



Prof. Giampaolo Ricciardi

Curriculum Scientifico

Professore Ordinario SSD CHIM/03- Chimica Generale ed Inorganica.

Posizioni ricoperte: 1991-1998, UNIBAS, Facoltà di Scienze MM. FF. NN.: Ricercatore Universitario. 1998-2005, UNIBAS, Facoltà di Agraria: Professore Associato. 2005-2013, UNIBAS, Facoltà di Agraria: Professore Ordinario. 2008-2011, UNIBAS, Direttore del Dipartimento di Chimica.

Curriculum Studi: 1976 – Laurea in Chimica, cum Laude, Università degli Studi di Perugia.

Permanenze all'estero per studio e ricerca: Brevi stages di ricerca presso: Vrije Universiteit, Amsterdam, The Netherlands.

Attuali interessi di ricerca: Progettazione, sintesi e studio, sia sperimentale che teorico, tramite metodi DFT (density functional theory) e TDDFT (time dependent density functional theory), delle proprietà dello stato fondamentale e degli stati eccitati, a livello molecolare e supramolecolare, di porfirine, porfirazine, ftalocianine, corroli, e dei loro complessi metallici, con potenziali applicazioni in campo biomedico. Studio teorico della reattività di ossoferril-porfirine.

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

Pubblicazioni (selezionata lista delle più recenti):

1. Photophysics of Octabutoxy Phthalocyaninato-Ni(II) in Toluene: Ultrafast Experiments and DFT/TDDFT Studies Gunaratne, T. C.; Gusev, A. V.; Peng, X.; Rosa, A.; Ricciardi, G.; Baerends, E. J.; Rizzoli, C.; Kenney, M. E.; Rodgers, M. A. J. *J. Phys. Chem. A* **2005**, *109*, 2078-2089
2. Structural, Optical, and Photophysical Properties of Nickel(II) Alkylthioporphyryns: Insights from Experimental and DFT/TDDFT Studies Rosa, A.; Ricciardi, G.; Baerends, E. J.; Zimin, M.; Rodgers, M. J. A.; Matsumoto, S.; Noboru, O. *Inorg. Chem.* **2005**, *44*, 6609-6622
3. Synergism of Porphyrin-Core Saddling and Twisting of *meso*-Aryl Substituents Rosa, A.; Ricciardi, G.; Baerends, E. J. *J. Phys. Chem. A* **2006**, *110*, 5180-5190
4. Effects of Benzoannulation and π -Octabutoxy Substitution on the Photophysical Behavior of Nickel Phthalocyanines: A Combined Experimental and DFT/TDDFT Study Soldatova, A. V.; Kim, J.; Peng, X.; Rosa, A.; Ricciardi, G.; Kenney, M. E.; Rodgers, M. A. J. *Inorg. Chem.* **2007**, *46*, 2080-2093



5. Synthesis and Liposome Insertion of a New Poly(carboranylalkylthio)porphyrazine to Improve Potentiality in Multiple-Approach Cancer Therapy Ristori, S.; Salvati, A.; Martini, G.; Spalla, O.; Pietrangeli, D.; **Rosa, A.**; Ricciardi, G. *J. Am. Chem. Soc.* **2007**, *129*, 2728–2729
 6. Tetrakis(thiadiazole)porphyrazines. 5. Electrochemical and DFT/TDDFT Studies of the Free-Base Macrocycle and Its Mg^{II}, Zn^{II}, and Cu^{II} Complexes Donzello, M. P.; Ercolani, C.; Kadish, K. M.; Ricciardi, G.; Rosa, A.; Stuzhin, P. A. *Inorg. Chem.* **2007**, *46*, 4145–4157
 7. Evidence for Tetraphenylporphyrin Monoacids De Luca, G.; Romeo, A.; Monsù Scolaro, L.; Ricciardi, G.; Rosa, A. *Inorg. Chem.* **2007**, *46*, 5979–5988
 8. Tetra-2,3-pyrazinoporphyrazines with Externally Appended Pyridine Rings. 5. Synthesis, Physicochemical and Theoretical Studies of a Novel Pentanuclear Palladium(II) Complex and Related Mononuclear Species Donzello, M. P.; Viola, E.; Cai, X.; Mannina, L.; Rizzoli, C.; Ricciardi, G.; Ercolani, C.; Kadish, K. M.; Rosa, A. *Inorg. Chem.* **2008**, *47*, 3903–3919
 9. On the Photophysics of Metallophthalocyanine Based Photothermal Sensitizers: Synergism Between Theory and Experiment Ricciardi, G.; Soldatova, A. V.; **Rosa, A.** *J. Inorg. Biochem.* **2008**, *102*, 406–413
 10. Photophysical Behavior of Open-Shell First-Row Transition-Metal Octabutoxy-naphthalocyanines: CoNc(OBu)₈ and CuNc(OBu)₈ as Case Studies Soldatova, A. V.; Kim, J.; **Rosa, A.**; Ricciardi, G.; Kenney, M. E.; Rodgers, M. A. J. *Inorg. Chem.* **2008**, *47*, 4275–4289
 11. 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 Donzello, M. P.; Viola, E.; Bergami, C.; Dini, D.; Ercolani, C.; Giustini, M.; Kadish, K. M.; Meneghetti, M.; Monacelli, F.; Rosa, A.; Ricciardi, G. *Inorg. Chem.* **2008**, *47*, 8757–8766
 12. Tetrakis(thiadiazole)porphyrazines. 6. Spectroelectrochemical and Density Functional Studies of the Anions [TTDPzM]ⁿ⁻ (n = 1–4; M = Zn^{II}, Mg^{II}(H₂O), Cu^{II}, 2H^I) Donzello, M. P.; Ercolani, C.; Cai, X.; Kadish, K. M.; Ricciardi, G.; Rosa, A. *Inorg. Chem.* **2009**, *48*, 9890–9903
 13. Hydrotropic Solubilization of Gold Nanoparticles Functionalized with Proto-alkylthio-porphyrazines
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- Ristori, S.; Ricciardi, G.; Pietrangeli, D.; Rosa, A.; Feis, A. *J. Phys. Chem. C* **2009**, *113*, 8537–8540
- 14.** A Time-dependent Density Functional Theory (TDDFT) Interpretation of the Optical Spectra of Zinc Phthalocyanine π -cation and π -anion Radicals Ricciardi, G.; Rosa, A. *Can. J. Chem.* **2009**, *87*, 994–1005
- 15.** Sitting-Atop Metallo-Porphyrin Complexes: Experimental and Theoretical Investigations on Such Elusive Species De Luca, G.; Romeo, A.; Monsù Scolaro, L.; Ricciardi, G.; Rosa, A. *Inorg. Chem.* **2009**, *48*, 8493–8507
- 16.** Is $[\text{FeO}]^{2+}$ the Active Center also in Iron Containing Zeolites? A Density Functional Theory Study of Methane Hydroxylation Catalysis by Fe-ZSM-5 Zeolite Rosa, A.; Ricciardi, G.; Baerends, E. J. *Inorg. Chem.* **2010**, *49*, 3866–3880
- 17.** The Role of the Metal Ion in the Photophysical Behavior of Co(II), Ni(II), and Cu(II) Octabutoxynaphthalocyanines: Insights from Ultra-fast Time-resolved Spectroscopy and DFT/TDDFT Calculations. Ricciardi, G.; Soldatova, A. V.; Rosa, A. *J. Porphyrins Phthalocyanines* **2010**, *14*, 689–700
- 18.** Carboranylporphyrazines for Anti-cancer Therapies: Synthesis and Physicochemical Properties Pietrangeli, D.; Ristori, S.; Rosa, A.; Ricciardi, G. *J. Porphyrins Phthalocyanines* **2010**, *14*, 678–688
- 19.** 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) π -Butoxyphthalocyanines Soldatova, A. V.; Kim, J.; Rizzoli, C.; Kenney, M. E.; Rodgers, M. A. J.; Rosa, A.; Ricciardi, G. *Inorg. Chem.* **2011**, *50*, 1135–1149
- 20.** Symmetrically Substituted *nido*-Carboranylphthalocyanines: Facile Synthesis, Characterization, and Solution Properties. Evidence for Intra- and Intermolecular H^+/K^+ Exchange Pietrangeli, D.; Rosa, A.; Ricciardi, G. *Inorg. Chem.* **2011**, *50*, 4680–4682
- 21.** Synthesis and Characterization of Nanosized Polycarboranylporphyrazine Conjugates Pietrangeli, D.; Rosa, A.; Pepe, A.; Ricciardi, G. *J. Porphyrins Phthalocyanines* **2011**, *15*, 1024–1032
- 22.** Quantum Chemical Studies on the Excited-State Deactivation Mechanism in Transition-Metal Tetrapyrroles Rosa, A.; Ricciardi, G. In: K. M. Kadish, K. M. Smith, R. Guillard. Biophysical and Physicochemical Studies of Tetrapyrroles Book Series Title: HANDBOOK OF PORPHYRIN SCIENCE. 2012. vol. 22, p. 170-236, SINGAPORE: World Scientific, ISBN: 9789814397599
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23. β -Nitro-5,10,15-tritolyldiuronates Stefanelli, M.; Pomarico, G.; Tortora, L.; Nardis, S.; Fronczek, F. R.; McCandless, G. T.; Smith, K. M.; Manowong, M.; Fang, Y.; Chen, P.; Kadish, K. M.; Rosa, A.; Ricciardi, G.; Paolesse, R. *Inorg. Chem.* **2012**, *51*, 6928–6942

24. Reactivity of Compound II: Electronic Structure Analysis of Methane Hydroxylation by Oxoiron(IV) Porphyrin Complexes Rosa, A.; Ricciardi, G. *Inorg. Chem.* **2012**, *51*, 9833–9845

25. Carboranyl-porphyrines and derivatives for boron neutron capture therapy: From synthesis to in vitro tests Pietrangeli, D.; Rosa, A.; Ristori, S.; Salvati, A.; Altieri, S.; Ricciardi, G. *Coord. Chem. Rev.* **2013**, *257*, 2213–2231.

Orario e Sede di ricevimento:

Lunedì 9:30 - 11:30, Studio del Docente presso Dipartimento di Scienze.

Martedì 11:30 - 13:30, Studio del Docente presso Dipartimento di Scienze.

Altri giorni della settimana: su appuntamento via e-mail, Studio del Docente presso Dipartimento di Scienze.

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