

## Curriculum Vitae della Dott. Michela Salamone

### **Informazioni Personali**

Nata a Roma il 16 Giugno 1974

Cittadinanza: Italiana

Stato civile: Coniugata

Indirizzo privato: Viale Val Padana 110 00141 Roma

Tel.: 06-88327834; Cell.: 349-8680690

In servizio presso: Dipartimento di Scienze e Tecnologie Chimiche

Università degli Studi di Roma "Tor Vergata"

Via della Ricerca Scientifica, 00133 Rome, Italy

Tel. office: 0039-06-72594387

Fax: 0039-06-72594328

E-mail: Michela.Salamone@uniroma2.it

### **Studi e formazione professionale**

Novembre 2007-posizione attuale: In servizio come Ricercatore Universitario presso la Facoltà di Scienze MM.FF.NN dell'Università degli Studi di Roma "Tor Vergata", Settore Scientifico Disciplinare: CHIM/06

Marzo 2003-Giugno 2007: Assegnista di Ricerca presso l'Università degli Studi di Roma "Tor Vergata", Settore Scientifico Disciplinare: CHIM/06

1999-2002: Dottorato di Ricerca in Scienze Chimiche (XV ciclo), Università di Roma "Tor Vergata". Titolo della tesi: "Mechanistic aspects of the reactivity of radical intermediates involved in the oxidative degradation of simple lignin model compounds. The role of structural effects on the side-chain fragmentation of alkoxy radicals and arylalkanol radical cations". Supervisore: Prof. Massimo Bietti.

Gennaio 2000: Abilitazione all'esercizio della professione di chimico.

Luglio 1999: Laurea in Chimica, Università degli Studi di Roma "La Sapienza". Voto: 110/110 e lode. Titolo della tesi: "Sintesi di nuovi macrocicli bimetallici. Verso l'attivazione bifunzionale in sistemi metallocarbonilici". Relatori: Prof. Bernardo Masci, Dott. Mauro Bassetti.

### **Periodi di ricerca all'estero**

- Max-Planck-Institut für Strahlenchemie, Mülheim an der Ruhr, (Germania) nel gruppo del Prof. Steen Steenken (2 mesi).
- Central Laser Facility - Rutherford Appleton Laboratory, Didcot (Regno Unito) nell'ambito dell'European Commission Access to Large-Scale Facilities Scheme (03/2001, 02/2003).
- Daresbury Laboratory, Free Radical Research Facility, Daresbury (Regno Unito) nell'ambito dell'European Commission's Transnational Access to Major Research Infrastructures.

### **Attività didattica**

Presso l'Università degli Studi di Roma "Tor Vergata" ha svolto:

- corso di Chimica Organica (Corso di Laurea in Ecologia a.a. 2007-2008)
- assistenza ai laboratori didattici: Laboratorio di Chimica Organica 1 (C.L. in Chimica, dal 2001); Laboratorio di Chimica Organica (C.L. in Biotecnologie, dal 2002)
- esercitazioni teoriche nell'ambito del corso di Chimica Organica (C.L. in Biotecnologie dal 2002 al 2007)
- membro delle commissioni d'esame di Chimica Organica (C.L. in Biotecnologie, dal 2004)

### ***Attività scientifica***

L'attività scientifica riguarda lo studio di reazioni di trasferimento di elettrone in chimica organica e il ruolo di intermedi reattivi quali radicali e radicali ioni. In particolare l'attenzione è stata rivolta allo studio del ruolo degli effetti strutturali e del mezzo sulla generazione e sulla reattività di queste specie mediante l'impiego di tecniche risolte nel tempo quali la radiolisi pulsata e la laser flash fotolisi

***Pubblicazioni:*** 16

***Contributi e Partecipazioni a Congressi e Scuole:*** 9

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## **Curriculum Vitae of Dr. Michela Salamone**

### ***Personal Information***

Born in Rome, Italy, June 16, 1974

Citizenship: Italian

Marital status: married

Private address: Viale Val Padana 110, 00141, Rome

Tel.: 0039-06-88327834

Affiliation: Dipartimento di Scienze e Tecnologie Chimiche

Università degli Studi di Roma "Tor Vergata"

Via della Ricerca Scientifica, 00133 Rome, Italy

Tel. office: 0039-06-72594387

Fax: 0039-06-72594328

E-mail: [Michela.Salamone@uniroma2.it](mailto:Michela.Salamone@uniroma2.it)

### **Studies and Professional Experience**

2007-present: Research Associate in Organic Chemistry at the Dipartimento di Scienze e Tecnologie Chimiche, Università di Roma "Tor Vergata"

2003-2007: Post-Doctoral Fellow at the Dipartimento di Scienze e Tecnologie Chimiche, Università di Roma "Tor Vergata"

1999-2002: PhD in Chemistry (XV ciclo), Università di Roma "Tor Vergata". Doctoral Thesis: "Mechanistic aspects of the reactivity of radical intermediates involved in the oxidative degradation of simple lignin model compounds. The role of structural effects on the side-chain fragmentation of alkoxy radicals and arylalkanol radical cations". Supervisor: Prof. Massimo Bietti.

January 2000: Professional Habilitation in Chemistry.

July 1999: Degree in Chemistry, Università degli Studi di Roma "La Sapienza". Grade: 110/110 *cum laude*. Thesis: "Sintesi di nuovi macrocicli bimetallici. Verso l'attivazione bifunzionale in sistemi metallocarbonilici". Supervisors: Prof. Bernardo Masci, Dr. Mauro Bassetti.

### ***Research stays abroad***

- Max-Planck-Institut für Strahlenchemie, Mülheim an der Ruhr, (Germany) working with Prof. Steen Steenken (2 months).
- Central Laser Facility - Rutherford Appleton Laboratory, Didcot (United Kingdom) in the framework of the European Commission Access to Large-Scale Facilities Scheme (03/2001, 02/2003).

- Daresbury Laboratory, Free Radical Research Facility, Daresbury (United Kingdom) in the framework of European Commission's Transnational Access to Major Research Infrastructures.

#### **Teaching activity**

- Organic Chemistry (first year course of the degree in Ecology, 2007-2008)
- Theoretical and Practical Assistance at Organic Chemistry Laboratory (first year course of the degree in Chemistry, since 2001 and first year course of the degree in Biotechnology, since 2002)

#### **Scientific activity**

The scientific activity is focused on the study of electron transfer reactions in organic chemistry and the role of reactive intermediates such as radical ions and free radicals in organic processes. Particular attention has been devoted to the study of structural and medium effects on the generation, redox properties and reactivity of a wide variety of aromatic radical cations and alkoxy radicals by means of steady state photolysis and time resolved techniques such as laser flash photolysis and pulse radiolysis.

**Publications:** 16

**Contributions to International Conferences and Meetings:** 9

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### **Elenco Pubblicazioni Dott. Michela Salamone**

**P1.** E. Baciocchi, M. Bietti, M. F. Gerini, L. Manduchi, M. Salamone, S. Steenken, "Structural effects on the OH<sup>-</sup> Promoted Fragmentation of Methoxy-Substituted 1-Arylalkanol Radical Cations in aqueous solution: The Role of Oxygen Acidity" *Chem. Eur. J.* **2001**, 7, 1408-1416.

**P2.** E. Baciocchi, M. Bietti, M. Salamone, S. Steenken, "Spectral Properties and Absolute Rate Constants for the  $\beta$ -Scission of Ring Substituted Cumyloxy Radicals. A Laser Flash Photolysis Study" *J. Org. Chem.* **2002**, 67, 2266-2270.

**P3.** M. Bellanova, M. Bietti, G. Ercolani, M. Salamone, "The role of stereoelectronic effects on the side-chain fragmentation of alkylaromatic radical cations. The reactivity of 5-methoxy-2,2-dimethylindan-1-ol radical cation" *Tetrahedron* **2002**, 58, 5039-5044.

**P4.** M. Bassetti, A. Capone, L. Mastrofrancesco, M. Salamone, "Oxidative Addition of Methyl Iodide and CO Migratory Insertion in a Cationic Rhodium Complex of a S, N, S Tridentate Ligand" *Organometallics* **2003**, 22, 2535-2538.

**P5.** M. Bellanova, M. Bietti, M. Salamone, "The role of oxygen acidity on the side-chain fragmentation of ring methoxylated benzocycloalkenol radical cations" *Tetrahedron Letters*, **2003**, 44, 6401-6404.

**P6.** M. Bassetti, A. Capone, M. Salamone, "Kinetic Evidence of an Arm-Off Mechanism in Complexes of Hemilabile Hybrid Ligands. Oxidative Addition of Methyl Iodide to the

Rhodium (I) Complex [Rh(2,6-bis(benzylthiomethyl)pyridine)(CO)]PF<sub>6</sub> via Competitive Pathways” *Organometallics* **2004**, *23*, 247-252.

**P7.** C. S. Aureliano Antunes, M. Bietti, M. Salamone, N. Scione, “Early stages in the TiO<sub>2</sub>-photocatalyzed degradation of simple phenolic and non-phenolic lignin model compounds” *J. Photochem. Photobiol., A: Chem.* **2004**, *163*, 453-462.

**P8.** C. S. Aureliano Antunes, M. Bietti, O. Lanzalunga, M. Salamone, “Photolysis of 1-Alkylcycloalkanols in the Presence of (Diacetoxyiodo)benzene and I<sub>2</sub>. Intramolecular Selectivity in the  $\beta$ -Scission Reactions of the Intermediate 1-Alkylcycloalkoxyl Radicals” *J. Org. Chem.* **2004**, *69*, 5281-5289.

**P9.** M. Bietti, O. Lanzalunga, M. Salamone, “Structural Effects on the  $\beta$ -Scission Reaction of Alkoxy Radicals. Direct Measurement of the Absolute Rate Constants for Ring Opening of Benzocycloalken-1-oxyl Radicals” *J. Org. Chem.* **2005**, *70*, 1417-1422.

**P10.** Carla S. Aureliano Antunes, M. Bietti, O. Lanzalunga, M. Salamone, “The Effect of Ring Substitution on the *O*-Neophyl Rearrangement of 1,1-Diarylalkoxy Radicals. A Product and Time-Resolved Kinetic Study” *J. Org. Chem.*, **2005**, *70*, 3884-3891.

**P11.** M. Bietti, G. Gente, M. Salamone, “Structural Effects on the  $\beta$ -Scission Reaction of Tertiary Arylcarbinoyloxy Radicals. The Role of  $\alpha$ -Cyclopropyl and  $\alpha$ -Cyclobutyl Groups” *J. Org. Chem.*, **2005**, *70*, 6820-6826.

**P12.** M. Bietti, M. Salamone, “Solvent Effects on the *O*-Neophyl Rearrangement of 1,1-Diarylalkoxy Radicals. A Laser Flash Photolysis Study” *J. Org. Chem.*, **2005**, *70*, 10603-10606

**P13.** M. Bassetti, A. Calenne, L. Mastrofrancesco, M. Salamone, G. Bocelli, A. Cantoni, A. Musatti, “Synthesis and Characterization of a Novel Heteroditopic Macrocyclic System. Monometallic Nickel(II) and Uranyl Complexes and Corresponding Heterobimetallic Rhodium(I)-Carbonyl Complexes.” *Eur. J. Inorg. Chem.*, **2006**, 914-925

**P14.** M. Bietti, O. Lanzalunga, M. Salamone, “Involvement of Alkoxy Radical Intermediates in the Photolysis of 1-Alkylcycloalkanols in the Presence of Bis(pyridine)iodonium Tetrafluoroborate. Comparison with the (Diacetoxyiodo)benzene/I<sub>2</sub> System”, *J. Photochem. Photobiol., A: Chem.*, **2006**, *182*, 33-37

**P15.** M. Bietti, S. Fiorentini, I. Perez Pato, M. Salamone, “Oxygen Acidity of Ring Methoxylated 1,1-Diarylalkanol Radical Cations Bearing  $\alpha$ -Cyclopropyl Groups. The Competition between *O*-Neophyl Shift and C-Cyclopropyl  $\beta$ -Scission in the Intermediate 1,1-Diarylalkoxy Radicals”, *J. Org. Chem.*, **2006**, *71*, 3167-3175

**P16.** M. Bietti, G. Ercolani, M. Salamone, “DFT Evidence for a Stepwise Mechanism in the *O*-Neophyl Rearrangement of 1,1-Diarylalkoxy Radicals”, *J. Org. Chem.*, **2007**, *72*, 4515-4519

**P17.** M. Salamone, “Mechanistic Aspects of the Reactivity of Radical Intermediates Involved in the Oxidative Degradation of Simple Lignin Model Compounds. The Role of Structural Effects on the Side-Chain Fragmentation of Alkoxy Radicals and Arylalkanol Radical Cations.”, *tesi di dottorato*



