

PERSONAL INFORMATION Francesca Eleonora Vittoria Giovanna Tessore

POSITION Research Associate in General and Inorganic Chemistry (Academic Discipline CHIM/03 - General and Inorganic Chemistry; Academic Recruitment Field 03/B1 - Principles of Chemistry and Inorganic Systems) (since November 1st 2006)

STUDIES APPLIED FOR PERSONAL STATEMENT

PhD in Industrial Chemistry
Replace with job applied for / position / preferred job / studies applied for / personal statement (delete non relevant headings in left column)

WORK EXPERIENCE

April 2017

National Scientific Qualification (art.16 of the law 30 December 2010, n.240) to Associate Professor (Academic Recruitment Field 03/B1 - Principles of Chemistry and Inorganic Systems)

November 1st 2006-today

Research Associate in General and Inorganic Chemistry

University of Milan, Department of Chemistry, via Golgi 19 - 20133 Milano

- Teaching activity for the Chemistry courses of the University of Milan; research activity in the field of materials for advanced applications

February 2005-October 31st 2006

EP-grade technician

Interdisciplinary Centre for Nanostructured Materials and Interfaces (CIMalNa), University of Milan

- Research activity in the field of materials for advanced applications

November 2002-February 2005

Post-doctoral fellow

Interdisciplinary Centre for Nanostructured Materials and Interfaces (CIMalNa), University of Milan

- Research activity in the field of materials for advanced applications

April 2002-October 2002

Post-doctoral fellow

National Interuniversity Consortium of Material Science and Technology (INSTM), Florence, Italy

- Research activity in the field of materials for advanced applications

EDUCATION AND TRAINING

1998-2001

PhD in Industrial Chemistry

University of Milan

- Dissertation on "Optical properties of inorganic and organometallic coordination compounds" (supervisor: Prof. R. Ugo)

May 28th 1998

5-year Degree in Industrial Chemistry (full marks, 110/110)

University of Milan

- Dissertation on "Chiral 1,2-diamines and their use for the synthesis of chiral amino carbene complexes" (supervisor: Prof. S. Maiorana)

1992

High-School (Liceo Classico) Diploma (full marks, 60/60)

Liceo-Ginnasio Statale A. Manzoni, Milano

PERSONAL SKILLS

Mother tongue(s)

Italian

Other language(s)	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C2	B2	B2	C1

Communication skills Communication skills acquired thanks to:

- Teaching activities for bachelor, master and PhD students
- Participation to many national and international conferences
- Dissemination activities

Organisational / managerial skills Organisational / managerial skills acquired thanks to:

- Management of bachelor, master and PhD students
- Participation to many committees of the Department of Chemistry (Dissemination Committee, Teaching Committee, Tutoring Committee, Entry Test Committee)

Job-related skills The research is mainly devoted to:

- a) the synthesis and characterization of organic, organometallic and coordination compounds with second order nonlinear optical activity both in solution and in the solid state (Second Harmonic Generation and Two Photon Absorption);
- b) the synthesis and chemical, photophysical and photoelectrochemical characterization of porphyrinic dyes for advanced applications (third generation solar cells and water splitting).
- c) the synthesis of organic compounds for molecular microelectronics
- d) the synthesis and characterization chiral molecule-modified supported metal nanoparticles as heterogeneous catalysts for asymmetric hydrogenation
- e) synthesis of modified Bi_2O_3 for photocatalytic application

Digital skills	SELF-ASSESSMENT				
	Information processing	Communication	Content creation	Safety	Problem solving
	Independent user	Proficient user	Proficient user	Independent user	Basic user

- good command of office suite (word processor, spread sheet, presentation software)
- good command of chemistry software

Driving licence B

ADDITIONAL INFORMATION

Publications FT is author of 41 peer-reviewed publications, 1 patent, 1 book chapter, 1 stoichiometry textbook for university students and about 50 communications at national and international conferences. Bibliometrics: Scopus, 12/14/2018, citations 1078, h-index: 19.

ORCID ID: 0000-0002-6691-0256

1) **Effect of the Coordination to M(II) Metal Centres (M = Zn, Cd, Pt) on the Quadratic Hyperpolarizability of Various Substituted 5-X-1, 10-Phenanthrolines (X = Donor Group) and of *trans*-4-(Dimethylamino)-4'-Stilbazole.**

Roberto, D.; Ugo, R.; Tessore, F.; Lucenti, E.; Quici, S.; Vezza, S.; Fantucci, P. Invernizzi, I.; Bruni, S.; Ledoux-Rak, I.; Zyss, J. *Organometallics* **2002**, *21*, 161-170.

2) **Terpyridine Zn(II), Ru(III) and Ir(III) Complexes as New Asymmetric Chromophores for Nonlinear Optics: First Evidence for a Shift from Positive to Negative Value of the Quadratic Hyperpolarizability of a Ligand Carrying an Electron Donor Substituent upon Coordination to Different Metal Centres.**

Roberto, D.; Tessore, F.; Ugo, R.; Bruni, S.; Manfredi, A.; Quici, S. *Chem. Commun.* **2002**, 846-847.

3) **Large, Concentration-Dependent Enhancement of the Quadratic Hyperpolarizability [Zn(CH₃CO₂)₂(L)₂] in CHCl₃ on Substitution of Acetate by Triflate.**

Tessore, F.; Roberto, D.; Ugo, R.; Mussini, P.; Quici, S.; Ledoux-Rak, I.; Zyss, J. *Angew. Chem. Int. Ed. Engl.* **2003**, *42*, 456-459.

4) **Efficient Catalytic Hydration of Acetonitrile to Acetamide Using [Os(CO)₃Cl₂]₂.**

Cariati, E.; Dragonetti, C.; Manassero, L.; Roberto, D.; Tessore, F.; Lucenti, E. *J. Mol. Catal. B* **2003**, *204-205*, 279-285.

5) **Effect of the Coordination to the "Os₃(CO)₁₁" Cluster Core on the Quadratic Hyperpolarizability of *trans*-4-(4'-X-Styryl)Pyridines (X = NMe₂, *t*-Bu, CF₃) and *trans*, *trans*-4-(4'-NMe₂-Phenyl)-1, 3-Butadienyl)Pyridine.**

Lucenti, E.; Cariati, E.; Dragonetti, C.; Manassero, L.; Tessore, F. *Organometallics* **2004**, *23*, 687-692.

6) **An Investigation on the Role of the Nature of Sulfonate Ancillary Ligands on the Strenuous and Concentration Dependence of the Second Order NLO Responses in CHCl₃ of Zr Complexes with 4,4'-*trans*-NC₅H₄CH=CHC₆H₄NMe₂ and 4,4'-*trans*, *trans*-NC₅H₄(CH=CH)₂C₆H₄NMe₂.**

Tessore, F.; Locatelli, D.; Righetto, S.; Roberto, D.; Ugo, R.; Mussini, P. *Inorg. Chem.*, **2004**, *43*, 2437-2442.

7) **Terpyridine Zn(II), Ru(III) and Ir(III) Complexes: the Relevant Role of the Nature of Metal Ion and of the Ancillary Ligands on the Second Order Nonlinear Response of Terpyridines, carrying Electron Donor or Electron Acceptor Groups.**

Tessore, F.; Roberto, D.; Ugo, R.; Pizzotti, M.; Quici, S.; Cavazzini, M.; Bruni, S.; De Angelis, F. *Inorg. Chem.* **2005**, *44*, 8967-8978.

8) **Second-Harmonic Generation from Monolayer Langmuir-Blodgett Films of Various Pull Pyridine and Terpyridine Metal Complexes.**

Locatelli, D.; Quici, S.; Righetto, S.; Roberto, D.; Tessore, F.; Ashwell, G. J.; Amiri, M. *Progress in State Chemistry* **2005**, *33*, 223-232.

9) **Coordination and Organometallic Compounds and Inorganic-Organic Hybrid Crystalline Materials for Second Order Nonlinear Optics**

Cariati, E.; Pizzotti, M.; Roberto, D.; Tessore, F.; Ugo, R. *Coord. Chem. Rev.* **2006**, *250*, 1210-1233.

10) **A Time-Dependent Density Functional Theory Investigation on the Nature of the Electronic Transitions Involved in the Nonlinear Optical Response of [Ru(CF₃CO₂)₃T] (T = 4'-(C₆H₄-*p*-NBu₂-2,2':6',2''-terpyridine)De Angelis, F.; Fantacci, S.; Sgamellotti, A.; Cariati, F.; Roberto, D.; Tessore, F.; Ugo, R. *Dalton Trans.* **2006**, 852-859.**

11) **An investigation on the two-photon absorption activity of various terpyridines and related homoleptic and heteroleptic cationic Zn(II) complexes.**

Righetto, S.; Rondena, S.; Locatelli, D.; Roberto, D.; Tessore, F.; Ugo, R.; Quici, S.; Roma, M.; Korystov, D.; Srdanov, V. I. *J. Mater. Chem.* **2006**, *16*, 1439-1444.

12) **Structural, spectral, electric-field-induced second harmonic, and theoretical study of Ni(II), Cu(II), Zn(II), and VO(II) complexes with [N2O2] unsymmetrical Schiff Bases of Methylisothiosemicarbazide Derivatives**

Gradinaru, J.; Forni, A.; Druta, V.; Tessore, F.; Zecchin, S.; Quici, S.; Garbalau, N. *Inorg. Chem.* **2007**, *46*, 884-895.

13) **Time-dependent and coupled-perturbed DFT and HF investigations on the absorption spectrum and non-linear optical properties of push-pull M(II)-porphyrin complexes (M = Zn, Cu, Ni).**

De Angelis, F.; Fantacci, S.; Sgamellotti, A.; Pizzotti, M.; Tessore, F.; Orbelli, B.; Biroli, M.

- Chem. Phys. Lett.* **2007**, *447*, 10-15.
- 14) **Large two-photon absorption cross section of asymmetric Zn(II) porphyrin complex substituted in the meso or β pyrrolic position by $-C\equiv C-C_6H_4X$ moieties ($X = NMe_2, NO_2$).**
Collini, E.; Mazzuccato, S.; Zerbetto, M.; Ferrante, C.; Bozio, R.; Pizzotti, M.; Tessore, Ugo, R. *Chem. Phys. Lett.* **2008**, *454*, 70-74.
- 15) **An EFISH, theoretical and PGSE NMR investigation on the relevant role of aggregation on the second order response in $CHCl_3$ of the push-pull chromophores 5-[[4'-(Dimethylamino)phenyl]ethynyl]-15-[(4"-nitrophenyl)ethynyl]-10,20-diphenylporphyrinate] M(II) ($M = Zn, Ni$).**
Pizzotti, M.; Tessore, F.; Orbelli Biroli, A.; Ugo, R.; De Angelis, F.; Fantacci, S.; Sgamellotti, A.; Zuccaccia, D.; Macchioni, A. *J. Phys. Chem. C* **2009**, *113*, 11131-11141.
- 16) **Enhancing the efficiency of two-photon absorption by metal coordination.**
Grisanti, L.; Sissa, C.; Terenziani, F.; Painelli, A.; Roberto, D.; Tessore, F.; Ugo, R.; Quici, S.; Fortunati, I.; Garbin, E.; Ferrante, C.; Bozio, R. *Phys. Chem. Chem. Phys.* **2009**, *11*, 9450-9457.
- 17) **The role of ion pairs in the second order NLO response of 4-X-1-Methylpyridinium salts.**
Tessore, F.; Cariati, E.; Cariati, F.; Roberto, D.; Ugo, R.; Mussini, P.; Zuccaccia, C.; Macchioni, A. *ChemPhysChem* **2010**, *11*, 495-507.
- 18) **Fluorinated β -diketonate diglyme lanthanide complexes as new second-order nonlinear optical chromophores: the role of f electrons in the dipolar and octupolar contribution to quadratic hyperpolarizability.**
Valore, A.; Cariati, E.; Righetto, S.; Roberto, D.; Tessore, F.; Ugo, R.; Fragalà, I. L.; Fragalà, M. E.; Malandrino, G.; De Angelis, F.; Belpassi, L.; Ledoux-Rak, I.; Khuyen Hoang, T.; Zyss, J. *JACS* **2010**, *132*, 4966-4970.
- 19) **Coordination and organometallic complexes as second-order nonlinear optical materials.**
Di Bella, S.; Dragonetti, C.; Pizzotti, M.; Roberto, D.; Tessore, F.; Ugo, R. in *Molecular Organometallic Materials for Optics - Top. Organomet. Chem.* Le Bozec, H.; Guerschais, V. eds. **2010**, *28*, 1-55.
- 20) **A multitechnique physico-chemical investigation of various factors controlling the photoaction spectra and of some aspects of the electron transfer for a series of push-pull Zn(II) porphyrins acting as dyes in DSSC.**
Orbelli Biroli, A.; Tessore, F.; Pizzotti, M.; Biaggi, C.; Ugo, R.; Caramori, S.; Bignozzi, C. A.; De Angelis, F.; Giorgi, G.; Licandro, E.; Longhi, E.; Aliprandi, A. *J. Phys. Chem. C* **2011**, *115*, 23170-23182.
- 21) **Mixed-ligand Pt(II) dithione-dithiolato complexes: influence of the dicyanobenzodithiolato ligand on the second-order-NLO properties.**
Espa, D.; Pilia, L.; Marchiò, L.; Artizzu, F.; Serpe, A.; Mercuri, M. L.; Simão, D.; Almeida, M.; Pizzotti, M.; Tessore, F.; Deplano, P. *Dalton Trans.* **2012**, *41*, 3485-3493.
- 22) **New[(D-Terpyridine)-Ru-(D or A-Terpyridine)][4-EtPhCO₂]₂ complexes (D = electron donor group; A = electron acceptor group) as active second-order non linear optical chromophores.**
Colombo, A.; Locatelli, D.; Roberto, D.; Tessore, F.; Ugo, R.; Cavazzini, M.; Quici, S.; De Angelis, F.; Fantacci, S.; Ledoux-Rak, I.; Tancrez, N.; Zyss, J. *Dalton Trans.* **2012**, *41*, 6707-6714.
- 23) **Modulating the electronic properties of asymmetric push-pull and symmetric Zn(II)-diarylporphyrinates with *para* substituted phenylethynyl moieties in 5,15 meso positions: a combined electrochemical and spectroscopic investigation.**
Mussini, P. R.; Orbelli Biroli, A.; Tessore, F.; Pizzotti, M.; Biaggi, C.; Di Carlo, G.; Lobello, M. G.; De Angelis, F. *Electrochim. Acta* **2012**, *85*, 509-523.
- 24) **Electrochromic second-order NLO chromophores based on M^{II} ($M = Ni, Pd, Pt$) complexes with diselenolato-dithione (donor-acceptor) ligands.**
Espa, D.; Pilia, L.; Marchiò, L.; Pizzotti, M.; Robertson, N.; Tessore, F.; Mercuri, M. L.; Serpe, A.; Deplano, P. *Dalton Trans.* **2012**, *41*, 12106-12113.
- 25) **Tetraaryl Zn(II) porphyrinates substituted at β -pyrrolic positions as sensitizers in dye-sensitized solar cells: a comparison with meso-disubstituted push-pull Zn(II) porphyrinates.**
Di Carlo, G.; Orbelli Biroli, A.; Pizzotti, M.; Tessore, F.; Trifiletti, V.; Ruffo, R.; Abboto, A.; Amat, A.; De Angelis, F.; Mussini, P. R. *Chem. Eur. J.* **2013**, *19*, 10723-10740.
- 26) **Physico-Chemical Investigation of the Panchromatic Effect on β -Substituted Zn(II) Porphyrinates for DSSCs: The Role of the β Bridge between a Dithienylethylene Unit and the Porphyrinic Ring**
Di Carlo, G.; Orbelli Biroli, A.; Tessore, F.; Pizzotti, M.; Mussini, P.; Amat, A.; De Angelis, F.; Abboto, A.; Trifiletti, V. *J. Phys. Chem. C* **2014**, *118*, 7307-7320.
- 27) **Nonlinear-Optical properties of α -Diimine-Dithiolate Ni(II) complexes enhanced by electron-withdrawing carboxyl groups**
Pilia, L.; Pizzotti, M.; Tessore, F.; Robertson, N. *Inorg. Chem.* **2014**, *53*, 4517-4526.
- 28) **Influence of porphyrinic structure on electron transfer processes at the**

- electrolyte/dye/TiO₂ interface in PSSCs: a comparison between *meso* push-pull and π -pyrrolic architectures.
Di Carlo, G.; Caramori, S.; Trifiletti, V.; Giannuzzi, R.; De Marco, L.; Pizzotti, M.; Orbelli Biroli, A.; Tessore, F.; Argazzi, R.; Bignozzi, C. A. *ACS Appl. Mater. Interf.* **2014**, *6*, 15841-15852.
- 29) **Effect of torsional twist on 2nd order non-linear optical activity of anthracene and pyrene tricyanofuran derivatives.**
Planells, M.; Pizzotti, M.; Nichol, G. S.; Tessore, F.; Robertson, N. *Phys. Chem. Chem. Phys.* **2014**, *16*, 23404-23411.
- 30) **Highly improved performance of Zn(II) tetraarylporphyrinates in DSSCs by the presence of octyloxy chains in the aryl rings.**
Orbelli Biroli, A.; Tessore, F.; Vece, V.; Di Carlo, G.; Mussini, P.; Trifiletti, V.; De Marco, L.; Giannuzzi, R.; Manca, M.; Pizzotti, M. *J. Mater. Chem. A* **2015**, *3*, 2954-2959.
- 31) **Tuning the LUMO's energies of 1,10-phenanthroline in α -Diimine-Dithiolate Ni(II) complex and enhancement of nonlinear optical properties.**
Pilia, L.; Pizzotti, M.; Tessore, F.; Robertson, N. *Inorg. Chim. Acta* **2015**, *430*, 114-119.
- 32) **Light induced regiospecific bromination of meso-Tetra(3,5-Di-*tert*-butylphenyl)porphyrin on 2,12 beta-pyrrolic position.**
Di Carlo, G.; Orbelli Biroli, A.; Tessore, F.; Rizzato, S.; Forni, A.; Magnano, G.; Pizzotti, M. *J. Org. Chem.* **2015**, *80*, 4973-4980.
- 33) **Influence of Alkoxy Chains Envelope on the Interfacial Photoinduced Processes in Tetraarylporphyrin-Sensitized Solar Cells.**
Magnano, G.; Marinotto, D.; Cipolla, M.; Trifiletti, V.; Listorti, A.; Mussini, P.; Di Carlo, G.; Tessore, F.; Manca, M.; Orbelli Biroli, A.; Pizzotti, M. *PhysChemChemPhys* **2016**, *18*, 9577-9585.
- 34) **High second-order NLO response exhibited by the first example of polymeric film incorporating a diimine-dithiolate square-planar complex: the [Ni(*o*-phen)(bdt)]**
Pilia, L.; Marinotto, D.; Pizzotti, M.; Tessore, F.; Robertson, N. *J. Phys. Chem C* **2016**, *120*, 19286-19294.
- 35) **A nonlinear optical active polymer film based on Pd(II) dithione/dithiolate second-order NLO chromophore.**
Espa, D.; Pilia, L.; Marchiò, L.; Artizzu, F.; Di Carlo, G.; Marinotto, D.; Serpe, A.; Tessore, F.; Deplano, P. *Dalton Trans.* **2016**, *45*, 17431-17438.
- 36) **4D- π -1A type β -substituted porphyrins: ideal sensitizers for building-integrated photovoltaics.**
Covezzi, A.; Orbelli Biroli, A.; Tessore, F.; Forni, A.; Marinotto, D.; Biagini, P.; Di Carlo, G.; Pizzotti, M. *Chem. Commun.* **2016**, *52*, 12642-12645.
- 37) **Intriguing influence of -COOH-driven intermolecular aggregation and acid-base interactions with N,N-dimethylformamide on the second-order nonlinear-optical response of 5,15 push-pull diarylzinc(II) porphyrinates.**
Orbelli Biroli, A.; Tessore, F.; Righetto, S.; Forni, A.; Macchioni, A.; Rocchigiani, L.; Pizzotti, M.; Di Carlo, G. *Inorg. Chem.* **2017**, *56*, 6438-6450.
- 38) **Charge transfer dynamics in β - and meso-substituted dithienylethylene porphyrins.**
Di Carlo, G.; Caramori, S.; Casarin, L.; Orbelli Biroli, A.; Tessore, F.; Argazzi, R.; Oriana, A.; Cerullo, G.; Bignozzi, C.; Pizzotti, M. *J. Phys. Chem. C* **2017**, *121*, 18385-18400.
- 39) **Coupling of zinc porphyrin dyes and copper electrolytes: a springboard for novel sustainable dye-sensitized solar cells.**
Colombo, A.; Di Carlo, G.; Dragonetti, C.; Magni, M.; Orbelli Biroli, A.; Pizzotti, M.; Roberto, D.; Tessore, F.; Benazzi, E.; Bignozzi, C. A.; Casarin, L.; Caramori, S. *Inorg. Chem.* **2017**, *56*, 14189-14197.
- 40) **β -substituted ZnII porphyrins as dyes for DSSC: a possible approach to photovoltaic windows.**
Di Carlo, G.; Orbelli Biroli, A.; Tessore, F.; Caramori, S.; Pizzotti, M. *Coord. Chem. Rev.* **2018**, *358*, 153-177.
- 41) **Porphyrins for second order nonlinear optics (NLO): an intriguing history.**
Tessore, F.; Orbelli Biroli, A.; Di Carlo, G.; Pizzotti, M. *Inorganics* **2018**, *6*, 81-97.

Urbanistica, nuove tecnologie energetiche, materiali innovativi e arte: alla ricerca di una città abitabile. Meroni, D.; Minguzzi, A.; Tessore, F.; Chiarello, G. L.; Amadori, A.; Oliva, C.; Rossetti, I. *La Chimica e l'Industria Newsletter* - ISSN 2532-182X - **2017**, *4* (3), aprile.

Stechiometria dal testo di M. Freni e A. Sacco. A. Caselli, S. Rizzato, F. Tessore, *EdiSeS* **2016**

Projects

PRIN 2001 2001038849_003 “Organometallic compounds with nonlinear optical properties for nanostructured films” (24 months; participant).

FIRB 2003 RBNEO33KMA “Molecular compounds and nanostructured hybrid materials with resonant and non resonant optical properties for photonic devices” (36 months; participant).

Cariplo 2005 Rif. 2005.0688/10.4878 “New materials with nano-organization of chromophores in Host-Guest systems or on inorganic scaffolds for photoluminescent or optoelectronic devices” (24 months; participant).

PRIN 2005 2005031228_003 “Nano-organization of chromophores for second order NLO materials” (24 months; participant)

PRIN 2008 2008CSNZFR_004 “Synthesis and characterization of new coordination compounds with bi- or polypyridinic π -delocalized ligands or push-pull porphyrins as sensitizers for Gratzel solar cells” (24 months; Research Unit vice-responsible)

Cariplo 2008 Rif. 2008.2205 “New organometallic and coordination materials for third generation organic solar cells” (24 months; participant).

PRIN 2010 20104XET32_002 “Next generation dye solar devices: nanoengineered cobnductors and sensitizers” (36 months; participant).

Project “Accordo Quadro Regione Lombardia-Fondazione CARIPLO” 42639194 “SmartMatLab Centre” 2014 (36 months; participant).

Piano Sostegno Ricerca 2015-2017, Università degli Studi di Milano, Linea 2, Azione A “Porphyrins Sensitized Solar Cells: the challenge of photostabilization” (12 months, PI)

Piano Sostegno Ricerca 2015-2017, terzo rinnovo, Università degli Studi di Milano, Linea 2, Azione B “Benzo-heterocyclic n-dopants for organic electronics (BENDs)” (12 months, PI)

2017: awarded by Finanziamento Individuale delle Attività Base di Ricerca (Legge di bilancio 11 dicembre 2016, n° 232).

Seminars

March 2010 and May 2011: organization of the dissemination activity “La chimica in mostra

September 29th 2016: dissemination activity for the Cultural Association SATOR (Milan) during the workshop “Energy and environment for the future”: “Third Generation solar cells: towards an integration between photovoltaics and architecture”

January 30th 2018: dissemination activity for high-school students on “Dye-sensitized solar cells”

April 18th 2018: dissemination activity for high-school students on: “Solar energy: a fully exploitable resource”

Memberships

April 10th 2015-March 23rd 2016: Member of the board of the PhD School in Industrial Chemistry, University of Milan

Since March 23rd 2016: Member of the board of the PhD School in Chemistry, University of Milan

Institute of Molecular Science and Technology of the National Research Council of Italy (ISTM-CNR);

National Interuniversity Consortium of Materials Science and Technology (INSTM);

Member of the Italian Chemical Society (SCI);

Member of the advanced research centre SmartMatLab (Dip. Chimica, University of Milano)

Courses

As regular teacher:

A. Y. 2007-2008: "General and Inorganic Chemistry", University of Brescia. 5-year Degree in Medicine.

A. Y. 2009-2010: "Analytical chemistry with lab.", University of Milan, Bachelor Degree in Applied and Environmental Chemistry

A. Y. 2011-2012: "General and Inorganic Chemistry", University of Milan, Bachelor Degree in Natural Sciences

Since A. Y. 2012-2013: "Laboratory of general and inorganic chemistry", University of Milan, Bachelor Degree in Chemistry.

As lab-assistant:

From A. Y. 2006-2007 to A. Y. 2011-2012: "Instrumental Chemical Analysis", University of Milan, Bachelor Degree in Applied and Environmental Chemistry

A. Y. 2007-2008: "General and Inorganic Chemistry", University of Milan, Bachelor Degree in Biotechnology

Since A. Y. 2006-2007: "Inorganic Chemistry with lab.", University of Milan, Bachelor Degree in Industrial Chemistry

Since A. Y. 2012-2013: "Inorganic Chemistry A", University of Milan, Master Degree in Chemical Science.

Personal information

I authorize the handling of personal information in this curriculum, according to D.Lgs n. 196/03 and following modifications and Regulations EU 679/2016 (General Regulations concerning Data Protection or GRDP) and art. 7 of University Regulations concerning protection of personal information.

I authorize, according to D.lgs 14/03/2013 n. 33 concerning transparency, in case of conferment of the position and of the fellowship, the publication of this curriculum in the web site of Università degli Studi di Milano in the section "Amministrazione trasparente", "Consulenti e collaboratori".

Date

Milan, December 18th 2018

Signature

