

## Curriculum Vitae of Dr. Giuseppe Granata

### EDUCATIONAL QUALIFICATIONS

Ph.D. in Chemical Sciences on 04/03/2005 at the University of Catania.

Degree in Chemistry (specialization in Biomolecular Chemistry) on 07/12/2000 at the University of Catania.

### RESEARCH ACTIVITIES

#### **RESEARCH AT C.N.R. - INSTITUTE OF BIOMOLECULAR CHEMISTRY – BRANCH OF CATANIA**

May 2014 - currently **Researcher at C.N.R. - Institute of Biomolecular Chemistry** - branch of Catania (Permanent Researcher since 30 November 2018).

And already earlier, since February 2005, Research fellow at the aforementioned Institute in the context of different projects (as holder of research grants or contracts).

#### **RESEARCH AT UNIVERSITY OF CATANIA**

November 2009 - November 2011 Postdoctoral research ("Synthesis of new vaccines for immunostimulatory activity" - Pharmaceutical Sciences - School of Pharmacy).

AY 2001-2004 PhD course in Chemical Sciences at the University of Catania.

### **BRIEF DESCRIPTION**

The research of Dr. Giuseppe Granata is focused on the field of Organic and Bioorganic Chemistry and Supramolecular Chemistry:

- Design and preparation of calixarene derivatives, their characterization and molecular properties, study of their assembling and biomolecular recognition capabilities.
- Design and preparation of biocompatible and amphiphilic constructs based on calixarene macrocycles, development of physico-chemical protocols for the aggregation of these constructs in nanostructured systems (such as drug nanocontainers, nanocarriers, etc.) and characterization of nanosystems (size, Z potential, drug loading, etc.).

And in the Agri-Food sector:

- Realization and characterization of nanostructured systems (biocompatible and biodegradable nanoparticles) containing active ingredients of nutritional and biological interest.
- Analytical studies, such as the determination of antioxidant activity, total amount of polyphenols, and individual components.

During the Ph.D., his research was focused on chemo-enzymatic synthesis and characterization of lysophosphatidyl derivatives of oligonucleotides, nucleosides and nucleoside analogues of pharmacological interest.

- The research produced articles, one book chapter, one patent, conference communications and seminars.
- He is reviewer for international scientific journals.
- He has attended in several conferences.

### **PUBLICATIONS (10 selected publications from the last 5 years)**

- 1) Kapustová, M., Puškárová, A., Bučková, M., Granata, G., Napoli, E., Annušová, A., ... & Geraci, C. (2021). Biofilm inhibition by biocompatible poly( $\epsilon$ -caprolactone) nanocapsules loaded with essential oils and their cyto/genotoxicity to human keratinocyte cell line. *International Journal of Pharmaceutics*, 606, 120846.
- 2) Granata, G., Stracquadano, S., Leonardi, M., Napoli, E., Malandrino, G., Cafiso, V., ... & Geraci, C. (2021). Oregano and thyme essential oils encapsulated in chitosan nanoparticles as effective antimicrobial agents against foodborne pathogens. *Molecules*, 26(13), 4055.
- 3) Santonocito, D., Granata, G., Geraci, C., Panico, A., Siciliano, E. A., Raciti, G., & Puglia, C. (2020). Carob Seeds: Food Waste or Source of Bioactive Compounds?. *Pharmaceutics*, 12(11), 1090.
- 4) Filippone, A., Consoli, G. M., Granata, G., Casili, G., Lanza, M., Ardizzone, A., ... & Paterniti, I. (2020). Topical delivery of curcumin by choline-Calix[4]arene-based nanohydrogel improves its therapeutic effect on a psoriasis mouse model. *International Journal of Molecular Sciences*, 21(14), 5053.
- 5) Granata, G., Petralia, S., Forte, G., Conoci, S., & Consoli, G. M. L. (2020). Injectable supramolecular nanohydrogel from a micellar self-assembling calix[4]arene derivative and curcumin for a sustained drug release. *Materials Science and Engineering: C*, 111, 110842.
- 6) Romano, I., Granata, G., Poli, A., Finore, I., Napoli, E., & Geraci, C. (2020). Inhibition of bacterial growth on marble stone of 18th century by treatment of nanoencapsulated essential oils. *International Biodeterioration & Biodegradation*, 148, 104909.
- 7) Granata, G., Stracquadano, S., Consoli, G. M. L., Cafiso, V., Stefani, S., & Geraci, C. (2019). Synthesis of a calix[4]arene derivative exposing multiple units of fucose and preliminary investigation as a potential broad-spectrum antibiofilm agent. *Carbohydrate research*, 476, 60-64.
- 8) Granata, G., Stracquadano, S., Leonardi, M., Napoli, E., Consoli, G. M. L., Cafiso, V., ... & Geraci, C. (2018). Essential oils encapsulated in polymer-based nanocapsules as potential candidates for application in food preservation. *Food chemistry*, 269, 286-292.
- 9) Granata, G., Consoli, G. M., Nigro, R. L., & Geraci, C. (2018). Hydroxycinnamic acids loaded in lipid-core nanocapsules. *Food chemistry*, 245, 551-556.
- 10) Granata, G., Paterniti, I., Geraci, C., Cunsolo, F., Esposito, E., Cordaro, M., ... & Consoli, G. M. (2017). Potential eye drop based on a calix[4]arene nanoassembly for curcumin delivery: Enhanced drug solubility, stability, and anti-inflammatory effect. *Molecular pharmaceutics*, 14(5), 1610-1622.