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CURRICULUM VITAE ET STUDIORUM: PROF. ANDREA CORNIA

Personal data: born in Modena (MO), Italy, on May 24, 1968; nationality: italian;
Present Position: Full Professor in General and Inorganic Chemistry (SSD CHIM/03);
Address: Department of Chemical and Geological Sciences, University of Modena and Reggio Emilia (UniMORE), via G. Campi 103, 41125 Modena, Italy. Phone: +39 059 2058645;
E-mail: acornia@unimore.it, andrea.cornia@unimore.it;
Web site: acornia2.wix.com/corniagroup;
Skype: a.cornia;
ResearcherID: www.researcherid.com/rid/N-8587-2015;
ORCID ID: orcid.org/0000-0001-9765-3128.

EDUCATION

- **July 1992.** Degree in Chemistry (110/110 summa cum laude) at the University of Modena with a thesis entitled *Electron Transfer in the Reactions of Organic Trichloromethyl Derivatives with Iron(II) Chloride*, under the supervision of Prof. F. Taddei, Prof. U. Folli and Dr. S. Sbardellati;
- **October 1996.** Ph. D. in Chemical Sciences at the University of Modena (Parma-Modena-Ferrara Consortium), with a thesis entitled *Magnetic Molecular Materials: from High Nuclearity Spin Clusters to Extended Systems*, under the supervision of Prof. A. Fabretti Costantino (University of Modena) and Prof. D. Gatteschi (University of Florence);
- **1995.** *Corso di perfezionamento in metodologia della ricerca di laboratorio* (academic year 1995/1996) at the University of Modena.

PREVIOUS POSITIONS AND FELLOWSHIPS

- **From June 1997 to June 1999.** Postdoctoral position (borsa di studio) at the Faculty of Mathematical, Physical and Natural Sciences, University of Modena, Chemical Area;
- **From June 1999 to January 2000.** Postdoctoral position (contratto di collaborazione coordinata e continuativa) at UniMORE;
- **From February 2000 to October 2000.** Postdoctoral position (assegno di ricerca) at the Department of Chemistry, UniMORE;
- **From November 2000 to April 2005.** Associate researcher in General and Inorganic Chemistry (SSD CHIM/03) at the Faculty of Mathematical, Physical and Natural Sciences, UniMORE;
- **From April 2005 to November 2019.** Associate professor in General and Inorganic Chemistry (SSD CHIM/03) at UniMORE;
- **From December 2019 to today.** Full professor in General and Inorganic Chemistry (SSD CHIM/03) at UniMORE.

VISITS AND STAYS

- **From June 2000 to July 2000.** Guest Scientist at the Department of Applied Physics, Delft University of Technology, Delft, The Netherlands;
- **From June 2010 to August 2010.** Visiting professor at Universitè Joseph Fourier, Grenoble, France;
- **October 2016.** Guest scientist at Laboratoire National des Champs Magnétiques Intenses-CNRS, Grenoble, France;
- **October 2019.** Visiting professor at the Department of Chemistry, Universidade Federal do Paraná (UFPR), Curitiba, Brazil.

BRIEF DESCRIPTION OF THE RESEARCH ACTIVITY

The ever-increasing storage capacity and speed of electronic devices are having a revolutionary social impact and are expected to remain a central issue in national and transnational scientific and technological roadmaps. In order to respond to the pressing requests from the market, however, new paradigms for **data storage and processing** must be developed. For instance, industries are pushing miniaturization to its physical limits, so that the **storage capacity** of hard-disk drives doubles every ca. 13 months. By extrapolation around 2020 the market will request to encode a single bit in a few square nanometers, which is already close to molecular sizes. The related field of **quantum technologies** is expected to bring even greater transformative advances to science, industry and society by introducing disruptive innovations in computation methods, materials/drug design, secure communication and sensing (see qurope.eu/manifesto) for a dedicated **€1 billion flagship initiative** launched in 2018 by the EC). In these burgeoning research areas molecular materials have been proposed as a viable alternative to traditional hard materials, since **molecules are the smallest units of matter amenable to being controlled with atomic precision**.

The research interests of Andrea CORNIA straddle the interface between chemistry and physics, in a multidisciplinary and collaborative approach to **magnetic molecular materials** (design, synthesis, structural/functional characterization, application in molecular spintronics and quantum technologies). His skills include inorganic and metal-organic synthesis, molecular and supramolecular chemistry, structural investigation by X-ray diffraction, molecular magnetism and magnetic studies by advanced physical methods. In the last 15 years his research has focussed on **single-molecule magnets (SMMs)**, a class of coordination compounds exhibiting a memory effect. Starting from 2009 he has co-authored breakthrough publications on the organization of SMMs on metal surfaces and on the persistence of magnetic memory and quantum relaxation effects in metal-wired molecules.

MAJOR COLLABORATIONS

- **Laboratory of Molecular Magnetism (LaMM)**, Department of Chemistry "U. Schiff", University of Florence and INSTM, Sesto Fiorentino, Florence, Italy (R. Sessoli, M. Mannini, A. Caneschi, L. Sorace, F. Totti);
- **Department of Chemistry "G. Ciamician"**, University of Bologna, Italy (C. Tomasini);
- **Department of Physics, Informatics and Mathematics**, UniMORE & INFM-S3, Italy (M. Affronte);
- **Department of Life Sciences**, UniMORE, Italy (C. Sorbi, S. Franchini, L. Brasili, A. Ranieri);
- **Department of Engineering "Enzo Ferrari"**, UniMORE, Italy (C. Fontanesi);
- **Department of Mathematical, Physical and Computer Sciences**, University of Parma, Italy (S. Carretta);
- **Department of Physics and Astronomy**, University of Florence and INSTM, Sesto Fiorentino, Florence, Italy (M. Fittipaldi, G. Spina);
- **ESRF-The European Synchrotron**, Grenoble, France (R. Rüffer, A. Chumakov);
- **Unité Mixte de Physique CNRS/Thales**, Université Paris-Sud, Université Paris-Saclay, Paris, France (P. Seneor);
- **Instituto de Ciencia de Materiales de Aragón CSIC**, Universidad de Zaragoza, Zaragoza, Spain (J. Luzon, F. Luis);
- **Kavli Institute of Nanoscience**, Delft University of Technology, Delft, The Netherlands (H. S. J. van der Zant);
- **Laboratoire National des Champs Magnétiques Intenses-CNRS**, Grenoble, France (A.-L. Barra, G. Novitchi, C. Train);
- **Institut Néel-CNRS**, Grenoble, France (W. Wernsdorfer, now at Karlsruhe Institute of Technology, Karlsruhe, Germany);
- **CRPP-CNRS and Univ. Bordeaux**, Pessac, France (R. Clérac, E. Hillard);

- **IMPMC, UMR 7590-Sorbonne Université/CNRS/MNHN/IRD**, Paris, France (Ph. Sainctavit, M.-A. Arrio);
- **Department of Materials**, University of Oxford, Oxford, UK (L. Bogani);
- **Department of Chemistry**, Universidade Federal do Paraná, Curitiba, Brazil (J. F. Soares);
- **Department of Physics**, Virginia Tech, Blacksburg, Virginia, USA (K. Park).

FUNDING AND PROJECTS

- Involved in national/international research projects/networks, among which several PRIN and CNR projects, PRA-INFM MESMAG-*Mesoscopic Scale Magnetism in Molecular Clusters* (INFM, **1999-2001**), MOLNANOMAG *Molecules as Nanomagnets* (EU, 5FP, **2000-2004**), FIRB *Nanoorganization of Hybrid Inorganic/Organic Molecules with Magnetic and Optical Properties* (MIUR, **2002-2006**), QUEMOLNA *Quantum Effects in Molecular Nanomagnets* (EU, 6FP, **2004-2008**), Network of Excellence MAGMANet *Molecular approach to nanomagnets and multifunctional materials* (EU, 6FP, **2005-2009**), SPINNER2013 Regional Doctorate *FOLDET-Synthesis, characterization and application of foldamers for the preparation of electron-transfer organic microreactors* (Regione Emilia Romagna, **2012-2015**), *COST Action MOLSPIN-Molecular Spintronics* (CA15128, EU, **2016-2020**);
- (as RU responsible) PRIN2005 *Designing and self-organisation of molecular architectures for nanomagnets and optoelectronic systems* (MIUR, **2006-2007**, local budget 115 k€);
- (as italian partner) NanoSci-ERA *SMMTRANS-Three-terminal Transport through Single Molecule Magnets* (EU, **2007-2010**, local budget 200 k€);
- (as co-proposer) *International Research and Training Project in Molecular Spintronics* (Fondazione Cassa di Risparmio di Modena, **2009-2010**, budget 85 k€);
- (as RU responsible) PRIN2008 *Molecular and nanocrystalline structures with magnetic, photo-magnetic and photo-emitting properties, their organisation on surfaces, in polymeric films or in sol-gel* (MIUR, **2010-2012**, local budget 70 k€);
- (as coordinator of WP2) UniMORE Strategic Research Line *STRATEGIC-NANO Nano- and emerging materials and systems for sustainable technologies* (UniMORE, coordinator E. Molinari, **2013-2014**, overall budget 200k€);
- (as RU responsible) FIRB *Molecular nanomagnets on metallic and magnetic surfaces for applications in molecular spintronics* (MIUR, **2012-2016**, local budget 257 k€);
- (as co-proposer) FAR2016 *Molecular factory: Synthesis of functionalized phthalocyanines for single-molecule devices* (UniMORE, **2017-2019**, 6550 €);
- (as principal investigator) PRISMA *Driving Current through Single Molecule Nanomagnets* (INSTM, partially financed, **2003-2005**, 10 k€);
- (as principal investigator) *Electronic Conduction Devices Based on Molecular Nanomagnets* [one-year post-doctoral research grant (assegno di ricerca) funded by Fondazione Cassa di Risparmio di Modena, **2005-2006**, budget 18 k€];
- (as principal investigator) *Organization of Single Molecule Magnets on Metal Surfaces* [two-years post-doctoral research grant (assegno di ricerca) funded at 50% by INSTM, **2005-2007**, budget 18 k€];
- (as principal investigator) *Synthesis, structural and magnetic characterization of molecular nanomagnets* [one-year research and training grant (borsa di studio di ricerca e formazione avanzata) funded at 50% by INSTM, **2010-2011**, budget 9 k€];
- (as principal investigator) *Synthesis of functionalized molecular nanomagnets* [one-year post-doctoral research grant (assegno di ricerca) funded at 50% by INSTM, **2011-2012**, budget 11 k€];
- (as principal investigator) FAR2014 *Ferromagnetic metals in molecular form: chemical synthesis and physical properties of magnetic nanostructures containing metal-metal bonds* (UniMORE, **2015-2016**, 26.2 k€);

- (as RU responsible) PRIN2017 *Q-ChiSS-Quantum detection of chiral-induced spin selectivity at the molecular level* (MIUR, **2019-2022**, local budget 85.9 k€);
- Involved in many successful research proposals for advanced experiments in X-ray diffraction, high-field methods and surface analysis at large scale facilities (ELETTRA, ESRF, LNCMI–CNRS, BESSY, SLS, SOLEIL, NHMFL).

TEACHING ACTIVITIES

- Teacher of the course **Bioinorganic Chemistry** at the Degree in Biotechnology, UniMORE (academic year 2000/2001);
- Teacher of the course **Inorganic Chemistry Lab II** at the Degree in Chemistry, UniMORE (academic years from 2000/2001 to 2002/2003);
- Teacher of course **Magnetochemistry** at the Doctorate in Chemistry (academic years 2002/2003 and 2003/2004);
- Teacher of the course **Physical Methods in Inorganic Chemistry** at the M.Sc. in Chemical Sciences and at the M.Sc. in Design and Development of New Materials, UniMORE (academic years from 2003/2004 to 2007/2008);
- Teacher of the course **Chemistry Laboratory (Module A: General and Inorganic Chemistry)** at the B.Sc. in Biotechnologies, UniMORE (academic years from 2003/2004 to 2007/2008);
- Teacher of the course **Inorganic Chemistry of Advanced Materials** at the M.Sc. in Chemical Sciences, UniMORE (academic years 2003/2004 and 2004/2005);
- Teacher of the course **Structure Determination by X-Ray Crystallography** at the Doctorate in Chemistry (academic year 2004/2005);
- Teacher of the course **Crystallochemistry (Module A: Single-crystal Methods)** at the M.Sc. in Chemical Sciences, UniMORE (academic years from 2004/2005 to 2007/2008);
- Teacher of the course **Inorganic Chemistry II** at the M.Sc. in Chemical Sciences, UniMORE (academic years from 2005/2006 to 2007/2008);
- Teacher of the course **Chemistry** at the B.Sc. in Physics, UniMORE (academic years 2008/2009 and from 2010/2011 to 2019/2020);
- Teacher of the course **Advanced Inorganic Chemistry** at the M.Sc. in Chemical Sciences, UniMORE (academic years from 2008/2009 to 2019/2020);
- Teacher of the course **Exercises and Complements of Chemistry** at the B.Sc. in Chemistry, UniMORE (academic years 2013/2014 and 2014/2015);
- Teacher of the course **Laboratory of Advanced Inorganic Chemistry** at the M.Sc. in Chemical Sciences, UniMORE (academic years from 2017/2018 to 2019/2020).

SUPERVISION OF PhD STUDENTS AND POSTDOCTORAL FELLOWS

- **1994-1997.** Supervisor of one Ph.D. Student in Chemical Sciences (UniMORE), **Dr. Gian Luca Abbati**, working on a thesis entitled *Cluster di spin per materiali magnetici*;
- **2002-2004.** Supervisor of one Ph.D. Student in Chemistry (UniMORE), **Dr. Laura Zobbi**, working on a thesis entitled *Organizzazione di nanomagneti molecolari su matrice solida*;
- **2002-2004.** Supervisor of one Ph.D. Student in Chemistry (UniMORE), **Dr. Cecilia Mortalò**, working on a thesis entitled *Design razionale di nanostrutture magnetiche a base di ioni metallici*;
- **2002-2004.** Supervisor of one Ph.D. Student in Science and Technology of Materials (UniFI), **Dr. Mirko Pacchioni**, working on a thesis entitled *Studio di sistemi molecolari con rilassamento lento della magnetizzazione*;
- **2010-2012.** Supervisor of one Ph.D. Student in Physics and Nanosciences (UniMORE), **Dr. Erik Tancini**, working on a thesis entitled *Organizing Single-Molecule Magnets on surfaces by chemical tailoring*;
- **2013-2016.** Supervisor of one Ph.D. Student in Physics and Nanosciences (UniMORE), **Dr. Andrea Nava**, working on a thesis entitled *Supramolecular assembly of Single-Molecule Magnets with redox-active centres: synthetic, structural and magnetic studies*;

- **2017-today.** Supervisor of one Ph.D. Student in Physics and Nanosciences (UniMORE), **Dr. Alessio Nicolini**, working on a thesis entitled *Molecular approaches to nanoscale magnets*;
- **2020-today.** Supervisor of one Ph.D. Student in Physics and Nanosciences (UniMORE), **Dr. Manuel Imperato**, working on a thesis entitled *First-row transition-metal complexes as qubits*;
- **June 2005-April 2006.** Supervisor of one post-doctoral fellow, **Dr. Laura Zobbi**, working on a project entitled *Organizzazione di magneti a singola molecola su superfici metalliche*;
- **July 2005-June 2006.** Supervisor of one post-doctoral fellow, **Dr. Anna Maria Talarico**, working on a project entitled *Dispositivi a conducibilità elettronica basati su nanomagneti molecolari*;
- **July 2006-June 2007.** Supervisor of one post-doctoral fellow, **Dr. Anna Maria Talarico**, working on a project entitled *Organizzazione di magneti a singola molecola su superfici metalliche*;
- **December 2006-November 2007.** Supervisor of one post-doctoral fellow, **Dr. Fabio Terzi**, working on a project entitled *Studio della deposizione di magneti a singola molecola su superfici di Au mediante tecniche elettrochimiche e microgravimetriche*;
- **January 2007-December 2009.** Supervisor of one post-doctoral fellow, **Dr. Chiara Danieli**, working on a project entitled *Funzionalizzazione sito-specifica di nanomagneti molecolari*;
- **October 2006-September 2007.** Supervisor of one post-doctoral fellow, **Dr. Luisa Gregoli**, working on a project entitled *"The Molecular Printboard": Organizzazione di Magneti a Singola Molecola su superfici di Si(100) pre-funzionalizzate con cavitandi*;
- **July 2009-April 2012.** Supervisor of one post-doctoral fellow, **Dr. Maria Jesus Rodriguez-Douton**, working on a project entitled *Synthesis of functionalized molecular nanomagnets*;
- **February 2010-January 2011.** Supervisor of one post-doctoral fellow, **Dr. Prasad Thazhe Kootteri**, working on a project entitled *Synthesis, structural and magnetic characterization of molecular nanomagnets*;
- **July 2010-January 2011.** Supervisor of one post-doctoral fellow, **Dr. Fabio Terzi**, working on a project entitled *Self organization of single-molecule magnets on conducting surfaces*;
- **November 2013-November 2014.** Supervisor of one post-doctoral fellow, **Dr. Nathalie Bridonneau**, working on a project entitled *Phototuneable molecular nanomagnets*;
- **December 2015-November 2016.** Supervisor of one post-doctoral fellow, **Dr. Luca Rigamonti**, working on a project entitled *Ferromagnetic metals in molecular form: chemical synthesis and physical properties of magnetic nanostructures containing metal-metal bonds*.

ACADEMIC DUTIES

- **2006-today.** Member of **11 national or international** doctoral thesis panels;
- **2008-2012.** Council (Giunta) of the Department of Chemistry, UniMORE;
- **2013.** Member of the Commissione giudicatrice per gli Esami di Stato per l'abilitazione all'esercizio della professione di CHIMICO-Sezione A, Ia e IIa sessione;
- **2012-2016 and 2018-today.** Component of the Commission for Development and Research of the Department of Chemical and Geological Sciences, UniMORE;
- **2017.** President of the Commissione giudicatrice per gli Esami di Stato per l'abilitazione all'esercizio della professione di CHIMICO-Sezione A e CHIMICO IUNIOR-Sezione B, Ia e IIa sessione;
- **2014-today.** Member of the RAR Group (Gruppo del Riesame) of the Department of Chemical and Geological Sciences, UniMORE.

AWARDS

- **1996.** Best Ph.D. Thesis in Materials Chemistry, prize awarded by INCM (now INSTM-National Interuniversity Consortium on Materials Science and Technology);
- **2006.** "Raffaello Nasini" Prize of the Inorganic Chemistry Division of the Italian Chemical Society, awarded "*for the significant and original contributions to a deeper understanding of*

molecular nanomagnetism through the design and synthesis of particular molecular systems and through the development of new sophisticated investigation techniques";

- **2006.** Best Poster Award at *European Conference on Molecular Magnetism (ECMM)*, Tomar, Portugal, October 10-15;
- **2013.** National Scientific Habilitation to full-professor position in area 03/B1-Fondamenti delle Scienze Chimiche e Sistemi Inorganici (ASN 2012 call);
- **2014.** National Scientific Habilitation to full-professor position in area 03/B1-Fondamenti delle Scienze Chimiche e Sistemi Inorganici (ASN 2013 call);
- **2018.** National Scientific Habilitation to full-professor position in area 03/B1-Fondamenti delle Scienze Chimiche e Sistemi Inorganici (ASN 2016 call).

MEMBERSHIPS AND APPOINTMENTS

- **1996-today.** Member of the National Interuniversity Consortium on Materials Science and Technology (INSTM), www.instm.it;
- **2006-today.** Board member of the Doctorate School in Physics and Nanosciences, UniMORE, www.nano-phdschool.unimore.it;
- **2006-today.** Member of the Inorganic Chemistry Division of the Italian Chemical Society (SCI), www.soc.chim.it;
- **2008-today.** Member of the European Institute of Molecular Magnetism (EIMM), www.eimm.eu;
- **2014-today.** Member of the Italian Association of Crystallography (AIC), www.cristallografia.org;
- **2014-today.** Member of the European Crystallographic Association (ECA), ecanews.org;
- **2014-2017.** Member of the Commission on Magnetic Structures of the International Union of Crystallography (IUCr), https://www.iucr.org/iucr/commissions/magnetic-structures;
- **2015-today.** Member of the Italian Association of Magnetism (AIMAGN), http://www.aimagn.org;
- **2016-today.** Member of the International Advisory Board of *European Journal of Inorganic Chemistry* (Wiley–VCH).

ORGANISATION OF SCIENTIFIC MEETINGS AND SCHOOLS

- Member of the local organizing committee of *ICMM2008, 11th International Conference on Molecule-based Magnets*, Florence (Italy), September 21-24, 2008;
- Co-chairman (with M. Yamashita) of the Microsymposium on *Electric and magnetic properties of molecular crystals* at *IUCr 2008, 21st Congress of the International Union of Crystallography*, Osaka (Japan), August 23-31, 2008;
- Member of International Advisory Committee of *3rd European Conference on Molecular Magnetism* (*ECMM*), Paris (France), November 22-25, 2011;
- Member of International Advisory Board of *4th European Conference on Molecular Magnetism* (*ECMM2013*), Karlsruhe (Germany), October 6-10, 2013;
- Co-chairman (with B. Sieklucka) of the Microsymposium on *Magneto-structural relationships in molecular compounds* at *IUCr 2014, 23rd Congress and General Assembly of the International Union of Crystallography*, Montreal (Canada), August 5-12, 2014;
- Member of the International Advisory Board of *5th European Conference on Molecular Magnetism* (*ECMM2015*), Zaragoza (Spain), September 6-10, 2015;
- Member of International Advisory Board of *6th European Conference on Molecular Magnetism* (*ECMM2017*), Bucharest (Romania), August 27-31, 2017;
- Member (with M. Yamashita, T. Komeda, J. Veciana, E. Coronado, J. Zuo, M. Ruben and B. Hu) of the organizing committee of session *Molecular Spintronics: the Role of Coordination Chemistry* at *ICCC2018, 43rd International Conference on Coordination Chemistry*, Sendai (Japan), July 30-August 4, 2018;

- Member of International Advisory Board and Program Committee of *7th European Conference on Molecular Magnetism* (*ECMM2019*), Florence (Italy), September 15-18, 2019.

ACTIVITIES IN REFERRED SCIENTIFIC JOURNALS

- **2016-today.** Member of the International Advisory Board of *European Journal of Inorganic Chemistry* (Wiley–VCH);
- Referee for *Angewandte Chemie, European Journal of Inorganic Chemistry, Chemistry-A European Journal, Advanced Materials, ChemPlusChem* (Wiley–VCH), *Journal of the American Chemical Society, Nano Letters, Journal of Physical Chemistry, Inorganic Chemistry, Chemistry of Materials, Langmuir, Crystal Growth & Design* (ACS), *Physical Review B, Physical Review Letters* (APS), *Journal of Inorganic Biochemistry, Inorganica Chimica Acta, Inorganic Chemistry Communications, Journal of Molecular Structure* (Elsevier)*; Chemical Science, Chemical Communications, CrystEngComm, Dalton Transactions, Chemical Society Reviews, Physical Chemistry Chemical Physics, RSC Advances* (RSC)*; New Journal of Physics, Journal of Physics: Condensed Matter, Nanotechnology* (IOP Publishing), *Nature Protocols, Nature Chemistry, Nature Communications* (NPG).

SELECTED INVITED PRESENTATIONS (LAST 10 YEARS)

- **Molecules, Nanomagnetism and the Chemist's Toolbox**, Universitè Joseph Fourier, Grenoble (France), July 1, 2010;
- **Spin Structure and Dynamics of Surface-Bound SMMs**, *ICMM2010, The 12th International Conference on Molecule-Based Magnets*, Beijing (China), October 8-12, 2010 (keynote);
- **Quantum Spin Dynamics at the Nanoscale in Surface-Wired Single Molecule Magnets**, International Symposium *Deposition and Characterization of Nanomagnets on Surfaces* in conjunction with the *Young Researchers' Symposium of the DFG Research Unit Nanomagnets FOR945*, Bielefeld (Germany), January 25-26, 2011;
- **Magnetic Memory and Quantum Tunnelling Effects at the Nanoscale in Surface-wired Molecules**, *First EuCheMS Inorganic Chemistry Conference (EICC-1)*, University of Manchester, Manchester (UK), April 11-14, 2011;
- **Quantum Tunneling and Magnetization Dynamics in Low Dimensional Systems**, *The European School on Magnetism*, Targoviste (Romania), August 22-September 2, 2011;
- **Quantum Relaxation of a Diamagnetic Crystal Lattice Doped with Single-Molecule Magnets**, 62nd Fujihara Seminar *Frontier and Perspectives in Molecule-Based Quantum Magnets*, Sendai (Japan), May 7-10, 2012;
- **Chemical Design, Structure and Magnetic Response of Gold-wired Single-Molecule Magnets**, Workshop on *Contacts to and within Molecules*, LexI Cluster of Excellence on Nanospintronics, Universität Hamburg, Hamburg (Germany), September 19-20, 2012;
- **Magnetic Memory and Quantum Tunneling Effects in Surface-Wired Single Molecule Magnets**, University of Stuttgart, Stuttgart (Germany), October 23, 2012;
- **Magnetic Memory and Quantum Tunneling Effects in Surface-Wired Single Molecule Magnets**, *Bilateral Workshop on Nanostructured Materials for Magnetic and Spintronic Devices*, Embassy of Italy, Canberra (Australia), October 31-November 1, 2012;
- **Memorie di una Molecola: la Recente Storia dello Spin Elettronico nei Composti di Coordinazione**, University of Trieste, Trieste (Italy), January 23, 2013;
- **1993-2013**. **Twenty Years of Magnetic Bistability in High-spin Molecules**, *GdCh Lecture*, Institut für Chemie, TU Chemnitz, Chemnitz (Germany), October 17, 2013;
- **Interfacing Single Molecule Magnets with Metal Surfaces: Advances through Chemical Design and Synchrotron Radiation**, 6th Scientific Workshop *Towards Molecular Spintronics*, DFG Research Unit 1154, Chemnitz (Germany), October 17-18, 2013;
- **Chemical Techniques and Methods**, Workshop *Nanochemistry for Physicists*, Lorentz Center@Snellius, Leiden (The Netherlands), March 10-13, 2014;

- **Interfacing Single-molecule Magnets with Metals**, *DPG-Frühjahrstagung 2014 (DPG Sping Meeting) of the Condensed Matter Section (SKM)*, Dresden (Germany), March 30-April 4, 2014;
- **Single Crystal X-ray Diffraction Methods**, *School of X-ray Diffraction*, Oran University, Oran (Algeria), September 28-30, 2014;
- **Twenty Years of Magnetic Bistability in High-spin Molecules**, University of Barcelona, Barcelona (Spain), February 17, 2015;
- **Interfacing Single Molecule Magnets with Metal Surfaces: Advances through Chemical Design and Synchrotron Radiation**, *International Conference on Functional Molecular Materials* (*FUNMAT2015*), Cracow (Poland), November 18-20, 2015;
- **1991-2016**. **Twenty Five Years of Magnetic Bistability in High-spin Molecules**, CINVESTAV, Mexico City (Mexico), February 29, 2016;
- **Molecular Magnetism: a Primer**, Inorganic Chemistry Department, Faculty of Chemistry, UNAM, Mexico City (Mexico), March 2, 2016;
- **1991-2016**. **Twenty Five Years of Magnetic Bistability in High-spin Molecules**, *New Trends in Inorganic Chemistry*, Inorganic Chemistry Department, Faculty of Chemistry, UNAM, Mexico City (Mexico), March 3-4, 2016 (plenary lecture);
- **Single Molecule Magnets Go Supramolecular: Chains and Metal-Organic Frameworks**, *Osaka City University International Conference* (OCUIC-2016), Osaka (Japan), August 31-September 4, 2016;
- **One Electron Makes the Difference: Redox Control of Exchange Bias in Chains of SMMs**, *The 15th International Conference on Molecule-Based Magnets (ICMM-2016)*, Sendai (Japan), September 4-8, 2016;
- **Single Molecule Magnets Go Supramolecular: Exchange-biased Quantum Tunneling in Chains and Metal-Organic Frameworks**, *LNCMI*-CNRS, Grenoble (France), October 25, 2016;
- **Forging Single-Molecule Magnets for Spintronics: Background, Achievements and Current Trends**, *European Conference on Molecular Spintronics (ECMolS 2016)*, Bologna (Italy), November 15-18, 2016 (keynote);
- **Introduction to the Electronic Structure of Metal Ions; Single-ion Anisotropy; Exchange Interactions**; (in collaboration with R. Sessoli) **Practical Training on Magnetic Analyses**, *MAINZ Master Class on Molecular Magnetism*, Johannes Gutenberg University, Mainz (Germany), January 22-23, 2018;
- **Probing a Monolayer of Single Molecule Magnets on Gold by Synchrotron Mössbauer Spectroscopy**, *43rd International Conference on Coordination Chemistry (ICCC2018)*, Sendai (Japan), July 30-August 4, 2018 (keynote);
- **Designing Magnetic Molecules and their Spin Hamiltonian**, *Spin+X Summer School Molecular Spintronics (MolSpin2018)*, Mainz (Germany), October 8-10, 2018;
- **Forging Molecular Nanomagnets: a Journey from Crystals to Addressable Single Molecules**, *Past, Present and Future of Inorganic Chemistry in Italy: a Path Defined by the Winners of the Nasini Prize (Nasini Workshop*), Rome (Italy), February 11-12, 2019;
- **Forging Single-molecule Magnets: Background, Achievements and Current Trends**, Department of Chemistry, Universidade Tecnológica Federal do Paraná (UTFPR), Curitiba, Brazil, October 4, 2019;
- **Forging Single-molecule Magnets: Background, Achievements and Current Trends**, Department of Chemistry, Universidade Federal do Paraná (UFPR), Curitiba, Brazil, October 10, 2019;
- **Research Experiences in Molecular Magnetism**, Department of Chemistry, Universidade Federal do Paraná (UFPR), Curitiba, Brazil, October 2-11, 2019 (tutorial, 15 hours);

- **Chromium(II)-based EMACs…revisited**, *4th International Conference on Functional Molecular Materials (FUNMAT2019)*, Krakow (Poland), November 25-27, 2019 (MOLSPIN Lecture);
- **Molecular Magnets**, *Italian School on Magnetism*, 5th Edition, Rome (Italy), February 3-7, 2020 (tutorial, 2 hours).

SCIENTIFIC PRODUCTION AND BIBLIOMETRIC INDICATORS
(WoS = apps.webofknowledge.com; 10/01/2021)
Total number of publications: 202
Number of publications in scientific journals: 180
Number of book chapters: 5
Number of other publications: 17 (proceedings, highlights, abstracts indexed on WOS, abstracts published in scientific journals, technical reports, errata)
Number of publications indexed on WoS: 185
Total number of citations (WoS): 9223
h-index (WoS): 53
Average number of citations per publication (WoS): 49.85
Average number of citations per year (WoS): 329.39
Invited seminars/lectures: 67
Congress presentations (as presenter or co-presenter of oral or poster contributions): 238
Participation to national/international conferences/workshops/schools: 115

TECHNOLOGICAL TRANSFER
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PUBLIC ENGAGEMENT
- Interview on Italian Radio (**RadioUno**, **Radiocampus program** by Alma Grandin) on March 3, 2009 (for results published in *Nat. Mater*. **2009**, *8*, 194);
- Research included in UniMORE press release on February 21, 2009, on November 12, 2010 and on February 15, 2018 (for results published in *Nat. Mater*. **2009**, *8*, 194, *Nature* **2010**, *468*, 417 and *Nat. Commun*. **2018**, *9*, 480, respectively);
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