

Dr. Alessandra Guerrini-Curriculum vitae

1996: degree in Chemistry with honours grade at University of Ferrara (Italy)

2002-2005: university technician at University of Ferrara (Italy)

from 2010 until now: assistant professor for BIO/15 field sector (Pharmaceutical biology) at University of Ferrara (Italy)

Teachings: “Plant biology and Pharmacognosy” (degree in Pharmaceutical Chemistry and Technologies (CTF)), “Quality Control of Herbal Drugs” (CTF and Pharmacy) at University of Ferrara (Italy)

Member of PhD Teaching Staff in "Biochemistry, Molecular Biology and Biotechnologies", of Italian Phytochemical Society and Italian Botanical Society, Editorial Board member for Medicinal & Aromatic Plants journal.

1997-2001: fellow worker of ICE (Industria Chimica Emiliana) Company of Reggio Emilia (Italy) for research activity on synthesis and biotransformation processes optimization, extraction and analysis of chemical of pharmaceutical interest, from laboratory scale, to pilot plant and production scale up

From 2001 until now: research activities in depth investigating phytochemical characterization strategies of plant sources particularly interesting for health fields, development and optimization of traditional and innovative extraction methods, supercritical fluid extractions, separative and analytical methods (TLC, HPTLC, HPLC, GC) and structural investigations (HPLC-MS, GC-MS, NMR). Biological activities as *in vitro* antioxidant tests (DPPH, ABTS, beta-carotene bleaching test), tests on phytopathogenic and dermatophyte bacteria and fungi on Petri dishes or on Autobiographic HPTLC, determination of cytotoxic, genotoxic and mutagen properties (Ames, *Saccharomyces cerevisiae* D7, SOS-Chromo, micronuclei tests) and eventually of mutagen-protection, *ex-vivo* tests on cancer cell lines and on keratinocytes to evaluate potential cosmetic uses. Knowledge of multivariate analysis.

International cooperations: Polytechnic Salesian University of Quito (Ecuador), Lebanese University of Beirut, Johannes Gutenberg of Mainz (Germany)

Relevant national projects: cooperate to **Agerinnovapero**, started on december 2010, and **PRIN 2009LR9YLF**

Publications: 58 publications (26 in ISI certified journal and 4 book chapters)

Most relevant publications

- 1) D. Rossi, A. Guerrini, G. Paganetto, G. Bernacchia, F. Conforti, G. Statti, S. Maietti, I. Poppi, M. Tacchini, G. Sacchetti (In press). **Croton lechleri Müll. Arg. (Euphorbiaceae) stem bark essential oil as possible mutagen-protective food ingredient against heterocyclic amines from cooked food.** FOOD CHEMISTRY (ISSN:0308-8146) pp.--- -- Vol.--,
- 2) S. Maietti, D. Rossi, A. Guerrini, C. Useli, C. Romagnoli, F. Poli, R. Bruni, G. Sacchetti (In press). **Multivariate analysis approach to the study of chemical and functional properties of chemo-diverse plant derivatives: Lavender essential oils.** FLAVOUR AND FRAGRANCE JOURNAL (ISSN:1099-1026) pp.--- -- Vol.--,
- 3) A. M. Saab, A. Guerrini, G. Sacchetti, S. Maietti, M. Zeino, J. Arend, R. Gambari, F. Bernardi, T. Efferth (2012). **Phytochemical Analysis and Cytotoxicity Towards Multidrug-Resistant Leukemia Cells of Essential Oils Derived from Lebanese Medicinal Plants .** PLANTA MEDICA (ISSN:0032-0943) pp.1927- 1931 Vol.78,
- 4) D. Rossi; A. Guerrini, R. Bruni, E. Brognara, M. Borgatti, R. Gambari, S. Maietti, G. Sacchetti. (2012). **Trans-Resveratrol in nutraceuticals: issues in retail quality and effectiveness..** MOLECULES (ISSN:1420-3049) pp. 12393- 12405 Vol.17,
- 5) Carmela Fimognari, Monia Lenzi, Lorenzo Ferruzzi, Eleonora Turrini, Paolo Scartezzini, Ferruccio Poli, Roberto Gotti, Alessandra Guerrini, Giovanni Carulli, Virginia Ottaviano, Giorgio Cantelli-Forti, Patrizia Hrelia (2011). **Mitochondrial Pathway Mediates the Antileukemic Effects of Hemidesmus Indicus, a Promising Botanical Drug.** PLOS ONE (ISSN:1932-6203) pp.e21544-

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- 6) Borgatti M, Mancini I, Bianchi N, Guerrini A, Lampronti I, Rossi D, Sacchetti G, Gambari R. (2011). **Bergamot (*Citrus bergamia* Risso) fruit extracts and identified components alter expression of interleukin 8 gene in cystic fibrosis bronchial epithelial cell lines.** BMC BIOCHEMISTRY (ISSN:1471-2091) pp.15- 27 Vol.12,
- 7) D. Rossi, A. Guerrini, S. Maietti, R. Bruni, G. Paganetto, F. Poli, L. Scalvenzi, M. Radice, K. Saro, G. Sacchetti (2011). **Chemical fingerprinting and bioactivity of Amazonian Ecuador *Croton lechleri* Müll. Arg. (Euphorbiaceae) stem bark essential oil: a new functional food ingredient?.** FOOD CHEMISTRY (ISSN:0308-8146) pp.837- 848 Vol.126,
- 8) A.GUERRINI, D. ROSSI, G. PAGANETTO, M. TOGNOLINI, M. MUZZOLI, C. ROMAGNOLI, F. ANTOGNONI, S. VERTUANI, A. MEDICI, A. BRUNI, C. USELI, E. TAMBURINI, R. BRUNI, G. SACCHETTI (2011). **Chemical characterization (GC-MS and NMR fingerprinting) and bioactivities of South-African *Pelargonium capitatum* (L.) L'Herit. (Geraniaceae) essential oil .** CHEMISTRY & BIODIVERSITY (ISSN:1612-1872) pp.624- 642 Vol.8,
- 9) Guerrini A., Lampronti I., Bianchi N., Zuccato C., Breveglieri G., Salvatori F., Mancini I., Rossi D., Potenza R., Chiavilli F., Sacchetti G., Gambari R., Borgatti M. (2009). **Bergamot (*Citrus bergamia* Risso) fruit extracts as gamma-globin gene expression inducers: Phyto-chemical and functional perspectives .** JOURNAL OF AGRICULTURAL AND FOOD CHEMISTRY (ISSN:0021-8561) pp.4103- 4111 Vol.57,
- 10) A. Guerrini, G. Sacchetti, D. Rossi, G. Paganetto, M. Muzzoli, E. Andreotti, M. Tognolini, M. E. Maldonado, R. Bruni (2009). **Bioactivities of *Piper aduncum* L. and *Piper obliquum* Ruiz & Pavon (Piperaceae) essential oils from Eastern Ecuador.** ENVIRONMENTAL TOXICOLOGY AND PHARMACOLOGY (ISSN:1382-6689) pp.39- 48 Vol.27,
- 11) A. Guerrini, R. Bruni, S. Maietti, F. Poli, D. Rossi, G. Paganetto, M. Muzzoli, L. Scalvenzi, G. Sacchetti (2009). **Ecuadorian stingless bee (*Meliponinae*) honey: A chemical and functional profile of an ancient health product.** FOOD CHEMISTRY (ISSN:0308-8146) pp.1413- 1420 Vol.114,
- 12) BALLABENI V; TOGNOLINI M; BERTONI S; BRUNI R; A. GUERRINI; MORENO RUEDA G; BAROCELLI E (2007). **Antiplatelet and antithrombotic activities of essential oil from wild *Ocotea quixos* (Lam.) Kosterm. (Lauraceae) calices from Amazonian Ecuador..** PHARMACOLOGICAL RESEARCH (ISSN:1043-6618) pp.23- 30 Vol.55,
- 13) SACCHETTI G; GUERRINI A; NORIEGA P; BIANCHI A; BRUNI R (2006). **Essential oil of wild *Ocotea quixos* (Lam.) Kosterm. (Lauraceae) leaves from Amazonian Ecuador.** FLAVOUR AND FRAGRANCE JOURNAL (ISSN:0882-5734) pp.674- 676 Vol.21 ,
- 14) GUERRINI A.; SACCHETTI G.; MUZZOLI M.; MORENO RUEDA G.; MEDICI A.; BESCO E.; BRUNI R.(2006). **Composition of the volatile fraction of *Ocotea bofo* Kunth (Lauraceae) calyces by GC-MS and NMR fingerprinting and its antimicrobial and antioxidant activity.** JOURNAL OF AGRICULTURAL AND FOOD CHEMISTRY (ISSN:0021-8561) pp.7778- 7788 Vol.54,
- 15) G. FANTIN, P. P. GIOVANNINI, A. GUERRINI, S. MAIETTI, A. MEDICI, P. PEDRINI (2006). **Enantioselective Baeyer-Villiger oxidation of bicyclo[3.2.0]hept-2-en-6-one with fungi: optimization of biotransformation and use of TiO₂ as support of cell growth.** BIOTECHNOLOGY LETTERS (ISSN:0141-5492) pp.805- 810 Vol.28,
- 16) P.PEDRINI; E.ANDREOTTI; GUERRINI A.; M.DEAN; G.FANTIN; P.P.GIOVANNINI (2006). ***Xanthomonas maltophilia* CBS 897.97 as a source of new 7a- and 7b-hydroxysteroid dehydrogenases and cholyglycine hydrolase: improved biotransformations of bile acids.** STEROIDS (ISSN:0039-128X) pp.189- 198 Vol.71,
- 17) MEDICI A.; P. PEDRINI; E. BIANCHINI; G. FANTIN; A. GUERRINI; B. NATALINI; R. PELLICCIARI (2002). **7a-OH Epimerization of bile acids via oxido-reduction with *Xanthomonas maltophilia*.** STEROIDS (ISSN:0039-128X) pp.51- 56 Vol.67,
- 18) BRUNI R; GUERRINI A.; SCALIA S; ROMAGNOLI C; SACCHETTI G (2002). **Rapid**

- Techniques for Extraction of Vitamin E Isomers from *Amaranthus caudatus* seeds: ultrasonic and supercritical fluid extraction.** PHYTOCHEMICAL ANALYSIS (ISSN:0958-0344) pp.257-261 Vol.13,
- 19) BRUNI R.; MEDICI A.; GUERRINI A.; SCALIA S.; POLI F.; ROMAGNOLI C.; MUZZOLI M.; SACCHETTI G. (2002). **Tocopherols, fatty acids and sterol distribution in wild Ecuadorian *Theobroma subincanum* (Sterculiaceae) seeds.** FOOD CHEMISTRY (ISSN:0308-8146) pp.337-341 Vol.77,
- 20) BRUNI R.; MEDICI A.; GUERRINI A.; SCALIA S.; POLI F.; MUZZOLI M.; SACCHETTI G. (2001). **Wild *Amaranthus caudatus* seed oil, a nutraceutical resource from Ecuadorian flora.** JOURNAL OF AGRICULTURAL AND FOOD CHEMISTRY (ISSN:0021-8561) pp.5455- 5460 Vol.49,
- 21) FANTIN G.; FOGAGNOLO M.; GUERRINI A.; MEDICI A.; PEDRINI P.; FONTANA S. (2001). **Enantioselective hydrolyses with *Yarrowia lipolytica*: a versatile strain for esters, enol esters, epoxides, and lactones.** TETRAHEDRON-ASYMMETRY (ISSN:0957-4166) pp.2709- 2713 Vol.12,
- 22) A.MEDICI; P.PEDRINI; A. DE BATTISTI; G.FANTIN; M.FOGAGNOLO; GUERRINI A. (2001). **Anodic electrochemical oxidation of cholic acid.** STEROIDS (ISSN:0039-128X) pp.63-69 Vol.66,
- 23) FOGAGNOLO M.; PP GIOVANNINI; A. GUERRINI; A. MEDICI; P. PEDRINI; N. COLOMBI (1998). **Homochiral (R)- and (S)-1-Heteroaryl- and 1-Aryl-2-propanols via Microbial Redox.** TETRAHEDRON-ASYMMETRY (ISSN:0957-4166) pp.2317- 2327 Vol.9,
- 24) BORTOLINI O.; GUERRINI A.; LUCCHINI V.; MODENA G.; PASQUATO L. (1999). **The phenylsulfenium cation: electronic structure and gas-phase reactivity.** TETRAHEDRON LETTERS (ISSN:0040-4039) pp.6073- 6076 Vol.40,
- 25) BORTOLINI O.; FANTIN G.; FOGAGNOLO M.; GIOVANNINI P.P.; GUERRINI A.; MEDICI A. (1997). **An easy approach to the synthesis of optically active vic-diols: a new single-enzyme system.** JOURNAL OF ORGANIC CHEMISTRY (ISSN:0022-3263) pp.1854- 1856 Vol.62,
- 26) O. BORTOLINI; FANTIN G.; A. GUERRINI; A. MEDICI (1997). **Trisubstituted bile acids of bovine and porcine origin: a gas chromatographic/mass spectrometric study.** RAPID COMMUNICATIONS IN MASS SPECTROMETRY (ISSN:0951-4198) pp.2002- 2004 Vol.11,