

ALL. B
Decreto Rettore Università di Roma “La Sapienza” n. 192/2019 del 16/01/2019,
CODICE CONCORSO 2018PAR053

Ilaria Fratoddi, Curriculum Vitae

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Ilaria Fratoddi, Curriculum Vitae ai fini della pubblicazione

Roma, 13/02/2019

Part I – General Information

Full Name	Ilaria Fratoddi
Date of Birth	
Place of Birth	
Fiscal code	
Citizenship	
Permanent Address	
Mobile Phone Number	
E-mail	
Spoken Languages	

Part II – Education

Type	Year	Institution	Notes (Degree, Experience,...)
Laurea in Chimica	1995	Università degli Studi di Roma La Sapienza	110/110. Thesis entitled: Sintesi, caratterizzazione e proprietà di poli(N,N-dimetilpropargilammina) con siti di palladio intercalati: studio XPS, tutor A. Furlani Donda
Pre-doctorate training	1996	CNR Institute of Solid State Electronics (Istituto di Elettronica dello Stato Solid, CNR-IESS)	Scientific collaboration
Qualification for Chemistry Profession	1996	Università degli Studi di Roma La Sapienza	Abilitazione alla professione di Chimico
Admission to the PhD in Chemical Sciences, cycle XII (1996-1999) at Università di Roma “La Sapienza	1996	Università degli Studi di Roma La Sapienza	
phD in Chemical Sciences	2000	Università degli Studi di Roma La Sapienza	phD thesis entitled: Sintesi e caratterizzazione di polimeri ed oligomeri organometallici π -coniugati”. tutor A. Furlani Donda. Final exam on 7/2/2000.

Part III A – Academic Appointments

Start	End	Institution	Position
11/1995	06/1996	CNR Institute of Solid State Electronics (Istituto di Elettronica dello Stato Solido, CNR-IESS)	Holder of a professional collaboration contract entitled: "Studio della possibilità di sintesi e caratterizzazione di strutture polimeriche per la realizzazione di dispositivi attivi e passivi"
10/96	12/1996	CNR Institute of Solid State Electronics (Istituto di Elettronica dello Stato Solido, CNR-IESS)	Holder of a professional collaboration contract entitled: "Materiali con proprietà plastiche per applicazioni come dispositivi attivi in elettronica"
02/2000	10/2000	Università degli Studi di Roma La Sapienza, Dept of Chemistry	Holder of a scientific collaboration contract (co.co.co) entitled: "Sintesi e caratterizzazione di polimeri π -coniugati e loro applicazione in sensoristica"
04/2001	12/2004	Università degli Studi di Roma La Sapienza, Dept of Chemistry	Holder of annual scientific collaboration contract (Assegno di Ricerca) entitled: "Polieni e poliini: sintesi, caratterizzazione e proprietà ottiche e sensoristiche"
2004		Università degli Studi di Roma La Sapienza, Dept of Chemistry	Ranked 1° at the competition for a position of "Ricercatore Universitario" in Inorganic Chemistry (CHIM 03), D.R. 10/12/2004.
2005	2008	Università degli Studi di Roma La Sapienza, Dept of Chemistry	Ricercatore Universitario non confermato, presa servizio 03/01/2005
2008	current	Università degli Studi di Roma La Sapienza Dept of Chemistry	Ricercatore Universitario Confermato, SSD CHIM03
2012	2018	MIUR	Qualified for the role of "Professore di II fascia PA, Settore Concorsuale 03/B2, ex SSD CHIM/07, Fondamenti chimici delle Tecnologie, Macrosettore 03/B Inorganico Tecnologico"
04/2017	04/2023	MIUR	Qualified for the role of "Professore di II fascia, PA, Settore Concorsuale 03/B1, Fondamenti delle Scienze Chimiche e Sistemi Inorganici, SSD CHIM/03, Inorganic Chemistry"
04/2017	04/2023	MIUR	Qualified for the role of "Professore di I fascia, PO, Settore Concorsuale 03/B1, Fondamenti delle Scienze Chimiche e Sistemi Inorganici, SSD CHIM/03, Inorganic Chemistry"

Part III B – Other Appointments

Year	Institution	Position
10/2008	Mosca, Accademia Russa delle Scienze RAS, Istituto Kurnakov di Chimica Generale ed Inorganica, Russia	Scientific visit and invited seminar entitled "Nanostructured polymetallaynes and related model molecules. Synthesis and characterization"
2007	Università di Malaga, Dipartimento di Chimica Fisica, Spagna	In the framework of the ERASMUS Teaching Staff Mobility, visiting staff for the organization of new bilateral agreements and 8 h of classes for students and researchers on different research topics:
2008		
2010		
		"Organometallic Polymers", 04/ 2007
		"Nanostructured polymers" 09/2008
		"Nanostructured macromolecules" 10/2010
		"Metal nanoparticles", 10/2010
2010	Università Joseph Fourier Grenoble, France ed Istituto Neel CNRS	In the framework of the ERASMUS Teaching Staff Mobility, visiting staff for the organization of new bilateral agreements and 8 h of classes for students and researchers on different research topics:
2011		
		"Metal nanoparticles and core-shell systems: synthesis, characterizations and applications" 05/2010
		"Synthesis and characterizations of nanostructured polymers" 05/2010
		"Nanostructured macromolecules" 02/2011
		"Metal nanoparticles", 02/2011
2013	Universitat Autònoma de Barcelona, Spagna	In the framework of the ERASMUS Teaching Staff Mobility, visiting staff for the organization of new bilateral agreements and 8 h of classes for students and researchers on different research topics:
		"Functionalized Noble Metal Nanoparticles: from Synthesis to Applicative Studies" 09/2013

Part IVA – Teaching experience

a.a	Institution	Lecture/Course	
2000-2001	Università Roma TRE, Faculty of Science	Affidamento oneroso "Chimica dei Materiali II" per il diploma universitario in Scienza dei Materiali	
2005-2006	Università Sapienza di Roma, Faculty of Science MFN	Affidamento/supplenza: "Chimica Generale ed Inorganica", Bachelor Degree, CdS Chimica, 6 CFU	
2006-2007	Università Sapienza di Roma, Faculty of Science MFN	Affidamento/supplenza: "Laboratorio di Chimica Generale ed Inorganica", Bachelor Degree, CdS Chimica, 6 CFU	
2005-2006	Università Sapienza di Roma, Faculty of Science MFN	Affidamento/supplenza: "Chimica e Tecnologia dei Polimeri", Bachelor Degree, CdS Chimica, 2 CFU (1 modulo)	
2006-2007			
2007-2008			
200-2009			
2005-2006	Università Sapienza di Roma, Faculty of Science MFN	Affidamento gratuito "Chimica" Bachelor Degree, CdS Fisica, 6 CFU	
2006-2007			
2007-2008			
2008-2009			
2009-2010			
2010-2011			
2011-2012			
2012-2013			
2013-2014			
2010-2011	Università Sapienza di Roma, Faculty of Science MFN	Affidamento "Chimica Inorganica 1" Bachelor Degree, CdS Chimica, 6 CFU	
2011-2012			
2012-2013			Percentuale di valutazioni OPIS positive, studenti frequentanti (fonte Infostud, Rilevazioni Dati Studenti OPIS) relative agli ultimi anni:
2013-2014			aa 2014-2015= 98%
2014-2015			aa 2015-2016= 94%
2015-2016			aa 2016-2017= 95%
2016-2017			aa 2017-2018= 96%
2017-2018			
2018-2019			
2015-2016	Università Sapienza di Roma, Faculty of Science MFN	Affidamento "Chimica dei Materiali Polimerici" Master Degree, CdS Chimica Analitica, 6 CFU	
2016-2017			
2017-2018			Percentuale di valutazioni OPIS positive, studenti frequentanti (fonte Infostud, Rilevazioni Dati Studenti OPIS) relative agli ultimi anni:
2018-2019			aa 2015-2016= 86%
		aa 2016-2017= 85%	
		aa 2017-2018= 82%	

Part IVB – Other teaching appointments

She was a member in several commissions for the Bachelor Degree Final Exams in Chemistry and Industrial Chemistry.

She was a member in several commissions for the Master Degree Final Exams in Chemistry, Analytical Chemistry and Industrial Chemistry.

Part IV C – Supervisor of Master Thesis Works

Thesis in Chemistry, Analytical Chemistry or Industrial Chemistry, carried out at Università di Roma La Sapienza - Total number = 19

a.a	Title of the Master Thesis work	Student
2011-2012	Sintesi e caratterizzazione di nanoparticelle metalliche funzionalizzate con leganti tiolici	Laura Fontana Laurea Magistrale in Chimica
2011-2012	Sintesi e caratterizzazione di nanoparticelle d'oro funzionalizzate con leganti idrofilici: studio del carico e rilascio di specie bioattive	Francesca Fabber Laurea Magistrale in Chimica Analitica
2012-2013	Sintesi di nanoparticelle d'oro ed argento stabilizzate con N,N-dietilamminoetantiolo e loro caratterizzazione morfologica e strutturale	Fulvio Di Lorenzo Laurea Magistrale in Chimica
2012-2013	Nanoparticelle d'oro idrofiliche: sintesi, caratterizzazione e studio dell'interazione con l'enzima amminoossidasi	Antonio Sticca Laurea Magistrale in Chimica Industriale
2012-2013	Sintesi, caratterizzazione e studio dell'interazione di nanoparticelle d'oro idrofiliche con l'enzima lipasi	Helena luele Laurea Magistrale in Chimica Analitica
2014-2015	Nanoparticelle d'oro funzionalizzate con leganti tiolici bifunzionali: preparazione, caratterizzazione ed applicazioni in catalisi	Silvia Rasi Laurea Magistrale in Chimica
2014-2015	Nanoparticelle di metalli nobili funzionalizzate con leganti tiolici bifunzionali	Mariangela Gabriele Laurea Magistrale in Chimica Analitica
2015-2016	Sintesi e caratterizzazione di nanoparticelle d'oro funzionalizzate con leganti idrofili e studio dell'immobilizzazione di specie bioattive	Daniela Madalina Vodut Laurea Magistrale in Chimica Analitica

2016-2017	Nanoparticelle d'oro funzionalizzate con tioli idrofili: sintesi, caratterizzazione e studio dell'interazione con specie bioattive	Arianna Martinelli Laurea Magistrale in Chimica
2016-2017	Polimeri nanostrutturati e loro compositi: sintesi, caratterizzazione e proprietà	Martina Mellace Laurea Magistrale in Chimica
2016-2017	Sintesi e caratterizzazione di nanoparticelle d'oro interconnesse mediante leganti tiolici bifunzionali	Raoul Fioravanti Laurea Magistrale in Chimica
2016-2017	Organometallic halide perovskite-based materials for solar cells	Loreta Angela Muscarella Laurea Magistrale in Chimica
2016-2017	Nanoparticelle di palladio stabilizzate con tioli bifunzionali: sintesi e caratterizzazione	Adriana Greco Laurea Magistrale in Chimica Analitica
2016-2017	Sviluppo e caratterizzazione di materiali nanocompositi per scudi termici ablativi	Caterina Mapelli Laurea Magistrale in Chimica
2017-2018	Synthesis and characterization of functionalized ruthenium nanoparticles	Lavinia Saltarelli Laurea Magistrale in Chimica
2017-2018	Nanoparticelle d'Argento e loro compositi in idrogel peptidici	Sony Luis Katengo Laurea Magistrale in Chimica Analitica
2017-2018	Sintesi e caratterizzazione di nanoparticelle metalliche funzionalizzate ed applicazioni in biocatalisi	Chiara Astone Laurea Magistrale in Chimica
2017-2018	Sintesi e caratterizzazione di polimeri nanostrutturati per applicazioni in nanomedicina	Francesco Menichelli Laurea Magistrale in Chimica Industriale
2017-2018	Sintesi e caratterizzazione di nanoparticelle d'oro funzionalizzate con tioli a differente carica superficiale	Nicholas Micheletti Laurea Magistrale in Chimica Analitica

Thesis supervised in Sapienza, with visiting students in collaboration with other National and International Institutions, total number n = 6

year	Title of the Thesis work	Student
2014	Sintesi di cluster di Pt bifunzionali per la stabilizzazione di nanoparticelle d'oro	Massimiliano Morganti Laurea Magistrale in Chimica Università di Pisa
2014	Synthesis and characterization of dye doped nanostructured polymers for optic applications	Claire Bonnet Master Università J Fourier di Grenoble
2014	Nanostructured polymers based on polystyrene or polymethylmethacrilate in the presence of organic dyes	Manon Orsolini Master Università J Fourier di Grenoble
2015	Sintesi e caratterizzazione di nanoparticelle metalliche funzionalizzate con tioli idrofobici per applicazioni in biocatalisi	Sophie Lattes Master Università J Fourier di Grenoble
2016	Synthesis of noble metal nanoparticles	Chloè Debord Master Tesi Magistrale Politecnico di Lione
2017	Synthesis of noble metal nanoparticles	Nicole Wutke Master Tesi Magistrale Università di Marburg
2017	Sintesi di cluster di Pt bifunzionali per la stabilizzazione di nanoparticelle d'oro	Zuzanne Grunwald Master Tesi Magistrale Università di Parigi P. e M. Curie

Part IV D – Supervisor of Bachelor Thesis Works

In the period 2007-2018 I supervised several Bachelor Degree Thesis in Physics, Chemistry, and Industrial Chemistry, for a total number of **48**.

Part IV E – Supervisor of PhD Thesis Works carried out at Università di Roma La Sapienza

cycle	Title of the PhD Thesis work	Student/PhD School
XXVIII	Nanoparticelle d'oro funzionalizzate con tioli organici ed organometallici e studio delle loro proprietà optoelettroniche	Laura Fontana Scienze Chimiche
XXXI	Development of nanomaterials and nanocomposites for sensor applications	Paolo Papa Scienze Chimiche
XXXI	Synthesis, characterization and application of hydrophilic nanostructures to the life sciences	Giovanna Testa Modelli Matematici per l'Ingegneria, Elettromagnetismo e Nanoscienza (cv Scienza dei Materiali)
XXXIII	Gli oligomeri prefibrillari amiloidi di calcitonina di salmone: studio dei meccanismi d'interazione con membrane cellulari modello finalizzato alla progettazione di nanoparticelle per la diagnosi e la cura delle malattie associate Ongoing	Raoul Fioravanti Scienze Chimiche
XXXIV	Sintesi di nanoparticelle metalliche funzionalizzate per applicazioni in nanomedicina ed optoelettronica ongoing	Sara Cerra Scienze Chimiche

Part IV F – Tutor for PostDoc Visiting Students

From-to	Title	postDOC
09/2013-03/2014	Sintesi di nanoparticelle d'oro stabilizzate con polimeri idrofilici per applicazioni biotecnologiche	Dr. Taha Farghaly Università El Cairo, Egitto
11/2014-05/2015	Immobilizzazione di molecole farmacologicamente attive su nanoparticelle d'oro per applicazioni in dermatologia	Dr.ssa Hagar Bessar Università Zadig, El Cairo, Egitto
02/2015-03/2015	Sintesi di quantum dots e loro interazione con nanoparticelle metalliche	Dr. Luzia Rodzic Università Cracovia, Polonia
10/2016-03/2017	Synthesis of metal nanopartides	Dr. Kenya Motokuni Università Fukuoka, Giappone

Part V - Society memberships, Awards and Honors

Year	Title
1996	Member n 9881 of Società Chimica Italiana
2012	Member of CNIS (Centro delle Nanotecnologie per l'Ingegneria della Sapienza)
2015	Award for the teaching of Chimica Inorganica I: a.a. 2013-2014, second edition: INSEGNAMENTO UNIVERSITARIO ECCELLENTE. This award is assigned once a year by the Dean of the Faculty of Science of University of Rome "La Sapienza" for the teachings given during the previous academic year. The prize is assigned to the 5% of the teachers of the Faculty who distinguished in the teaching.
2018	Award for the teaching of Chimica Inorganica I: a.a. 2017-18, fourth edition: INSEGNAMENTO UNIVERSITARIO ECCELLENTE. This award is assigned once a year by the Dean of the Faculty of Science of University of Rome "La Sapienza" for the teachings given during the previous academic year. The prize is assigned to the 5% of the teachers of the Faculty who distinguished in the teaching.

Part VI - Funding Information

Part VI A grants as PI-principal investigator

Year	Title	Program	Grant value (Euro)
2017	Bando Nazionale sul Finanziamento della Attività Base di Ricerca. GU n.297 del 21-12-2016 - Suppl. Ordinario n. 57	Fondo FFARB-Ministero MIUR	3000
2017	Nanomaterials for optoelectronics and nanobiotechnologies: synthesis, characterization and applicative studies on functionalized metal nanoparticles and polymer based nanostructures	Ateneo Sapienza Ricerca, RM11715C792D1AF3	12500
2017	Visiting Professors: Prof. Grigorian Souren	Ateneo Sapienza C26V17R7ER Professori Visitatori	3 months
2016	Functionalized metal nanoparticles for sensor and drug delivery applications	Ateneo Sapienza Ricerca, 2016	11000
2015	Synthesis and characterization of functionalized metal nanoparticles for advanced applications	Ateneo Sapienza Ricerca C26A15H5J9	11000
2014	Functionalized noble metals nanoparticles: from synthesis to applicative studies for optoelectronics and biophotonics	Ateneo Sapienza Ricerca C26A14FCZP	8500
2013	Sintesi e caratterizzazione di nanoparticelle metalliche funzionalizzate con dimensioni e proprietà modulabili per applicazioni in biofotonica	Ateneo Sapienza Ricerca C26A13HRZ4	7000
2011	Nanoparticelle polimeriche e metalliche funzionalizzate: sintesi, caratterizzazione e studi applicativi in biotecnologia e fotovoltaico	Ateneo Sapienza Ricerca C26A11PKS2	12000

Part VI B grants as coinvestigator

Year	Title	Program	Grant total value(Euro)
2013-2014	Preparazione di materiali nanostrutturati innovativi a base polimerica e compositi come assorbitori di etilene prodotto dalla frutta nelle fasi di stoccaggio e trasporto	Grant ENEA Progetto: "Risparmio di energia elettrica nei settori: civile, industria e servizi" Obiettivo: "Tecnologie per l'industria del freddo" Resp ENEA L. Querda Resp. Sapienza M.V. Russo	25000
2011	Polimeri nanostrutturati per applicazioni avanzate in biomedicina	Ateneo Sapienza FARI Anno: 2011 - prot. C26I11WH3P Resp M.V. Russo	7000
2010	Sintesi e caratterizzazione di nanomateriali: particelle polimeriche e metalliche funzionalizzate per applicazioni in biomedicina	Progetti di Ricerca di Università Sapienza Anno: 2010 – prot. C26A10ZSHC Resp M.V. Russo	10000
2009	Sintesi e caratterizzazione di nanosistemi: particelle polimeriche e metalliche funzionalizzate per applicazioni in sensoristica e biomedicina	Progetti di Ricerca di Università Anno: 2009 - prot. C26A09AS5R Resp M.V. Russo	12000
2008	Sviluppo sintetico e caratterizzazione elettronica avanzata di nuovi sistemi molecolari d'interesse nelle scienze dei materiali nano strutturati	Ricerca di Ateneo Federato AST-prot. 26F09MA27 Resp. S. Stranges	10000
2010-2011	Polimeri nanostrutturati per applicazioni avanzate in biomedicina	Progetti di Grande Rilevanza, selezionati nel quadro del Programma Esecutivo di cooperazione scientifica e tecnologica tra Italia e Brasile nel settore MA-5, Materiali Avanzati, Ministero Affari Esteri Resp. M.V. Russo	40000
2008-2010	Satellite structure of photoelectron spectra of atoms and chemical compounds	CNR/RAS 2008-2010 Resp. L. Avaldi	Support for mobility
2008	Sintesi e caratterizzazione di polimeri nano strutturati e macrocicli tetrapirrolici	Progetti di Ricerca di Università 2008 prot C26A08LHEK Resp. M.V. Russo	20000

Part VII A– Organization Activities and other institutional roles

Period	Role
2012-2016	Member of the Commission for Quality Control (Team Qualità) for the didactics in Chemistry Bachelor and Master Degrees
2011-2015	Member for Area CUN CHIM03, Macroarea 1-Ateneo Sapienza (Referente d'area)
2013-2016	Member of the "Giunta" for Chemistry Department (from 31/10/2013, 3 years)
2016	Member of "Giunta " of Science MFN Faculty from 24/02/2016, to 31/10/2016
2015	Responsible of the Quality Control team for the Master Degree in Chemistry (Responsabile del Riesame)
2015-ongoing	RAM, "Referente Accademico per la Mobilità Internazionale" for Chemistry and Industrial Chemistry (delibera di Facoltà del 10/12/2015)
2015-ongoing	CAM, Coordinatore Accademico per la Mobilità Internazionale for Chemistry and Industrial Chemistry (delibera di Facoltà del 10/12/2015)
2015-ongoing	Member of the PhD Board of the PhD School in Chemical Sciences of the University of Rome La Sapienza
2016	Member of the commission for the admission to the PhD School in Chemical Sciences of the University of Rome La Sapienza (XXXII Cycle)
2017	Member of the commission for the final exam of the PhD School in Material Science Nanotechnology and Complex systems, XXIX cycle, Roma Tre
2018	Member of the Faculty of Science MFN commission for the teaching assignments (conferimento incarichi di insegnamento) for the a.a. 2018-2019
2018	President of two Faculty commissions for TOLC-S tests for a.a. 2018-2019 (14/09/2018 and 17/09/2018)
2010-ongoing	Member of Faculty Commissions for Erasmus grants mobility for students
2014-ongoing	Member of Faculty Commissions for Erasmus scholarship (borse di collaborazione per Laboratorio Didattico di Tutoraggio/ERASMUS)

Part VII B– Reviewer and Editorial Activity

Projects referee

2018	Referee for research proposals submitted to the FONDECYT Regular 2019 grant competition, an initiative of the Chilean National Science and Technology Commission (CONICYT, Chile)
2015-ongoing	Referee for national Projects (Reprise Register of Expert Peer Reviewers for Italian Scientific Evaluation MIUR)
2013-2015	Referee for the Ministero dell'Istruzione dell'Università e della Ricerca (MIUR – Italian Administration) in the frame of the calls: FIRB 2013
2011-2013	Referee for the evaluation of research products conferred in the VQR 2004-2010.

Journals referee

Editor	Journals
Elsevier	Sensors & Actuators: B. Chemical, Acta Biomaterialia, Polymer, Journal of Organometallic Chemistry, Colloids and Surfaces B: Biointerfaces, Colloids and Surfaces A, Materials Letters
Wiley	Journal of Applied Polymer Science, Chemistry - A European Journal
ACS	ACS Applied Materials & Interfaces, Langmuir, ACS Applied Nano Materials, ACS Biomaterials Science & Engineering
Royal Society of Chemistry	Dalton Transactions, Inorganic Chemistry Frontiers, Journal of Materials Chemistry B, Nanoscale.
MPDI	Journal of Nanomaterials, Nanomaterials
Future Medicine	Nanomedicine
Springer	Transition Metal Chemistry, Journal of Nanostructure in Chemistry

Editorial Activity

Date	Journal/role
2018-ongoing	New Multidisciplinary Journal Sci (MPDI): Member of the Advisory Board ISSN 2413-4155, mdpi.com/journal/sci ; https://www.mdpi.com/journal/sci/editors
2015-ongoing	Journal of Nanomaterials (Hindawi): Member of the Editorial Board peer-reviewed, open access journal, Impact Factor 2016 = 1.871

2018-ongoing	Sensors, section Chemical Sensors (MPDI): Member of the Editorial Board
	peer-reviewed, open access journal, Impact Factor 2016 = 2.677

2018	Sensors, special Issue Nanoparticles based Gas Sensors (MPDI): Guest Editor
	peer-reviewed, open access journal, Impact Factor 2016 = 2.677

2018	Bioengineering, special Issue Gold Nanoparticles based Bioengineering Applications (MPDI): Guest Editor
	peer-reviewed, open access journal, Impact Factor 2016 = 2.677

2018	Materials, special Issue Noble Metal Nanoparticles (MPDI): Guest Editor
	peer-reviewed, open access journal, Impact Factor 2016 = 2.677

Chair Activity

2017	Conferenza Nanoinnovation Conference and Exhibition, (Roma 26-29 Settembre 2017), sessione Nanotechnology for new devices and systems
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Part VIII– Research Activities

My research interest concerns the topics of Inorganic Chemistry, and specifically chemical synthesis, structural and functional characterizations of innovative and nanostructured materials with the final aim of developing knowledge-based materials for advanced technological applications. In particular, my research approach integrates the advanced synthesis methods for organometallic complexes and rigid rod polymers, nanostructured polymers, and functionalized metal nanoparticles, with structural and functional characterization of the materials, that are suitable for applications in optoelectronics, sensors, photonics, nanomedicine and biotechnology. In the following paragraphs, the research topics are summarized in three main subject areas.

Keywords	Brief Description
Pt(II) and Pd(II) square planar complexes	Organometallic polymers and model molecules
Metal Alkynyl complexes	The research on organometallic polymers and model molecules concerned an important field of Inorganic Chemistry, focusing on the synthesis of new alkynyl complexes, model molecules, oligomers and rigid rod polymers and on their structural characterizations. The focus of this topic was aimed at the obtainment of p-conjugated systems: the extension of the conjugation length through the metal d electrons can be tuned by a proper choice of the synthetic parameters and make these materials good candidates for example for optoelectronic applications. I focused my studies on derivatives of 1,4-diethynylbenzene, 2,6-diethynyl-4-nitroaniline, 1,1'-bisethynyl-4,4'-biphenyl or diethynylporphyrin, and thanks to different metal-carbon coupling reactions (i.e. Stille and Hagihara routes), soluble and stable mononuclear, binuclear and polynuclear complexes or metal-polyynes were obtained, in the presence of square planar Pt(II) or Pd(II) complexes. The synthetic pathways were compared, and it was possible to isolate oligomers with a very well-defined number of repeating units. FTIR, UV-vis, PL, ¹ H, ³¹ P, ¹³ C-NMR, GPC and XPS studies were used to assess the structural features and synchrotron radiation spectroscopies such as NEXAFS, EXAFS and REFL-EXAFS allowed to study the local structure around the metal centers and molecular orientation onto different substrates. Morphology studies were carried out by SEM and AFM and the materials were successfully used as chemical sensors in MBQ and SAW devices. The interaction with donor analytes like H ₂ S was studied and with combined spectroscopic techniques and EXAFS studies highlighted the formation of pentacoordinated platinum units in square-pyramidal geometry.
Rigid-rod polymers	This Research activity was supported by Ateneo grants Sapienza 2000-2014; MAE bilateral agreement with Brazil 2010.
Conjugated polymers	This research activity is represented by 25 papers in international journals and 1 international patent.
Metal polyynes	

Keywords	Brief Description
Nanostructured polymers	Nanostructured polymers: polyacetylene derivatives, polyacrylates and copolymers
Monosubstituted polyacetylenes	<p>Another topic of my research was focused on the synthesis of bulk and nanostructured polymers. Starting from monosubstituted polyacetylene derivatives, synthesized in the presence of Rh(I) complexes or with on purpose prepared Pd(II) complexes, I obtained a series of conjugated monosubstituted polyacetylenes. These materials showed the advantage, compared the polyacetylene itself, of being soluble and easily processable, maintaining however the semi conduction properties due to the alternate system of conjugated double bonds. One of the main objectives of this study was to obtain thin films suitable for resistive sensor applications and the tests carried out proved these materials to be sensitive to very low levels of relative humidity and alcohols (down to 0.02 mol/m³), with reproducible and selective responses. In order to drive the deposition of nanostructured films, a physical method for precipitation was object of an international patent. The idea was to control the precipitation by using an osmosis-based procedure. The method revealed to be applicable to really different polymers, either synthetic and natural, giving rise to different shapes and sizes from micro to the nanoscale. The research's interest towards the synthesis of nanostructured polymers was then oriented to the radical polymerization in emulsion conditions, in order to obtain polymeric nanobeads with different surface functionalities. Among others, acrylate monomers were used both alone and in the presence of co-monomers. The potentiality of this method was exploited and polymeric nanospheres with sizes in the range 50-800 nm were obtained. When deposited in large scale domains, the nanospheres self-assembly in ordered photonic crystals and the surface functionality can be tuned towards different degrees of hydrophilicity. These last systems were tested to be biocompatible and used in the loading of drugs and bioactive molecules (such as antibodies or enzymes) and tested in drug delivery and biocatalysis applications.</p>
Polyacrylates	
Polymeric nanospheres	
Drug loading and release	
Nanobiotechnology	
Sensors	
	This Research activity was supported by Ateneo grants Sapienza 2010-2017; ENEA 2013.
	This research activity is represented by 23 papers in international journals, 1 book chapter, and 1 international patent.

Keywords	Brief Description
Metal nanoparticles	Metal nanoparticles with tunable surface functionalization
AuNPs, AgNPs, PtNPs	<p>In recent years, my research activity has mostly concerned the synthesis and structural characterization of functionalized metal nanoparticles. This relatively recent branch of Inorganic Chemistry studies systems on the nanoscale, their characterizations and the relationship between structure and properties. In particular, my investigation was focused on the synthesis of Au, Ag, Pt, and Pd nanoparticles, systems with very low size (2-40 nm) and tunable functional layers onto the surface. In the first studies, the synthesis was optimized for organic alkylic and aromatic thiols, either in water or in organic solvent conditions. With this approach water or organic solvent stable colloidal suspensions can be obtained. Hydrophilic and hydrophobic thiols were proved to be stable ligands on the metal surface. The structural and morphology characterizations (FTIR, Far-IR, ATR, UV-vis, PL, NMR, XPS, GIXD, XAS SEM, AFM, TEM) were carried out together with the dynamic light scattering and Zeta potential studies. The surface charge is a fundamental subject in this field and, in particular, positively or negatively charged nanoparticles were obtained. In order to tune this feature, reactions in the presence of a mixture of thiols were also carried out. As an applicative development of these studies, hydrophilic gold and silver nanoparticles were used as drug loading systems. One of the most recent result successfully demonstrated the topical delivery of the drug methotrexate for medical application. Moreover, the previous studies I carried out on organometallic Pt(II) and Pd(II) complexes have been my inspiration for a one-pot diacylation reaction on organometallic derivatives and allowed to produce stable metal nanoparticles starting from mononuclear and dinuclear metal thiolate complexes. This last topic is currently under study in my laboratory: when a terminal dithiolate is used, it is possible to obtain interconnected metal nanoparticles, which open new perspectives in the solid state applications for example in optoelectronic devices. Experimental tests on electric conductivity successfully demonstrated a semi-conductive characteristic of the interconnected metal nanoparticles which varies depending on the chosen dithiolate.</p>
Hydrophilic metal nanoparticles	
Hydrophobic metal nanoparticles	
Optoelectronics	
Drug loading and release	
	This Research activity was supported by Ateneo grants Sapienza 2014-2017.
	This research activity is represented by 45 papers in international journals.

Part IX – Summary of Scientific Achievements

Product type	Number	Data Base
Total number of papers on international peer reviewed journals	102	Scopus
Total number of Book Chapters on Scopus	3	Scopus
Total number of Conference Papers Scopus	7	Scopus
Total number of papers, including conference papers and books	112	Scopus
Total number of Patents	3 + 1 ongoing	Scopus
H index	28	Scopus
Total number of citations	1935	Scopus
Average citations per publication	18,9 (obtained as 1935/102)	Scopus
	18.5 (considering only the citations of the 102 papers, equal to 1890, i.e. 1890/102)	Scopus
	17.3 (obtained as 1935/112)	Scopus
Total Impact Factor*	312	Journal Citation Reports (JCR)
Average Impact Factor per publication*, ¥	3,1	Journal Citation Reports (JCR)
Number of papers in the last 10 years	75 (71 on international journals + 4 conference papers)	Scopus
H index in the last 15 years	27	Scopus
Total Number of Papers as corresponding author	40	Scopus
Total Number of Papers as Last Author (Leader Researcher)	12	Scopus
Total Number of Papers as First Author	23	Scopus

The Impact Factor is related to the year of publication (for the most recent publications, if not yet available, the IF related to the previous year of the publication year is used). ¥ Obtained by (Total Impact Factor) / 102 since the book chapters, conference papers and patents do not contribute to the total impact factor. Total Impact factor calculated from data obtained using the Journal of Citation Reports database; Citation retrieved from Scopus (on 02/2019); Average Citation per Product calculated in respect to the number of products quoted in the Scopus Database.

Part X– Selected Publications for Evaluation

Here follows a list of the 12 publications selected for the evaluation (corresponding author is asterisked). The Impact Factor, IF (Journal of Citation Reports database) is related to the year of publication; for the most recent publications, if not yet available, the reported IF corresponds to the previous year with respect to the publication year. The IF for 2017 (last available year) is also reported together with the number of citations retrieved from Scopus (on 02/2019).

Total number of papers as corresponding author = 10

Total number as first author = 2

Total number as last author = 4

1) **Direct interaction of hydrophilic gold nanoparticles with dexamethasone drug: Loading and release study**

Venditti, I.; Fontana, L.; Fratoddi, I.*; Battocchio, C.; Cametti, C. Sennato, S.; Mura, F.; Sciubba, F.; Delfini, M.; Russo, M.V.

J. Colloid Interface Sci. 2014, 418, 52-60

doi: 10.1016/j.jcis.2013.11.063

[IF(2014) 3.368; IF(2017) 5.091; cit. 34]

2) **Network assembly of gold nanoparticles linked through fluorenyl dithiol bridge**

Quintiliani, M.; Bassetti, M.; Pasquini, C.; Battocchio, C.; Rossi, M.; Mura, F.; Matassa, R.; Fontana, L.; Russo, M.V.; Fratoddi, I.*

J. Mater. Chem. C, 2014, 2, 2517 – 2527

doi: 10.1039/c3tc32567a

[IF(2014) 4.696; IF(2017) 5.976; cit. 29]

3) **Platinum nanopartides on electrospun titania nanofibers as hydrogen sensing material working at room temperature**

Fratoddi, I.; Macagnano, A.; Battocchio, C.; Zampetti, E.; Venditti, I.; Russo, M.V.; Bearzotti, A.

Nanoscale, 2014, 6, 9177-9184.

doi: 10.1039/c4nr01400f

[IF(2014) 6.739; IF(2017) 7.233; cit. 35]

4) **Candida rugosa lipase immobilization on hydrophilic charged gold nanoparticles as promising biocatalysts: activity and stability investigations**

Venditti, I.; Palocci, C.; Chronopoulou, L.; Fratoddi, I.*; Fontana, L.; Diociaiuti, M.; Russo, M.V.

Colloids and Surfaces B: Biointerfaces, 2015, 131, 96-101

doi:10.1016/j.colsurfb.2015.04.046

[IF(2015) 3.902; IF(2017) 3.997; cit. 33]

5) **Bioconjugation of Gold-Polymer Core-Shell Nanoparticles with Bovine Serum Amino Oxidase for Biomedical Applications**

Venditti, I.; Hassanein, T. F.; Fratoddi, I.*; Fontana, L.; Battocchio, C.; Rinaldi, F.; Carafa, I.; Marianecchi, C.; Diociaiuti, M.; Agostinelli, E.; Cametti, C.; Russo, M.V.

Colloids and Surfaces B, 2015, 134, 314-321

doi 10.1016/j.colsurfb.2015.06.052

[IF(2015) 3.902; IF(2017) 3.997; cit. 25]

6) **Structural studies on drop-cast film based on functionalized gold nanoparticles network: the effect of heating treatment**

Fontana, L.; Fratoddi, I.*; Venditti, I.; Ksenzov, D.; Russo, M.V.; Grigorian, S.

Applied Surface Science 2016, 369, 115-119
doi: 10.1016/j.apsusc.2016.02.029
[IF(2016) 3.387; IF(2017) 3.495; cit. 11]

7) Functionalized gold nanoparticles for topical delivery of methotrexate for the treatment of psoriasis
Bessar, H.; Venditti, I.; Benassi, L.; Vaschieri, C.; Azzoni, P.; Pellacani, G.; Magnoni, C.; Botti, E.; Casagrande, V.; Federici, M.; Costanzo, A.; Fontana, L; Testa, G.; Mostafa, F. F.; S. A. Ibraim; Russo, M.V.; Fratoddi, I.*;
Colloids and Surfaces B: Biointerfaces 2016, 141, 141–147
doi: 10.1016/j.colsurfb.2016.01.021
[IF(2016) 3.887; IF(2017) 3.997; cit. 39]

8) Synthesis of Functionalized Gold Nanoparticles Capped with 1-Thiolglucose and “in Vitro” Bioresponse
Porcaro, F.; Battocchio, C.; Antocchia, A.; Fratoddi, I.*; Venditti, I.; Fracassi, A.; Moreno, S.; Luisetto, I.; Russo, M.V.; Polzonetti, G.
Colloids and Surfaces B 2016, 142, 408-416
doi: 10.1016/j.colsurfb.2016.03.016
[IF(2016) 3.887; IF(2017) 3.997; cit. 11]

9) Electron Microscopy Reveals Soluble Hybrid Network of Individual Nanocrystal Self-Anchored by Bifunctional Thiol Fluorescent Bridges
Matassa, R., Familiari, G.; Battaglione, E.; Sibilìa, C.; Lehau, G.; Belardini, A.; Venditti, I.; Fontana, L.; Fratoddi, I.
Nanoscale 2016, 8, 18161-18169
doi: 10.1039/c6nr06260a
[IF(2016) 7.367; IF(2017) 7.233; cit. 14]

10) Hydrophilic Metal Nanoparticles Functionalized by 2-Diethylaminoethanethiol: A Close Look at the Metal–Ligand Interaction and Interface Chemical Structure
Venditti, I.; Testa, G.; Sciubba, F.; Carlini, L.; Porcaro, F.; Meneghini, C.; Mobilio, S.; Battocchio, C.; Fratoddi, I.*;
J. Phys. Chem. C, **2017**, 121, 8002-8013.
doi: 10.1021/acs.jpcc.7b01424
[IF(2017) 4.50; cit. 10]

11) Electronic Properties of a Functionalized Noble Metal Nanoparticles Covalent Network
Fratoddi, I.*; Matassa, R. Fontana, L., Venditti, I.; Familiari, G.; Battocchio, C.; Magnano, E.; Nappini, S.; Leahu, G.; Belardini, A.; Li Voti, R.; Sibilìa, C.
J Phys Chem C 2017, 121, 18110-18119
doi: 10.1021/acs.jpcc.7b07176
[IF(2017) 4.50; cit. 6]

12) Nucleobases functionalized quantum dots and gold nanoparticles bioconjugates as a FRET system – synthesis, characterization and potential applications
Lewandowska-Lancucka, J.; Rodzik-Czałka, Ł.; Gatta, V.; Venditti, I.; Fratoddi, I.*; Szuwarzyński, M.; Romek, M.; Nowakowska, M.
J. Colloid. Interf. Sci. 2018, 514, 479-490
Doi: 10.1016/j.jcis.2017.12.060
[IF(2017) 4.23; cit. 3]

Part XI– Direction or Participation to the activities of a research group characterized by international and national collaboration.

My research activity is carried out in the Dpt of Chemistry of Sapienza and I coordinate my research group called *Laboratorio Materiali Nanostrutturati* independently from 4 years. In my laboratory I have the opportunity to discuss daily the research results with several master students and during this time I was supported by the work of the PhD students I have tutored. I had the opportunity to coordinate also postdocs as visiting scientists and this gave to me the chance to improve the national and international collaborations.

In the last years I collaborated with several colleagues at the department of Chemistry, only to cite some of them: C. Palocci (biocatalysis), M. Delfini, F. Sciubba (NMR), A. Cartoni (radioguided surgery), M. Bassetti, (organic synthesis), E. Bodo (theoretical studies), D. Dini (applications in energy). Moreover, in my research I work in collaboration with several national and international groups for specific characterizations and applicative tests. It follows a short indicative list of the main collaborations together with the most relevant publications in collaboration:

National collaborations:

Thanks to the collaboration with Prof G. Familiari, R. Matassa, R. Li Voti, A. Belardini, C. Sibilìa (Sapienza) and F. De Matteis, P. Proposito (Tor Vergata), I had the opportunity to deeply investigate the photonic behaviour of nanostructured polymers and plasmonic nanoparticles.

- Electron Microscopy Reveals Soluble Hybrid Network of Individual Nanocrystal Self-Anchored by Bifunctional Thiol Fluorescent Bridges
Matassa, R., Familiari, G.; Battaglione, E.; Sibilìa, C.; Leahu, G.; Belardini, A.; Venditti, I.; Fontana, L.; Fratoddi, I., *Nanoscale* 2016, 8, 18161-18169
- Electronic Properties of a Functionalized Noble Metal Nanoparticles Covalent Network
Fratoddi, I.*; Matassa, R. Fontana, L., Venditti, I.; Familiari, G.; Battocchio, C.; Magnano, E.; Nappini, S.; Leahu, G.; Belardini, A.; Li Voti, R.; Sibilìa, C., *J Phys Chem C* 2017, 121, 18110-18119
- From nanospheres to microribbons: self-assembled Eosin Y doped PMMA nanoparticles as photonic crystals
De Angelis, R.; Venditti, I.; Fratoddi, I.; De Matteis, F.; Proposito, P.; Cacciotti, I.; D'Amico, L.; Nanni, F.; Yadav, A.; Casalboni, M.; Russo, M. V., *Journal of Colloid and Interface Science*, 2014, 414, 24-32

The collaboration with Prof. C. Battocchio (Roma Tre) had the main objective to elucidate the structural properties of materials with synchrotron assisted techniques.

- Self-Assembling Monolayers of dialkynyl bridged Pd(II) thiols obtained by thermally induced multilayer desorption: thermal and chemical stability investigated by SR-XPS
Battocchio, C.; Fratoddi, I.; Bondino, F.; Malvestuto, M.; Russo, M.V.; Polzonetti, G. *Chemical Physics Letters* 2012, 527, 57-62
- Gold nanoparticles stabilized with aromatic thiols: interaction at the molecule-metal interface and structure of the molecular shell investigated by SR-XPS and NEXAFS
Battocchio, C.; Porcaro, F.; Mukherjee, S.; Magnano, E.; Nappini, S.; Fratoddi, I.; Quintiliani, M.; Russo, M.V.; Polzonetti, G. *J Phys Chem C*, 2014, 118, 8159 - 8168

The collaboration with Dott. A. Bearzotti (CNR) was mainly focused on sensing studies with resistive and microbalance quartz devices.

- Platinum nanoparticles on electrospun titania nanofibers as hydrogen sensing material working at room temperature
Fratoddi, I.; Macagnano, A.; Battocchio, C.; Zampetti, E.; Venditti, I.; Russo, M.V.; Bearzotti, A. *Nanoscale*, 2014, 6, 9177-9184.

The biological studies, such as biocompatibility and tests on cells and murine models were carried out with the collaboration of several groups, for example:

Policlinico Gemelli and Physics Department Sapienza, prof R. Faccini and P.Giordano on radioguided surgery:

- Feasibility of β -particle Radio Guided Surgery for a variety of "nuclear medicine" Radionuclides
Mancini-Terracciano, C.; Donnarumma, R.; Bendivenga, G.; Bocci, V.; Cartoni, A.; Collamati, F.; Fratoddi, I.; Giordano, A.; Indovina, L.; Maccora, D.; Marafini, M.; Mirabelli, R.; Morganti, S.; Rotili, D.; Russomando, A.; Scotognella, T.; Solfaroli Camillocci, E.; Toppi, M.; Traini, G.; Venditti, I.; Faccini, F. *Physica Medica*, 2017, 43, 127–133

University of Tor Vergata, dr. E. Botti and University of Modena, Prof. G. Pellacani, L.Benassi for murine models studies and for topical drug delivery studies on nanoparticles.

- Functionalized gold nanoparticles for topical delivery of methotrexate for the treatment of psoriasis
Bessar, H.; Venditti, I.; Benassi, L.; Vaschieri, C.; Azzoni, P.; Pellacani, G.; Magnoni, C.; Botti, E.; Casagrande, V.; Federici, M.; Costanzo, A.; Fontana, L; Testa, G.; Mostafa, F. F.; S. A. Ibrahim; Russo, M.V.; Fratoddi, I.*; *Colloids and Surfaces B: Biointerfaces* 2016, 141, 141–147
- Effects of topical methotrexate loaded gold nanoparticle in cutaneous inflammatory mouse model
Fratoddi, I.; Benassi, L.; Botti, E.; Vaschieri, C.; Venditti, I.; Bessar, H.; Mai, S. A.; Azzoni, P.; Magnoni, C.; Costanzo, A.; Casagrande, V.; Federici, M.; Bianchi, L.; Pellacani, G. *Nanomedicine: Nanotechnology, Biology, and Medicine*, accepted 2019

International Collaborations

The collaboration with prof. S. Grigorian (University of Siegen, Germany) helped me to study the electronic transport mechanism of nanomaterials. Moreover, the GIXD and XRay absorption studies carried out in collaboration were used to investigate the 3D arrangement of metal nanoparticles. Prof Grigorian spent three months here in Sapienza during 2018, thanks to a grant as a Visiting Professor. This experience was really important to consolidate our collaboration and during his stay we submitted applications for synchrotron shifts (Dormund and Paris) and for an international call joint with a group in the university of Marseille. We are waiting for the referring process.

- Local structure of semicrystalline P3HT films probed by nanofocused coherent x-rays
Kurta, R.P.; Grodd, L.; Mikayelyan, E.; Gorobtsov, O.Y.; Zaluzhnyy, I.A.; Fratoddi, I.; Venditti, I.; Russo, M.V.; Sprung, M.; Vartanyants, I.A.; Grigorian, S. *Phys. Chem. Chem. Phys.*, 2015, 17, 7404-7410
- Structural studies on drop-cast film based on functionalized gold nanoparticles network: the effect of heating treatment
Fontana, L.; Fratoddi, I.*; Venditti, I.; Ksenzov, D.; Russo, M.V.; Grigorian, S. *Applied Surface Science* 2016, 369, 115-119

Another important international collaboration is with prof C.F.O. Graeff (University of Bauru). We obtained an important grant in 2010 and we started a fruitful collaboration on the use of metal polyynes and recently one of the Master student I am tutoring was in Brazil for a visit of 6 months supported by a grant of Regione Lazio. We are planning new researches together and we applied for a Brazilian grant together.

- Structural Changes of Conjugated Pt-Containing Polymetallaynes Exposed to Gamma Ray Radiation Doses
Fratoddi, I.; Bronze-Uhle, E.S.; Batagin-Neto, A.; Fernandes, D.M.; Bodo, E.; Battocchio, C.; Venditti, I.; Decker, F.; Russo, M.V.; Polzonetti, G.; Graeff, C.F.O. *J. Phys. Chem. A* 2012, 116, 8768–8774
- Poly [1,1'-bis(ethynyl)-4,4'-biphenyl(bis-tributylphosphine)Pt(II)] solutions used as low dose ionizing radiation dosimeter
Bronze-Uhle, E. S.; Batagin-Neto, A.; Fernandes, D. M.; Fratoddi, I.; Russo, M. V., O. Graeff, C. F. *Applied Physics Letters*, 2013, 102, 241917 4

I recently started a new collaboration with Prof. R. Huirache Acuna (University of Mexico) and we are organizing an exchange visit for a PhD student on the preparation and applications of nanoparticles in biotechnology.

Part – XII Conference communications

The results of my research work have been presented by me and by my co-workers with poster (P) and oral (O) presentation in more than 180 communications held at national and international congresses from 1996 to 2018.

Herein I give a short list of a selection of the most relevant communications in the last 5 years. When the contribution was an oral by myself, I wrote **O***.

- 1)** Nanostructured polymers decorated with Cu(I) salts as novel active materials for ethylene detection
Caprioli, F.; Di Lorenzo, P.; Palumbo, D.; Venditti, I.; Fratoddi, I.; Russo, M.V.; Quercia, L.
symposium B: Advanced functional materials for environmental monitoring and applications of the E-MRS 2014 Spring Meeting, Lille (France) from May 26 to 30, 2014. (P)
- 2)** Functional Gold Nanoparticles for biomedical applications
Venditti, I.; Fratoddi, I.; Porcaro, F.; Battocchio, C.; Polzonetti, G.; Russo, M.V.
XXV Congresso della Società Chimica Italiana, Arcavacata di Rende, Cs, 6-12 settembre 2014 (O)
- 3)** Bifunctional ligands as capping agent for gold nanoparticles: synthesis and characterizations
Fontana, L.; Fratoddi, I.; Venditti, I.; Russo, M.V.
XXV Congresso della Società Chimica Italiana, Arcavacata di Rende, Cs, 6-12 settembre 2014 (P)
- 4)** Structural properties of semicrystalline P3HT films probed by nanofocused diffraction
Kurta, R.; Grodd, L.; Mikayelyan, E.; Gorobtsov, O.; Zaluzhnyy, I.; Fratoddi, I.; Venditti, I.; Sprung, M.; Grigorian, S.; Vartanyants, I.
XTOP conference 2014, 12th Biennial Conference on High Resolution X-ray Diffraction and Imaging
14-19 September 2014 Villard de Lans France (O)
- 5)** Hydrophobic noble metal nanoparticles: synthesis, characterization and perspectives as gas sensing materials
Bearzotti, A.; Fontana, L.; Fratoddi, I.; Venditti, I.; Testa, G.; Rasi, S.; Gatta, V.; Russo, M.V.; Zampetti, E.; Papa, P.; Macagnano, A.
Euroensors 2015 XXIX edition of the conference series Freiburg, Germany, September 6 to 9, 2015 (P).
- 6)** Gold and silver nanoparticles conjugated with Rhodamine B isothiocyanate: synthesis and depth characterization
Venditti, I.; Sciubba, F.; Delfini, M.; Battocchio, C.; Polzonetti, G.; Fontana, L.; Testa, G.; Russo, M.V.; Fratoddi, I.
XXLIII Congresso della Società Chimica Italiana-Chimica Inorganica, Camerino, 9-12 settembre 2015, (P).
- 7)** Femtosecond time-resolved optical studies of functionalized metal nanoparticle systems
Catone, D.; O'Keeffe, P.; Paladini, A.; Toschi, F.; Turchini, S.; Testa, G.; Cartoni, A.; Fratoddi, I.; Venditti, I.; Avaldi, L.
Third COST Conference on Optical Nanospectroscopy Rome March 22-25, 2016 (O)
- 8)** Gold and silver functionalized nanoparticles as advanced materials for optoelectronic devices
Fontana, L.; Venditti, I.; Fratoddi, I.; Leahu, G.; Belardini, A.; Li Voti, R.; Sibilìa, C.; Familiari, G.; Matassa, M.
Fotonica, 2016 Roma 6-8 giugno 2016 (O)
- 9)** Yttrium embedded in dye doped polymeric nanoparticles
Venditti, I.; Fratoddi, I.; Testa, G.; Cartoni, A.; Fontana, L.; Faccini, R.; Solfaroli, E.
ECIS Rome 2-6 September 2016 (P)

- 10)** Gold and silver functionalized nanoparticle-based networks as advanced materials for optoelectronics
Fratoddi, I.; Testa, G.; Fontana, L.; Venditti, I.; Russo, M.V.; Belardini, A.; Li Voti, R.; Leahu, G.; Sibilia, C.; Battocchio, C.; Porcaro, F.; Carlini, L.; Polzonetti, G.; Matassa, R.; Familiari, G.
Società Chimica Italiana, Congresso Chimica Inorganica Padova 11-14/09/2016 (O*)
- 11)** Charged Noble Metal Nanoparticles: Hydrophilic Systems for Advanced Nanotechnologies
Venditti, I.; Testa, G.; Fontana, L.; Carloni, A.; Battocchio, C.; Porcaro, F.; Carlini, L.; Polzonetti, G.; Russo, M.V.; Fratoddi, I.
Società Chimica Italiana, Congresso Chimica Inorganica Padova 11-14/09/2016 (O)
- 12)** Interaction of colloidal silver nanoparticles with Ni²⁺: sensing application
Mochi, F.; Venditti, I.; Fratoddi, I.; Battocchio, C.; Carlini, L.; Iucci, G.; Casalboni, M.; De Matteis, F.; Proposito, P.
EuroSensors 2017, 3-6/09/2017, Parigi (P)
- 13)** Networks based on functionalized noble metal nanoparticles: advanced materials for optical and electronic applications
Fratoddi, I.; Venditti, I.; Fontana, L.; Sibilia, C.; Leahu, G.; Belardini, A.; Li Voti, R.; Battocchio, C.; Matassa, R.; Familiari, G.
Società Chimica Italiana, Congresso Chimica Inorganica Paestum Sa 10-14/09/2017 (O*)
- 14)** Drug delivery systems: hydrophilic gold nanoparticles for controlled drug loading and release
Venditti, I.; Porchia, M.; Tisato, F.; Santini, C.; Pellei, M.; Iucci, G.; Battocchio, C.; Pietrosanti, C.; Testa, G.; Fratoddi, I.
Società Chimica Italiana, Congresso Chimica Inorganica Paestum Sa 10-14/09/2017 (O)
- 15)** Hybrid metal-organic conductive network with plasmonic nanoparticles and fluorene
Fontana, L.; Fratoddi, I.; Matassa, R.; Familiari; Venditti, I.; Battocchio, C.; Magnano, E.; Nappini, S.; Leahu, G.; Belardini, A.; Li Voti, R.; Sibilia, C.
SPIE Prague 09/2017 (P)
- 16)** Characterization of noble metal functionalized nanoparticles-based networks by Photoacoustic Spectroscopy
Fontana, L.; Fratoddi, I.; Matassa, R.; Familiari; Leahu, G.; Belardini, A.; Li Voti, R.; Sibilia, C.
Twentieth Symposium on thermophysical properties, Boulder, Colorado, USA, nel periodo 24–29 Giugno, 2018, <http://www.thermosymposium.nist.gov/> (P), premiato come miglior contributo
- 17)** Noble Metal Functionalized Nanoparticles based Networks: Synthesis, and Photoacoustic Spectroscopy Characterizations
Fratoddi, I.; Matassa, R.; Li Voti, R.; Grigorian, S.; Fioravanti, F.; Fontana, L.; Familiari, G.; Leahu, G.; Belardini, A.; Sibilia, C.
46° Congresso Nazionale di Chimica Inorganica-SCI (Bologna 10-13 settembre 2018) (O*)
- 18)** Functionalized gold nanoparticles as drug delivery systems for diagnosis and treatment of amyloid related disease: a study on Salmon Calcitonin
Fioravanti, R.; Fratoddi, I.; Micheletti, N.; Diociaiuti, M.
46° Congresso Nazionale di Chimica Inorganica-SCI (Bologna 10-13 settembre 2018) (P)

Part – XIII Complete list of Publications

Here follows the complete list of publications present on Scopus on 02/2019. The corresponding author is asterisked. The Impact Factor, IF (Journal of Citation Reports database) is related to the year of publication; for the most recent publications, if not yet available, the reported IF corresponds to the previous year with respect to the publication year. The IF for 2017 (last available year) is also reported together with the number of citations retrieved from Scopus (on 02/2019).

XIII-A: Publications on international Journals

Total number of papers = 102

Total number of papers as corresponding author = 40

Total number as first author = 23

Total number as last author = 12

1) Synthesis and XPS Characterisation of Organometallic Pd Containing Polymers from Monosubstituted Acetylenes

Russo, M. V.; Furlani, A.; Altamura, P.; Fratoddi, I.; Polzonetti, G.

Polymer 1997, 38(14), 3677-3690.

doi:10.1016/S0032-3861(96)00925-1

[IF(1997) 1.529; IF(2017) 3.48; cit. 28]

2) X-ray photoelectron spectroscopy and scanning electron microscopy characterization of novel poly(monosubstituted) acetylenes containing doping species

Russo, M. V.; Polzonetti, G.; Furlani, A.; Bearzotti, A.; Fratoddi, I.; Altamura, P.

Journal of Vacuum Science & Technology, A: Vacuum, Surfaces, and Films 1998, 16(1), 35-44.

doi:10.1116/1.581006

[IF(1998) 0.101; IF(2017) 1.761; cit. 6]

3) Electrical and morphological characterization of new π -conjugated polymer films as gas sensors

Altamura, P.; Bearzotti, A.; D'Amico, A.; Foglietti, V.; Fratoddi, I.; Furlani, A.; Padeletti, G.; Russo, M. V.; Scavia, G.

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XIV-C: Book Chapters

1) Breakthroughs for gold nanoparticles: perspectives and applications

Fratoddi, I.*.; Venditti, I.; Russo, M.V.

Expert Commentary, in "Gold Nanoparticles: Properties, Characterization and Fabrication.", 2010, Editor: P. Chow (Nova Science Publishers, Inc NY) chapter 13, 299-306 ISBN: 978-1-61668-009-1

2) Chapter 1 "Nanostructured macromolecules" in Advances in macromolecules: perspectives and applications

Fratoddi, I.; Venditti, I.; Russo, M.V. Ed. MV Russo, Springer 2010 pp.1-100

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Fratoddi, I.*.; Battocchio, C.; Polzonetti G.

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Nanostructured Polymers: development and trends, highlights and shadows

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Expert Commentary, in Nanotechnology Research Developments, (2008), Editor: R. Jiménez-Contreras, (Nova Science Publishers, Inc NY) ISBN 1-60021-899-7, pp 1-5.

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XIV-D: Conference Proceedings on Scopus

1) Highly Ethynylated Polymers: Synthesis and Applications for Humidity Sensors

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2) Synthesis and Microstructural Analysis of Benzylthiol-functionalized Au Nanocrystals

Vitale, F.; Mirengi; Piscopiello, E.; Protopapa, M. L.; Tapfer, L.; Giannini, C.; Guagliardi, A.; Cervellino, A.; Pellegrini, G.; Trave, E.; Mattei, G.; Mazzoldi, P.; Fratoddi, I.; Russo, M.V.
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Kurta, R. P.; Grodd, L.; Mikayelyan, E.; Gorobtsov, O.Y.; Fratoddi, I.; Venditti, I.; Sprung, M.; Grigorian, S.; Vartanyants, I.A.
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6) Hydrophobic noble metal nanoparticles: synthesis, characterization and perspectives as gas sensing materials

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Fontana, L., Venditti, I., Fratoddi, I., Leahu, G., Belardini, A., Li Voti, R., Sibilìa, C., Matassa, R., Familiari, G.
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XIV-E: International Patents

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Palocci, C.; Russo, M. V.; Belsito, C.M.A.; Cernia, E.; D'Amato, R.; Fratoddi, I.; Panzavolta, F.; Soro, S.; Venditti, I.
Brevetto depositato in data 9 novembre 2004 n° RM2004A000555. PCT/IT20057000653 International Publication Number WO 2006051572 A3 20060518

2) Ionizing radiation dosimeter for measuring doses of ionizing radiation, comprises a sealed holder that houses an organometallic polymer formulation dissolved in a halogenated organic solvent in different concentrations

Graeff, C.F. O.; Bronze Uhle, E. S.; Fernandes, D.M.; Russo, M.V.; Fratoddi, I.;

Brevetto internazionale 2014 Patent Number: WO2014201536-A1. Patent Assignee: UNIV ESTADUAL PAULISTA DE MESQUITA FILHO. PCT/BR2014/000234

3) Chelati metallici della benzilguanidina come substrati del trasportatore della norepinefrina e loro uso come radiofarmaci

Faccini, R.; Solfaroli Camillocci, E.; Rotili, D.; Ciogli, A.; Cartoni, A.; Fratoddi, I.; Venditti, I.; Giordano, A.; Maccora, D.; Perotti, G.; Scotognella, T.

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4) Propulsore ionico ad alta efficienza

Di Lellis, A.M.; Fratoddi, I.; Venditti, I.; Leoni, R.; Gaggero, A.; Mattioli, F.; Seldi, S.

domanda numero 102018000004653 richiesto il 18/04/2018, in attesa di valutazione.

La sottoscritta presenta questo curriculum firmato come dichiarazione sostitutiva di certificazione ai sensi del DPR 445/2000, ed è consapevole delle sanzioni penali nelle quali incorrerebbe per dichiarazioni mendaci. Tale curriculum è accompagnato da fotocopia di un documento di riconoscimento valido (art. 76 DPR 445/2000) e dalle dichiarazioni di cui all'allegato C.

Roma, 13/02/2019



Dott.ssa Ilaria Fratoddi