

Prof. Francesco Giacalone (FG) (Palermo, [REDACTED]) obtained his Degree in Chemistry from the University of Palermo (Unipa) in June 2000 with the dissertation "Synthesis and study of transport properties of novel pyrazine-containing macrocyclic receptors" (Tutor Prof. R. Noto). The experimental work for the dissertation was carried out at the University Complutense of Madrid (UCM) under the supervision of Prof. M. Pardo within a 10 months Erasmus-Socrates fellowship (09/1998 ed il 06/1999).

On September 2000 he started his doctoral thesis at the UCM with a European Community's fellowship within the project "Photo-induced charge transfer in the novel low bandgap polymer semiconductors and their use in photovoltaic devices".

In June 2002 he achieved the *Diploma de Estudios Avanzados* (D.E.A. equivalent to a Master), at the Organic Chemistry Department of the UCM defending the thesis "Synthesis of electroactive [60]fullerene-derivatives".

In July 2004 he received his Ph.D. Degree at the UCM under the guidance of Prof. N. Martìn and Prof. J. L. Segura, defending the thesis "Design and synthesis of photo- and electroactive materials for photovoltaic devices" which was awarded with the extraordinary prize for the Doctoral Thesis from UCM.

From September 2004 to May 2005 he carried out a post-doc stage at the UCM (9 months) in the field of molecular electronics with a prestigious European Science Foundation (ESF) fellowship within the project: Taking Steps Toward "Moelectronics". A Venture Encompassing Nanotechnology and Synthetic Methodology.

Post-Doc Experiences:

From June 2005 to May 2009 he held a Post-Doctoral position at the Organic Chemistry Department of Unipa (Tutor Prof. Renato Noto) working on: "New materials and processes in the organic synthesis".

From December 2009 to January 2011 he held a Research Fellowship at the same department working on the project: "Study of new organocatalysts and recyclable materials for organic synthesis".

In March 2011 he received the Ph.D. Degree in Chemical Sciences at the Unipa under the guidance of Prof. M. Gruttadauria, defending the thesis "Organocatalysis: development of novel recyclable supported materials and improvement of reactions in the homogeneous phase".

From April to end of September 2011 (6 months) he was project collaborator in the INSTM consortium for the project "Carbon nanostructures-polyoxometalates hybrids as new catalysts for water splitting" at University of Trieste, tutor: Prof. Maurizio Prato.

Academic Positions:

In 12/2011 he became Assistant Professor at the University of Palermo.

Since January 2018 he is Associate Professor at the University of Palermo.

Since March 2023 he is Full Professor at the University of Palermo.

FG is co-author of 97 scientific and review articles, 19 chapters on international books and about 70 contributions to congress. 3 Highly Cited Papers (Top 1% in ISI-WoS).

In 2021 FG was the recipient of the Organic Chemistry Research Award for the Environment, Energy and Nanoscience by the Organic Chemistry Division of the Italian Chemical Society.

Projects and Funding:

FG participated in the preparation, the follow up, and reporting to the funding agencies of the following projects:

- J.L. Segura, **F. Giacalone**, M.C. Díaz, "Síntesis y estudio de polímeros conjugados funcionalizados químicamente. Nuevos materiales para la fabricación de células solares" funded by Comunidad de Madrid (Ref.: 07N/0004/2002) (2003-2004).
- N. Martín, J.L. Segura, L. Sánchez, A. Martín, **F. Giacalone**, "Transferencia electrónica fotoinducida: diseño y síntesis de sistemas moleculares y supramoleculares dador-aceptor derivados [60]fullereno y tetratriafulvalenos (TTFs)" funded by the Spanish Science and Technology Ministry (Ref.: BQU2002-00855) (11/2002-11-2005).
- **European Science Foundation** project "*Taking Steps Toward "Molelectronics". A Venture Encompassing Nanotechnology and Synthetic Methodology (NANOSYN)*" funded by the Spanish Education and Science Ministry (MAT2002-12196-E) (05/2004-12/2006).
- R. Noto, F. D'Anna, F. Giacalone, M. Gruttadauria, P. Lo Meo, S. Riela, A. M. P. Salvo, "*Catalizzatori, metodologie e processi innovativi per il regio- e stereocontrollo delle sintesi organiche*" funded by the Italian Education and Science Ministry (prot. 2008KRBX3B) (2010-2011).
- European Researchers' Night Marie Skłodowska-Curie Action "*SHaring Researchers' Passion for Engaging Responsiveness – SHARPER*", (Grant Agreement 722981), (2016-2017). Member of the Organizing Committee of the 6th ORCA Meeting held on May 7th-10th 2014 in Palermo, Italy.
- Responsible for UNIPA for the PRIN 2017 project "New Approaches in Nanocarbo-catalysis for organic transformations" funded by the Italian Education and Science Ministry (prot. 2017W8KNZW) (2019-2022).
- Responsible for UNIPA for the European Researchers' Night Marie Skłodowska-Curie Action "*SHaring Researchers' Passion for Engagement and Responsibility – SHARPER*", (Grant Agreement 101036106), (2021).

As one of the most interesting young chemists of the Italian Chemical Society (SCI), he has been invited to write a review on the journal "Chimica e Industria", and he has been also invited to deliver a plenary lecture at the Austrian-German-Italian meeting held in Gottingen 26-28 May 2011.

He acted as co-editor, together with Nazario Martín, for Wiley-VCH for the book "Fullerene-Polymers: Synthesis, Properties and Applications" published on 09/2009.

He was also co-editor, together with Michelangelo Gruttadauria, for Wiley-Blackwell for the book "Catalytic Methods in Asymmetric Synthesis: Advanced Materials, Techniques and Applications", published on 10/2011.

He acted as Guest Editor for *Catalysts* for the special issue "Sustainable Applications in Surface Chemistry and Catalysis".

He acted as referee for the following international journals: *Sci. Rep.*, *Adv. Synth. Catal.*, *Green Chem.*, *Chem. Commun.*, *J. Org. Chem.*, *Org. Biomol. Chem.*, *Catal. Sci. Technol.*, *ChemCatChem*, *Appl. Catal. A*, *Catal. Commun.*, *Macromolecules*, *Tetrahedron*, *J. Chromatogr. A*, *Eur. Polym. J.*, *Carbon*, *Langmuir*, *J. Polym. Sci.: Part A: Polym. Chem.*, *J. Phys. Chem.*, *Carbohydr. Polym.*, *Sci. Rep.*, *Nanomaterials*.

H index: 37(Scopus); averaged IF:> 8 (JCR); total IF: ~800 Total Citations: >5200; Citations per article: >53 (SCOPUS).

FG's scientific interests regard asymmetric and non asymmetric organocatalysis, mainly focused to the achievement of new highly recyclable materials as well as to new low loading active catalysts and to the immobilization of catalysts. Furthermore he is interested to the development of fullerene reactivity as well as to properties and applications of its macromolecular derivatives in electronic devices and photovoltaic cells. Reactivity and application of other carbon nanofoms (nanotubes, graphene and nanohorns) are also topic of investigation. Especial attention is paid to the preparation of hybrid structures with carbon

nanofoms or amorphous or mesostructured metal oxides (silica, alumina, titania) and their use in heterogeneous catalysis mainly using carbon dioxide as C1 source.