Anna Piperno's Curriculum Vitae

Current positions
Associate Professor of Organic Chemistry,
Department of Chemical, Biological, Pharmaceutical and Environmental Sciences,
University of Messina, Italy.

Education
1994 Master Degree in Pharmaceutical Chemistry and Technology, University of Messina, Italy.
1999 PhD in Pharmaceutical Science, University of Messina, Italy.

Fellowships
1995-1996 – "Bonino-Pulejo" Fellowship for six months of research at University of Milano-Bicocca.

Professional appointments
2001-2016 – Researcher in Organic Chemistry, University of Messina, Italy
From 2016 to now – Associate Professor of Organic Chemistry
2018–ASN (Abilitazione Scientifica Nazionale) qualification as full Professor in Organic Chemistry.
From 2013 to now – Member of the Board for PhD in Chemical Sciences.

Teaching activities
2001-2021– Teaching activity in organic chemistry as researcher and then, since 2016 as associate professor at the University of Messina – Italy. Supervision of several graduate students and postdoctoral fellows.

Research interests
She began her research activity studying the organic synthesis methodologies and the chemistry of heterocyclic compounds. In this regards her work was focused on the design and synthesis of new compounds that interfere with viral replication or with cell death/proliferation. Successively, her research interests have been extended to the functionalization of carbon nanomaterials and biopolymers for applications in drug delivery, regenerative medicine and biosensing. Specifically, she developed, in collaboration with several research teams, engineered multifunctional platforms endowed with stimuli-responsive probes (*i.e.*, magnetic field, light etc.) to obtain devices that can be exploited for the investigation of cell behavior. She has an active collaboration within an international network involved in the study of engineered nanomaterials regarding their ability to affect the cellular microenvironment by activation of signalosome complex. Prof. Anna Piperno has active collaborations with pharmaceutical industries for the fulfilment of projects in the field of drug delivery and liquid biopsy.
She is author of 119 papers published in peer-reviewed journals and book chapters. (H index = 36, citations = 2009, Scopus source).

Publications (2015-2022)

1) Giuseppe Di Natale, Rita Tosto, Angela Scala, Giuseppe Sortino, Anna Piperno, Mariapia Casaletto, Alberto Riminucci, Placido Mineo, Valentina Villari, Norberto Micali, Giuseppe Pappalardo, Maria Pia Casaletto, Maria Laura Giuffrida, KLVFF Oligopeptide-Decorated Amphiphilic Cyclodextrin Nanomagnets for Selective Amyloid Beta Recognition and Fishing. *Journal of Colloid and Interface Science* **2022**, in press.
2) Pennisi, R.; Musarra-Pizzo, M.; Velletri, T.; Mazzaglia, A.; Neri, G.; Scala, A.; Piperno, A.; Sciortino, M.T. Cancer-Related Intracellular Signalling Pathways Activated by DOXorubicin/Cyclodextrin-Graphene-Based Nanomaterials. *Biomolecules* **2022**, 12, 63.
3) Piperno, Maria Teresa Sciortino, Elena Giusto, Silvia Panseri, Angela Scala. Recent advances and challenges in gene delivery mediated by polyester-based nanoparticles. *International Journal of Nanomedicine*, **2021**, 16, 5981–6002.
4) Andrea Citarella, Davide Gentile, Antonio Rescifina, Anna Piperno, Mognetti Barbara, Gribaudo Giorgio, Maria Teresa Sciortino, Wolfgang Holzer, Vittorio Pace, Nicola Micale. Pseudo-dipeptide bearing α,α-difluoromethyl ketone moiety as electrophilic warhead with activity against coronaviruses. *International Journal of Molecular Sciences*, **2021**, 22, 3, pp. 1–17.
5) Andrea Citarella, Angela Scala, Anna Piperno, Nicola Micale. SARS-CoV-2 Mpro: A Potential Target for Peptidomimetics and Small-Molecule Inhibitors. *Biomolecules*, **2021**. 11(4), 607.
6) Claudia Foti, Anna Piperno, Angela Scala, Giuffrè Ottavia. Oxazolidinone antibiotics: Chemical, biological and analytical aspects. *Molecules*, **2021**, 26(14), 4280.
7) Giulia Neri, Enza Fazio, Antonella Nostro, Placido Giuseppe Mineo, Angela Scala, Antonio Rescifina, Anna Piperno.* Shedding light on the chemistry and the properties of münchnone functionalized graphene. *Nanomaterials,* **2021**, 11(7), 1629.
8) Giulia Neri, Annalaura Cordaro, Angela Scala, Massimiliano Cordaro, Antonino Mazzaglia and Anna Piperno*. PEGylated bis-adamantane carboxamide as guest bridge for Graphene poly-Cyclodextrin Gold Nanoassemblies. *Journal of Molecular Structure,* **2021**, 1240, 130519.
9) Annalaura Cordaro, Giulia Neri, Maria Teresa Sciortino, Angela Scala and Anna Piperno*. Graphene-Based Strategies in Liquid Biopsy and in Viral Diseases Diagnosis. *Nanomaterials* **2020**, *10*, 1014.
10) Cyclodextrin cationic polymer-based nanoassemblies to manage inflammation by intra-articular delivery strategies. Annalaura Cordaro, Roberto Zagami, Milo Malanga, Jagadeesh Kumar Venkatesan, Carmen Alvarez-Lorenzo, Magali Cucchiarini, Anna Piperno,* and Antonino Mazzaglia*. *Nanomaterials* **2020**, 10, 1712.
11) Davide Gentile, Vincenzo Patamia, Angela Scala, Maria Teresa Sciortino, Anna Piperno and Antonio Rescifina. Putative inhibitors of SARS-COV-2 main protease from a library of marine natural products: A virtual screening and molecular modeling study. *Marine Drugs* **2020**, 18, 225.
12) Mariachiara Trapani, Antonino Mazzaglia, Anna Piperno, Annalaura Cordaro, Roberto Zagami, Maria Angela Castriciano, Andrea Romeo and Luigi Monsù ScolaroNovel Nanohybrids Based on Supramolecular Assemblies of Meso-tetrakis-(4-sulfonatophenyl) Porphyrin J-aggregates and Amine-Functionalized Carbon Nanotubes. *Nanomaterials* **2020**, 10, 669.
13) Romain Liénard, Monica Montesi, Silvia Panseri, Samuele Maria Dozio, Fabiana Vento, Placido G. Mineo, Anna Piperno, Julien De Winter, Olivier Coulembier, Angela Scala. Design of naturally inspired jellyfish-shaped cyclopolylactides to manage osteosarcoma cancer stem cells fate. *Materials Science and Engineering C*, **2020**, 117, 111291.

14) Placido G. Mineo, Claudia Foti, Fabiana Vento, Monica Montesi, Silvia Panseri, Anna Piperno, Angela Scala.Salinomycin-loaded PLA nanoparticles: drug quantification by GPC and wave voltammetry and biological studies on osteosarcoma cancer stem cells. *Anal Bioanal Chem* **2020**, 412, 4681.
15) Daniela Caccamo, Monica Currò, Riccardo Ientile, Elisabetta AM Verderio, Angela Scala, Antonino Mazzaglia, Rosamaria Pennisi, Maria Musarra-Pizzo, Roberto Zagami, Giulia Neri, Consolato Rosmini, Monica Potara, Monica Focsan, Simion Astilean, Anna Piperno* and Maria Teresa Sciortino. Intracellular fate and impact on gene expression of doxorubicin/cyclodextrin-graphene nanomaterials at sub-toxic concentration. *Int J Mol Sci*, **2020**, 21, 1-19, 4891.
16) Anna Piperno,*Antonino Mazzaglia, Angela Scala, Rosamaria Pennisi, Roberto Zagami, Giulia Neri, Serena M. Torcasio, Consolato Rosmini, Placido G. Mineo, Monica Potara, Monica Focsan, Simion Astilean, Grace Guoying Zhou, and Maria Teresa Sciortino*. Casting Light on Intracellular Tracking of a New Functional Graphene-Based MicroRNA Delivery System by FLIM and Raman Imaging. *ACS Appl Mater Interfaces*, **2019**, 11, 46101.
17) Roberto Zagami,Valentina Rapozzi, Anna Piperno, Angela Scala, Claudia Triolo, Mariachiara Trapani, Luigi E. Xodo, Luigi Monsù Scolaro, and Antonino Mazzaglia. Folate-Decorated Amphiphilic Cyclodextrins as Cell-Targeted Nanophototherapeutics. *Biomacromolecules*, **2019**, 20, 2530.
18) Angela Scala, Anna Piperno, Nicola Micale, Frauke Christ, and Zeger Debyser. Synthesis and Anti-HIV Profile of a Novel Tetrahydroindazolylbenzamide Derivative Obtained by Oxazolone Chemistry. *ACS Med Chem Lett*, **2019**, 10, 398.
19) Anna Piperno, Roberto Zagami, Annalaura Cordaro, Rosamaria Pennisi, Maria Musarra-Pizzo, Angela Scala, Maria Teresa Sciortino, Antonino Mazzaglia. Exploring the entrapment of antiviral agents in hyaluronic acid-cyclodextrin conjugates. *J Inclus Phenom Macrocyclic Chem* **2019**, 93, 33.
20) Giulia Neri, Enza Fazio, Placido Giuseppe Mineo, Angela Scala and Anna Piperno*. SERS Sensing Properties of New Graphene/Gold Nanocomposite. *Nanomaterials* **2019**, 9, 1236.
21) Angela Scala, Anna Piperno, Alexandru Hada, Simion Astilean, Adriana Vulpoi, Giovanna Ginestra, Andreana Marino, Antonia Nostro, Vincenzo Zammuto and Concetta Gugliandolo. Marine Bacterial Exopolymers-Mediated Green Synthesis of Noble Metal Nanoparticles with
22) Antimicrobial Properties. *Polymers* **2019**, 11, 1157.
23) Chiara Zagni, Andrea Citarella, Mahjoub Oussama, Antonio Rescifina, Alessandro Maugeri Michele Navarra, Angela Scala, Anna Piperno and Nicola Micale. Hydroxamic Acid-Based Histone Deacetylase (HDAC) Inhibitors Bearing a Pyrazole Scaffold and a Cinnamoyl Linker. *Int. J. Mol. Sci.* **2019**, 20, 945.
24) Davide Barreca, Giulia Neri, Angela Scala, Enza Fazio, Davide Gentile, Antonio Rescifina and Anna Piperno*. Covalently immobilized catalase on functionalized graphene: effect on the activity, immobilization efficiency, and tetramer stability. *Biomater. Sci.* **2018**, 6, 323.
25) Anna Piperno*, Angela Scala, Antonino Mazzaglia, Giulia Neri, Rosamaria Pennisi, Maria Teresa Sciortino and Giovanni Grassi. Cellular Signaling Pathways Activated by Functional Graphene Nanomaterials. *Int. J. Mol. Sci.* **2018**, *19*, 3365.
26) Antonino Mazzaglia, Angela Scala, Giuseppe Sortino, Roberto Zagami, Yanqui Zhu, Maria Teresa Sciortino, Rosamaria Pennisi, Maria Musarra Pizzo, Giulia Neri, Giovanni Grassi, Anna Piperno*. Intracellular trafficking and therapeutic outcome of multiwalled carbon nanotubes modified with cyclodextrins and polyethylenimine. *Colloids and Surfaces B: Biointerfaces* **2018**,163, 55-63.
27) Angela Scala, Rescifina Antonio, Nicola Micale, Anna Piperno, Luis Maes, Giovanni Grassi Ensemble-based ADME–Tox profiling and virtual screening for the discovery of new inhibitors of the Leishmania mexicana cysteine protease CPB2.8ΔCTE. *Chemical Biology and Drug Design* **2018**, 91, 597-604.

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29) Angela Scala, Anna Piperno, Serena M. Torcasio, Angelo Nicosia, Placido G. Mineo , Giovanni Grassi. Clickable polylactic acids obtained by solvent free intra-chain amidation. *European Polymer* Journal **2018**, 109, 341‑346
30) Majdi M. Bkhaitan, Agha Zeeshan Mirza, Ashraf N. Abdalla, Hina Shamshad, Zaheer Ul-Haq, Mohammed Alarjah, Anna Piperno. Reprofiling of full-length phosphonated carbocyclic 2′-oxa-3′-aza-nucleosides toward antiproliferative agents: Synthesis, antiproliferative activity, and molecular docking study. *Chemical Biology and Drug Design*, **2017**, 90, 679-689.
31) Giulia Neri, Nicola Micale, Angela Scala, Enza Fazio, Antonino Mazzaglia, Placido G. Mineo, Monica Montesi, Silvia Panseri, Anna Tampieri, Giovanni Grassi, Anna Piperno* Silibinin-conjugated graphene nanoplatform: Synthesis, characterization and biological evaluation. *Flat Chem* **2018**, *1*, 34-41.
32) Angela Scala, Anna Piperno, Giovanni Grassi, Luigi Monsù Scolaro, Antonino Mazzaglia. Nanocontructs based on Cyclodextrins for Antimicrobial Applications. Nano- and Microscale Drug Delivery Systems: Design and Fabrication. **2017** pp. 229-244 (published by Elsevier; Editor AM Grumezescu)
33) Giuseppa Visalli, Alessio Facciolà, Daniela Iannazzo, Anna Piperno, Alessandro Pistone, Angela Di Pietro. The role of the iron catalyst in the toxicity of multi-walled carbon nanotubes (MWCNTs**)**. *Journal of Trace Elements in Medicine and Biology*, **2017**, 43, 153-160.
34) Claudia Conte, Angela Scala, Gabriel Siracusano, Giuseppe Sortino, Rosa Pennisi, Anna Piperno, Miro, F. Ungaro, Maria T. Sciortino, Fabiana Quaglia, Antonino Mazzaglia Nanoassemblies based on Non-ionic Amphiphilic Cyclodextrin hosting Zn(II)-Phthalocyanine and Docetaxel: Design, Physicochemical Properties and Intracellular Effects.*Colloids and Surfaces B: Biointerfaces* **2016**, 146, 590-597.
35) Angela Scala, Nicola Micale, Anna Piperno, Antonio Rescifina, Tania Schirmeister, Johen Kesselring, Giovanni Grassi. Targeting of the Leishmania Mexicana cysteine protease CPB2.8 ΔCTE by decorated fused benzo[b] thiophene scaffold. *RSC Advances* **2016**, 6, 30628-30635.
36) Anna Piperno, Agostino Marrazzo, Angela Scala, Antonio Rescifina. Chemistry and Biology of Salinomycin and its Analogues. Targets In Heterocyclic Systems (**2016**). ISSN 1724-9449, 19, 177-213.
37) Giulia Neri, Angela Scala, Enza Fazio, Placido G Mineo, Antonio Rescifina, Anna Piperno*, Giovanni Grassi. Repurposing of oxazolone chemistry: gaining access to functionalized graphene nanosheets in a top-down approach from graphite. *Chemical Science*, **2015**, 6, 6961-6970.
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39) Micale Nicola, Piperno Anna, Mahfoudh Nawal, Schurigt Uta, Schultheis Martina, Mineo Placido Giuseppe, Schirmeister Tanja, Scala Angela, Grassi Giovanni. A hyaluronic acid–pentamidine bioconjugate as a macrophage mediated drug targeting delivery system for the treatment of leishmaniasis. *RSC Advances* **2015,** 5, 95545-95550.
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multiwalled carbon nanotube@polyhedral oligomeric silsesquioxane ionic hybrids: Synthesis, characterization, and nonlinear optical properties. *Carbon*, **2015**, 86, 325-337.
41) Mihoubi Mohamed, Micale Nicola, Scala Angela, Jarraya Raoudha Mezghani, Bouaziz Amira, Schirmeister Tanja, Risitano Francesco, Piperno Anna*, Grassi Giovanni Synthesis of C3/C1-Substituted Tetrahydroisoquinolines. *Molecules*, **2015**, 20, 14902-14914.
42) Angela Scala, Anna Piperno, Francesco Risitano, Santa Cirmi, Navarra Michele, Giovanni Grassi Efficient synthesis of highly substituted tetrahydroindazolone derivatives**.** *Molecular Diversity*, **2015**, 19, 3, 473-480.
43) Giuseppa Visalli, M.P Bertuccio, Daniela Iannazzo, Anna Piperno, Alessandro Pistone, Angela di Pietro. Toxicological assessment of multi-walled carbon nanotubes on A549 human lung epithelial cells. *Toxicology in Vitro* **2015,** 29, 2, 352-362.