and II; Inorganic and organic chemistry; Geometry; Computer Science; Economy; Materials Science and Technology; Polymer Technology; Composite Materials Science and Technology; Metal Science; Technical Design; Electronic Devices; Construction Science; Subjects related to Mechanical Application and Devices.
- Level in national classification Final mark: 107/110
- Dates (from – to) 1988 – 1993
- Name and type of organisation providing education and training "F.Cesi" Technical High School in Terni
- Title of qualification awarded **High school diploma**
- Level in national classification Final mark: 60/60

SCIENTIFIC ACTIVITY

Publications and contributions to conferences

M. Chieruzzi, J. M. Kenny, L. Torre, **"Modeling of effective elastic properties of nanocomposite based on carbon nanotubes and polymeric matrices"**, in preparation

M. Chieruzzi, S. Pagano, J. M. Kenny, P. D'Errico, **"Finite element analysis of fiber reinforced endodontical post systems"**, in preparation

S. Pagano, M. Chieruzzi, M. Pennacchi, J. M. Kenny, G. Lombardo, P. D'Errico, **"A finite-element analysis (FEA) of stress patterns under load in a new endodontical glass fiber post: Evolution fiber post"** submitted to Dental Cadmos

S. Pagano, M. Chieruzzi, M. Pennacchi, G. Lombardo, B. Tosini, J. M. Kenny, P. D'Errico **"Thermal characterization by DSC of a new endodontic cement"**, submitted to Dental Cadmos

C. Gallottini, G. Barraco, S. Pagano, C. De Carolis, A. Dolci, M. Chieruzzi, and S. Eramo, **"Scanning electron microscopic analysis of the efficacy of acid etching on cat enamel"** Micro & Nano Letters, 2014; 9(4):264-269, DOI: 10.1049/mnl.2013.0729

M. Chieruzzi, M. Rallini, S. Pagano, S. Eramo, P. D'Errico, L. Torre, José M. Kenny **"Mechanical effect of static loading on endodontically treated teeth restored with fibre reinforced posts"**, Journal of Biomedical Materials Research Part B, 2014;102(2):384-394 DOI: 10.1002/jbm.b.33017

M. Chieruzzi, G.F. Cerritelli, A. Miliozzi, J. M. Kenny, **"Effect of nanoparticles on heat capacity of nanofluids based on molten salts as PCM for thermal energy storage"**, Nanoscale Research Letters, 2013;8:448 DOI 10.1186/1556-276X-8-448

M. Chieruzzi, A. Miliozzi, J. M. Kenny, **"Effects of the nanoparticles on the thermal stability and mechanical properties of unsaturated polyester/clay nanocomposites"**, Composites Part A, 2013;45:44-48

M. Chieruzzi, S. Pagano, M. Pennacchi, G. Lombardo, J. M. Kenny, P. D'Errico, **"Compressive and flexural behaviour of fibre reinforced endodontic posts"**, Journal of Dentistry, 2012;40:968-978

S. Pagano, M. Chieruzzi, G. Lombardo, J. M. Kenny, A. Conversini, P. D'Errico, **"Influence of material and geometry on physical properties of a new endodontic fiber reinforced post: a finite-element analysis"**, Italian Journal Of Operative Dentistry, vol. VII, n° 2, 70-75, April-June 2009

José M. Kenny, M. Chieruzzi, M. Natali, A. Terenzi, I. Puri, **"CNTs/Epoxy nanocomposite with random and aligned morphology: modelling of CNTs alignment and electrical properties by finite element approach"**, EUROMAT2013 European Congress and Exhibition on Advanced Materials and Processes, Sevilla (Spain) 8-13 September 2013 -*Oral presentation*

M. Chieruzzi, G.F. Cerritelli, A. Miliozzi, J.M. Kenny, **"Phase change materials based on molten salts and nanoparticles for thermal energy storage"**, EUROMAT2013 European Congress and Exhibition on Advanced Materials and Processes, Sevilla (Spain) 8-13 September 2013 -*Oral presentation*

M. Chieruzzi, G.F. Cerritelli, A. Miliozzi, J.M. Kenny, **"Effect of nanoparticles on heat capacity of phase change materials based on molten salts for thermal energy storage applications"**, IX INSTM Conference, Bari 30th June - 3rd July 2013 -*Oral presentation*

M. Chieruzzi, L. Torre, J.M. Kenny, **"Prediction of elastic properties of nanocomposites with oriented CNTs"**, 4th ECNP Young Researcher Conference, Lyon (France) 7-10 November 2011– *Poster*

M. Chieruzzi, L. Torre, J.M. Kenny, **"FEM modeling of CNT-based nanocomposites"**, XX Italian Conference on Science and Technology of Macromolecules, Terni 4-8 September 2011– *Oral presentation*

M. Chieruzzi, A. Miliozzi, D. Nicolini, J.M. Kenny, “**Studio e modellazione di materiali polimerici utilizzabili nello sviluppo di superfici riflettenti per impianti solari termodinamici**”, XX Italian Conference on Science and Technology of Macromolecules, Terni 4-8 September 2011 – *Oral presentation*

M. Chieruzzi, S. Pagano, M. Pennacchi, P. D'Errico, J.M. Kenny, “**Evaluation of flexural resistance of fiber reinforced endodontical posts**”, XX Italian Conference on Science and Technology of Macromolecules, Terni 4-8 September 2011 – *Poster*

M. Chieruzzi, E. Capolongo, L. Pinoca, J.M. Kenny, “**Cement composites reinforced with treated polypropylene fibers**”, 6th National Congress on Materials Science and Technology, Perugia, 12-15 June 2007 – *Poster*

J. M. Kenny, M. Chieruzzi, C. Rondoni, A. Miliozzi, D. Nicolini, L. Torre, “**Use of composite structures for parabolic solar-energy collectors**”, 26th SAMPE Europe International Conference, Paris, 5-7 April 2005 - *Oral presentation*

M. Chieruzzi, A. Miliozzi, J.M. Kenny, “**Dimensional stability in unsaturated polyester/clay nanocomposites**”, Proceedings of 4th International Symposium on Nanostructured and Functional Polymer-based Materials and Nanocomposites, Rome, 16-18 April 2008 – *Poster*

M. Chieruzzi, A. Miliozzi, J.M. Kenny, “**Thermal expansion coefficients and mechanical properties of unsaturated polyester/clay nanocomposites**” 2nd National Forum of Young Researchers on Polymeric Materials and Biomaterials, Genoa, 4-5 July 2008 – *Poster*

Specializations

She attended the following schools:

10th AIMAT School of Materials Science (Sestri Levante 27 september – 08 october 2004): “Fundamentals of materials science” and “Nanomechanics and Tribology”

7th AIMAT School “Polymeric Materials” (Palermo, 14-17 April 2003)

Training course “Technical standards for the design, seismic evaluation and upgrading of buildings”, Terni 28/11/2003 - 19/12/2003

Training course (500h) “Expert in innovation management” at ISIRIM (Institute for Research and Training on special materials for advanced technologies) (Terni, 21/10/2002-10/03/2003)

Patent

European Patent n° 09166926.7-1268, priority: IT/31.07.08/ITA TO20080601, title: Jet coating head, proprietor: CO.ME.CART Costruzione Meccaniche Cartiere S.p.A.; date: 23.09.09 (European Patent Office-Netherlands)

Organization of conferences

“XX Italian Conference on Science and Technology of Macromolecules” Terni 4-8 September 2011 (AIM Italian Association of Science and Technology of Macromolecules)

Nanofun-Poly Conference “4th International Symposium on Nanostructured and Functional Polymer-based Materials and Nanocomposites”, Rome, 16-18 April 2008

Nanofun-Poly (Nanostructured and Functional Polymer-Based Materials and Nanocomposites) is a network of excellence of more of 25 Universities and european research centres.

“2nd Young Polymer Scientists Conference”, Terni, April 13-15 2008 for ECNP-INSTM-University of Perugia

“6th National Congress on Materials Science and Technology”, Perugia, 12-15 June 2007 for INSTM- University of Perugia

“5th AIMAT National Congress”, Spoleto 17-21 July 2000

Other academic and professional activities:

2011-2012

Co-advisor in PhD thesis “Polymeric Material Nanotechnology” at University of Perugia

Title of the thesis: “Development and characterization of polymeric nanocomposite fibres for

fibre reinforced concrete”

2008-2009

Tutoring in PhD thesis “*Polymeric Material Nanotechnology*” at University of Perugia

Title of the thesis: “Mechanical evaluation and finite element analysis of post-endodontic reconstruction system with fiber-reinforced posts”

2005-2013

Co-advisor in degree theses in Materials Engineering at University of Perugia. Theses:

“Development and thermal characterization of phase change materials based on molten salts and nanoparticles for thermal energy storage” in collaboration with ENEA

“Analysis and characterization of materials for thermal-cut panels”

“Development and characterization of nanostructured polymer matrices for solar thermal applications” in collaboration with ENEA

“Mechanical and thermal design of mechanical components in composite with complex geometry”

“Development and characterization of cementitious composites reinforced with polyolefin fibers” in collaboration with Meraklon S.p.A. in Terni

“Characterization of composites with epoxy resin made by transfer molding technology”

“Development and characterization of a composite material with epoxy matrix and glass fibers made by liquid molding”

2003-2004

Tutoring in degree theses in Materials Engineering at University of Perugia

“Thermo-mechanical characterization of materials for parabolic solar collectors” in collaboration with ENEA

“Thermal design and characterization of composite panels for parabolic solar collectors” in collaboration with ENEA

“Characterization of composite materials with bidirectional 0/90 carbon-fibers for the reinforcement of clay material”

“Study of the behaviour of brick material reinforced with epoxy resin composites and unidirectional carbon fibers”

“Design and characterization of innovative reflective panels” in collaboration with ENEA

January 2002

She was qualified to practice as engineer after the professional exam at University of Perugia and she is chartered to the Engineering Association of Terni.

Reviewer for international journals: Materials Science and Engineering C: Materials for Biological Applications, Composites Part A: Applied Science and Manufacturing, Polymer Composites, Journal of Applied Oral Science, International Journal of Oral Science

JOB EXPERIENCE

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| • Dates (from – to) | 01/04/2013 – to date |
| • Name and address of employer | University of Perugia |
| • Type of business or sector | Research |
| • Position held | Post Doc researcher |
| • Main activities and responsibilities | Researcher at University of Perugia working on the project IN.TE.R.A.M.NA “Innovation, Technologies, Advanced Research for Materials and Nanomaterials” |
| • Dates (from – to) | 01/11/2013 - 31/12/2013 |
| • Name and address of employer | ECNP (European Center of Nanostructured Polymers) |
| • Type of business or sector | Research |
| • Position held | Post Doc researcher |
| • Main activities and responsibilities | Research in Nanocomposite Materials working at European Project COMPANOCOMP (Multiscale computational approach to the design of polymer-matrix Nanocomposites) FP7 |
| • Dates (from – to) | 01/01/2012 - 31/12/2012 |
| • Name and address of employer | University of Perugia |
| • Type of business or sector | Research |

- Position held
- Main activities and responsibilities
 - Dates (from – to)
 - Name and address of employer
 - Type of business or sector
 - Position held
- Main activities and responsibilities
 - Dates (from – to)
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 - Type of business or sector
 - Occupation or position held
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 - Type of business or sector
 - Occupation or position held
- Main activities and responsibilities
 - Dates (from – to)
 - Name and address of employer
 - Type of business or sector
 - Occupation or position held
- Main activities and responsibilities
 - Dates (from – to)
 - Name and address of employer
 - Type of business or sector

Post Doc researcher

Researcher at University of Perugia working on Nanocomposites Cements (Project funded by Regione Umbria)

06/05/2011 – 31/12/2011

ECNP (European Center of Nanostructured Polymers)
Research

Post Doc researcher

Research in Materials Nanotechnology working at European Project POCO (Carbon Nanotube Confinement Strategies to Develop Novel Polymer Matrix Composites) FP7- Contract no. CP-IP 213939

01/11/2010 – 30/04/2011

University of Perugia
Research

Post Doc researcher

Research in “Fem modelling of composite and nanocomposite materials”

01/07/2002 – 30/06/2004; 01/10/2004 – 30/09/2005; 01/10/2005 – 30/09/2006; 01/10/2006 – 30/09/2007; 01/10/2007 – 30/09/2008 ; 15/10/2008 – 14/10/2009 ; 15/10/2009 – 14/10/2010

University of Perugia
Research

Researcher grant

Research in “Design, manufacture and applications of composite and nanocomposite materials”

26/10/2009-05/11/2009

SFCU (Sistemi Formativi Confindustria Umbria Soc. Cons. a r.l.) of Terni. It is a School for Professional Training related to the main organisation representing italian manufacturing and services companies.

Professional training for “Production and process control expert in the plastic industry” funded by European Community and Regione Umbria.

Teacher

Teaching Chemistry.

30/11/2009-5/12/2009

EPM (Europe Programme Monitor Srl) of Terni

Professional training for “Expert in energy efficiency in buildings and constructions”

Teacher

Teaching Materials Science and Technology.

09-15/12/2009

APIFORM (Consorzio di Formazione dell’Associazione Piccole e Medie Industrie) of Terni

Professional training for “Expert in Energy Management for small and medium size enterprises”

Teacher

Teaching Materials Science and Technology for Energy Management

November 2007 – January 2008

SFCU of Terni

Professional training for “Expert in plastic and nanocomposite material science and technology”

Teacher

Teaching “Polymer Chemistry and polymer characterization” and “Polymer properties and tests”

01-13/03/2006

University of Perugia

Professional training in European Master’s Course in Nanotechnology of Polymeric Materials for:

- Occupation or position held
- Main activities and responsibilities
 - Dates (from – to)
 - Name and address of employer
 - Position held
- Main activities and responsibilities
 - Dates (from – to)
 - Name and address of employer
 - Occupation or position held
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 - Occupation or position held
- Main activities and responsibilities
 - Dates (from – to)
 - Name and address of employer
 - Occupation or position held
- Main activities and responsibilities
 - Dates (from – to)
 - Name and address of employer
 - Occupation or position held

“Expert in nanotechnologies of polymeric materials for chemical industry”

“Expert in nanotechnologies of polymeric materials for mechanical and electronic industry”

Teacher

Teaching “Finite element modelling”

2001 - 2014

University of Perugia- Faculty of Engineering

Teacher assistant and support

Teaching “Materials Science and Technology” “Composite Materials Science and Technology”

15/10/2012-25/03/2013

I.I.S.A.G. "O. Metelli" High School in Terni

Teacher

Teaching “Chemistry”

13/01-13/06/2012

“S. Pertini” IPSIA High School (Professional Institute of the State for the Industry and the Handicrafts) in Terni

Teacher

Teaching “Chemistry”

2010-2011

“S. Pertini” IPSIA High School (Professional Institute of the State for the Industry and the Handicrafts) in Terni

Teacher

Teaching “Chemistry” and “Mathematics”

2009 - 2010

University of Perugia- course “Technologies for the Conservation and Restoration of Cultural Heritage ”

Teacher assistant and support

Teaching “Materials Science and Technology”

2008 -2009 and 2009-2010

“F.Cesi” Technical High School in Terni

Teacher

Teaching “Material Science”

2000-2001

University of Perugia

Secretary

European Project HYCOPROD Design of an Advanced Composite Production Process for the Systematic Manufacture of Very Large Monocoque Hybrid Sandwich Structures for Transport Sectors (FP5)

2000-2001

University of Perugia

Secretary

European Project HYCOPROD Design of an Advanced Composite Production Process for the Systematic Manufacture of Very Large Monocoque Hybrid Sandwich Structures for Transport Sectors (FP5)

COLLABORATION IN EUROPEAN PROJECTS IN RESEARCH ACTIVITIES

- Dates (from – to) 2012-2013
 - Name and address of employer University of Perugia
 - Type of business or sector Research
 - Position held Post Doc researcher
- Main activities and responsibilities **Researcher** working on the project COMPANOCOMP “Multiscale computational approach to the design of polymer-matrix nanocomposites” THEME NMP.2011.1.4-5 FP7
Responsible for the research activity of task 2.4 “Mesoscale modeling of the electrical properties of CNT nanocomposites in thermosetting matrices” in WP2: Composite structure and properties
- Dates (from – to) 2009-2011
 - Name and address of employer University of Perugia
 - Type of business or sector Research
 - Position held Post Doc researcher
- Main activities and responsibilities **Researcher** working on the project POCO “Carbon Nanotube Confinement Strategies to Develop Novel POlymer Matrix Composites” THEME NMP-2007-2.1-1 Nanostructured polymer-matrix composites Large scale collaborative project. FP7.
Responsible for the research activity of task 4.2 “Multiple approach: Influence of CNTs in final properties of polymer matrix nanocomposites” in WP4:Theoretical Computational Modelling
- Dates (from – to) 2002-2004
 - Name and address of employer University of Perugia
 - Type of business or sector Research
 - Position held PhD student
- Main activities and responsibilities **Researcher working** on the project SMARTCOMP “Fibre optic Sensors for the Monitoring of COMPOSITE stRENGTHENED sTRUCTURES” FP5

COLLABORATION WITH NATIONAL AND REGIONAL SUBJECTS

- Dates (from – to) 2002-2014
 - Name and address of employer University of Perugia
 - Type of business or sector Research
 - Position held Researcher grant/ post Doc researcher
- Main activities and responsibilities Permanent cooperation with **ENEA** working on:
 - the “**Thermodynamic Solar Project**” with a research focused on the design, realization and characterization of sandwich panels for solar parabolic concentrators. The research included the use of nanofillers and the finite element modeling of thermal and mechanical behavior of composite panels
 - Study and development of a latent heat storage material at medium temperature based on the use of salts and nanoparticles (2013)
 - Study, production and characterization of a nanoPCM (bulk and microencapsulated) with a melting temperature of 200°C (2014)
- Dates (from – to) 2006-2012
 - Name and address of employer University of Perugia
 - Type of business or sector Research
 - Position held Post Doc researcher
- Main activities and responsibilities **Researcher** working for one year on the following **regional projects**:
 - PROGETTO BANDO L589/94: Study and development of new cement mortars for high performance screeds and recycled plastics with fillers and nanofillers with CSC Srl (2012)

- PROGETTO RESTA REGIONE UMBRIA with Edilcimento S.p.A. and C.F. S.r.l. for the development of nanocomposites based on PP matrix and recycled PP for the realization of fibres for concrete and development of cement mixtures with these fibres (2010)
 - BANDO VISION REGIONE UMBRIA: realization of innovative cargo bed using composite material in collaboration with Teknocar srl (2006)
 - BANDO VISION REGIONE UMBRIA: evaluation analysis for the realization of new compounds and new materials in the building field in collaboration with CSC Srl – Calcestruzzi Sabatini & Crisanti e Costruzioni Baldelli srl (2006)
- Researcher** working on the following **Agreements** with:
- GAROFOLI S.p.A for the development of composites panels with high lightweight structural performances (2011)
 - TECNOGRANDA S.p.A. and CO.ME.CART (Costruzioni Meccaniche Cartiere S.p.A): research on the development and modelling of a new Jet coating head in composite material (2007-2008)
 - COLLEROSSO and C.F. srl for the study and design of fibre reinforced concrete using fibre network with biodegradable materials (2006).

PERSONAL SKILLS AND COMPETENCES

MOTHER TONGUE	ITALIAN
OTHER LANGUAGES	
<ul style="list-style-type: none"> • Reading skills • Writing skills • Verbal skills 	<p>ENGLISH</p> <p>GOOD</p> <p>GOOD</p> <p>GOOD</p> <p>FRENCH</p> <p>GOOD</p> <p>ELEMENTARY</p> <p>ELEMENTARY</p>
TECHNICAL SKILLS AND COMPETENCES	<p>Materials development and characterization by using the following instruments: DSC, TGA, TMA, dynamometer.</p> <p>Numerical Modelling (FEM analysis).</p> <p>Knowledge of softwares: Microsoft Word, Excel, Powerpoint, and Outlook. Kaleidagraph, Ansys (finite element modeling software). Daily use of internet.</p> <p>Research interests:</p> <p>Thermosetting matrix with nanofillers for enhanced thermal properties</p> <p>Fibre reinforced composites based on thermosetting matrix</p> <p>Phase change materials based on salts and nanoparticles for thermal energy storage.</p> <p>Development and characterization of cement mixtures with different nanofillers</p> <p>Fibre reinforced composites for dental applications</p>
DRIVING LICENCE	B (cars)

July 07, 2014