UNIVERSITÀ DEGLI STUDI DELLA BASILICATA - POTENZA
Scuola di Scienze Agrarie, Forestali, Alimentari e Ambientali

Prof. Giampaolo Ricciardi

Curriculum Scientifico

Dal 2005 è Professore Ordinario di Chimica Generale ed Inorganica presso la Facoltà di Agraria, attualmente Scuola di Scienze Agrarie, Forestali, Alimentari ed Ambientali della Università degli Studi della Basilicata.

Scientific Curriculum

Since 2005 Giampaolo Ricciardi is Professor of General and Inorganic Chemistry at the Università della Basilicata (Facoltà di Agraria, now denoted Scuola di Scienze Agrarie, Forestali, Alimentari ed Ambientali).

Aree di interesse scientifico: Macrocicli tetrapirrolici: aspetti sintetici, proprietà fondamentali e applicazioni biomediche. Struttura elettronica, reattività, proprietà ottiche e fotofisiche di porfirine, porfirazine, ftalocianine, corroli e dei loro complessi con metalli di transizione.

Fields of research interest: Tetrapyrrolic macrocycles: synthetic aspects, fundamental properties, and applications in biomedicine. Electronic structure, reactivity, optical and photophysical properties of porphyrins, porphyrazines, phthalocyanines, and corroles and their transition-metal complexes.

Attuali interessi di ricerca: Design e sintesi di metallotetrapirroli per applicazioni biomediche. Studio quantomeccanico, tramite metodi DFT (density functional theory) e TDDFT (time dependent-DFT) delle proprietà ottiche e fotofisiche di porfirine, porfirazine, ftalocianine e dei loro complessi metallici, con potenziali applicazioni in campo biomedico, quali BNCT (Boron Neutron Capture Therapy), PTT (Photothermal Therapy) e PDT (Photodynamic Therapy).

Actual research interests: Design and synthesis of metallotetrapyrroles for applications in biomedicine. Theoretical study, by DFT (density functional theory) and TDDFT (time-dependent DFT) methods of the optical and photophysical properties of porphyrins, porphyrazines, and phthalocyanines and their transition-metal complexes with potential biomedical applications, such as BNCT (Boron Neutron Capture Therapy), PTT (Photothermal Therapy) e PDT (Photodynamic Therapy).

Affiliazioni: Università della Basilicata, Dipartimento di Scienze, Viale dell'Ateneo Lucano 10 – 85100

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Potenza

Recent (Selected) Publications

(1) Sara Nardis, Daniel O. Cicero, Silvia Licoccia, Giuseppe Pomarico, Beatrice Berionni Berna, Marco Sette, Giampaolo Ricciardi, Angela Rosa, Frank R. Fronczek, Kevin M. Smith, and Roberto Paolesse (2014). **Phenyl Derivative of Iron 5,10,15-Tritolylcorrole.** INORGANIC CHEMISTRY (ISSN:0020-1669). 4215- 4227. 53;

(2) Donzello M. P.; De Mori G.; Viola E.; Ercolani C.; Ricciardi G.; Rosa A. (2014). **Tetra-2,3-pyrazinoporphyrazines with Externally Appended Pyridine 2 Rings. 15. Effects of the Pyridyl Substituents and Fused Exocyclic 3 Rings on the UV−Visible Spectroscopic Properties of Mg(II)− 4 Porphyrazines: A Combined Experimental and DFT/TDDFT Study.** INORGANIC CHEMISTRY (ISSN:0020-1669). 8009- 8019. 53;

(3) Pietrangeli D., Soldatova A. V., Casarini D., Rosa A., Ricciardi G. (2014). **On the flexibility of carboranylalkylthio substituents in porphyrazines and its relevance to the photophysical properties.** INORGANIC CHEMISTRY FRONTIERS (ISSN:2052-1553). 464- 467. 1;

(4) Manet, F. Manoli, M. P. Donzello, E. Viola, A. Masi, G. Andreano, G. Ricciardi, A. Rosa, L. Cellai, C. Ercolani, S. Monti (2013). **Pyrazinoporphyrazines with Externally Appended Pyridine Rings. 13. Structure, UV–Visible Spectral Features, and Noncovalent Interaction with DNA of a Positively Charged Binuclear (ZnII/PtII) Macrocycle with Multimodal Anticancer Potentialities.** INORGANIC CHEMISTRY (ISSN:0020-1669). 321- 328. 52;

(5) D. Pietrangeli; A. Rosa; S. Ristori; A. Salvati; S. Altieri; G. Ricciardi (2013). **Carboranyl-porphyrazines and derivatives for boron neutron capture therapy: From synthesis to in vitro tests.** COORDINATION CHEMISTRY REVIEWS (ISSN:0010-8545). 2213- 2231. 257;

(6) M. Stefanelli, G. Pomarico, L. Tortora, S. Nardis, F. R. Fronczek, G. T. McCandless, K. M. Smith, M. Manowong, Y. Fang, P. Chen, K. M. Kadish, A. Rosa, G. Ricciardi, R. Paolesse (2012). **β-Nitro-5,10,15-tritolylcorroles.** INORGANIC CHEMISTRY (ISSN:0020-1669). 6928- 6942. 51;

(7) A. ROSA, G. RICCIARDI (2012). **Quantum Chemical Studies on the Excited-State Deactivation Mechanism in Transition-Metal Tetrapyrroles** Biophysical and Physicochemical Studies of Tetrapyrroles–Book Series Title: HANDBOOK OF PORPHYRIN SCIENCE. WORLD SCIENTIFIC, Singapore: 170- 236, 22,

(8) Angela Rosa, Giampaolo Ricciardi (2012). **Reactivity of Compound II: Electronic Structure Analysis of Methane Hydroxylation by Oxoiron(IV) Porphyrin Complexes.** INORGANIC CHEMISTRY (ISSN:0020-1669). 9833- 9845. 51;

(9) SOLDATOVA A. V.; KIM J.; RIZZOLI C.; KENNEY M. E.; RODGERS M. A. J.; ROSA A.; RICCIARDI G. (2011). **Near-Infrared-Emitting Phthalocyanines. A Combined Experimental and Density Functional Theory Study of the Structural, Optical, and Photophysical Properties of Pd(II) and Pt(II) α-Butoxyphthalocyanines.** INORGANIC CHEMISTRY (ISSN:0020-1669). 1135- 1149. 50;

(10) D. Pietrangeli, A. Rosa, A. Pepe, G. Ricciardi (2011). **Symmetrically Substituted nido-Carboranyl-Phthalocyanines: Facile Synthesis, Characterization, and Solution Properties. Evidence for Intra-and Intermolecular H+/K+ Exchange.** INORGANIC CHEMISTRY (ISSN:0020-1669). 4680- 4682. 50;

(11) ROSA A.; RICCIARDI G.; BAERENDS E. J. (2010). **Is [FeO]2+ the Active Center also in Iron Containing Zeolites? A Density Functional Theory Study of Methane Hydroxylation Catalysis by Fe-ZSM-5 Zeolite..** INORGANIC CHEMISTRY (ISSN:0020-1669). 3866- 3880. 49;

(12) GARRAMONE G.; PIETRANGELI D.;RICCIARDI G.; CONOCI S.; GUASCITO M. R.; MALITESTA C.; CESARI D.; CASILLI S.; GIOTTA L.; GIANCANE G.; VALLI L. (2008). **Electrochemical and Spectroscopic Behavior of Iron(III) Porphyrazines in Langmuir−Schäfer Films..** JOURNAL OF PHYSICAL CHEMISTRY. B, CONDENSED MATTER, MATERIALS, SURFACES, INTERFACES & BIOPHYSICAL (ISSN:1520-6106). 11517- 11528. 112;

(13) DONZELLO M. P.; ERCOLANI C.; CAI X.; KADISH K. M.; RICCIARDI G.; ROSA A. (2009). **Tetrakis(thiadiazole)porphyrazines. 6. Spectroelectrochemical and Density Functional Theory Studies of the Anions [TTDPzM]n- (n = 1-4; M = ZnII, MgII(H2O), CuII, 2HI).** INORGANIC CHEMISTRY (ISSN:0020-1669). 9890- 9903. 48;

(14) ALTIERI S.; BALZI M.; BORTOLUSSI S.; BRUSCHI P.; CIANI L.; CLERICI A. M.; FARAONI P.; FERRARI C.; GADAN M. A.; PANZA L.; PIETRANGELI D.; RICCIARDI G.; RISTORI S. (2009). **Carborane Derivatives Loaded into Liposomes as Efficient Delivery Systems for Boron Neutron Capture Therapy.** JOURNAL OF MEDICINAL CHEMISTRY (ISSN:0022-2623). 7829- 7835. 52;

(15) DE LUCA G.; ROMEO A.; MONSÙ SCOLARO L.; RICCIARDI G.; ROSA A. (2009). **Sitting-Atop Metallo-Porphyrin Complexes: Experimental and Theoretical Investigations on Such Elusive Species.** INORGANIC CHEMISTRY (ISSN:0020-1669). 8493- 8507. 48;
RISTORI S.; RICCIARDI G.; PIETRANGELI D.; ROSA A.; FEIS A. (2009). **Hydrotropic Solubilization of Gold Nanoparticles Functionalized with Proto-Alkylthioporphyrazines.** JOURNAL OF PHYSICAL CHEMISTRY. C, NANOMATERIALS AND INTERFACES (ISSN:1932-7447). 8537- 8540. 113;

(16) DONZELLO M. P.; VIOLA E.; BERGAMI C.; DINI D.; ERCOLANI C.; GIUSTINI M.; KADISH K. M.; MENEGHETTI M.; MONACELLI F.; ROSA A.; RICCIARDI G. (2008). **Tetra-2,3-pyrazinoporphyrazines with Externally Appended Pyridine Rings. 6. Chemical and Redox Properties and Highly Effective Photosensitizing Activity for Singlet Oxygen Production of Penta- and Monopalladated Complexes in Dimethylformamide Solution.** INORGANIC CHEMISTRY (ISSN:0020-1669). 8757- 8766. 47;

(17) RICCIARDI G.; SOLDATOVA A. V.; ROSA A. (2008). **On the Photophysics of Metallophthalocyanine-based Phototermal Sensitizers: Synergism between Theory and Experiment.** JOURNAL OF INORGANIC BIOCHEMISTRY (ISSN:0162-0134). 406- 413. 102;

(18) SOLDATOVA A. V.; KIM J.; ROSA A.; RICCIARDI G.; KENNEY M. E.; RODGERS M. A. J. (2008). **Photophysical Behavior of Open-Shell First-Row Transition-Metal Octabutoxynaphthalocyanines: CoNc(OBu)8 and CuNc(OBu)8 as Case Studies.** INORGANIC CHEMISTRY (ISSN:0020-1669). 4275- 4289. 47;

(19) SALVATI A.; RISTORI S.; OBERDISSE J.; SPALLA O.; RICCIARDI G.; PIETRANGELI D.; GIUSTINI M.; MARTINI G. (2007). **Small Angle Scattering and Zeta Potential of Liposomes Loaded with Octa(carboranyl)porphyrazine.** JOURNAL OF PHYSICAL CHEMISTRY. B, CONDENSED MATTER, MATERIALS, SURFACES, INTERFACES & BIOPHYSICAL (ISSN:1520-6106). 10357- 10364. 111;

(20) RISTORI S.; SALVATI A.; MARTINI G.; SPALLA O.; PIETRANGELI D.; ROSA A.; RICCIARDI G. (2007). **Synthesis and Liposome Insertion of a New Poly(carboranylalkylthio)porphyrazine to Improve Potentiality in Multiple-Approach Cancer Therapy.** JOURNAL OF THE AMERICAN CHEMICAL SOCIETY (ISSN:0002-7863). 2728- 2729. 129;

(21) SOLDATOVA A.V.; KIM J.; PENG X.; ROSA A.; RICCIARDI G.; KENNEY M.E.; RODGERS M.A.J. (2007). **Effects of Benzoaanulation and α-Octabutoxy Substitution on the Photophysical Behavior of Nickel Phthalocyanines: A Combined Experimental and DFT/TDDFT Study.** INORGANIC CHEMISTRY (ISSN:0020-1669). 2080- 2093. 46.

Orario e Sede di ricevimento:

GIORNO	*DALLE ORE*	*ALLE ORE*	*PRESSO*
Lunedi	**9:30**	**11:30**	**Studio Docente**
Martedi	**11:30**	**13:30**	**Studio Docente**

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