

# Prof. Alessio Terenzi, PhD

[alessio.terenzi@unipa.it](mailto:alessio.terenzi@unipa.it)

## PERSONAL INFORMATION

Date and Place of Birth: ██████████, Palermo (Italy)

Scopus ID: <https://www.scopus.com/authid/detail.uri?authorId=24529388600>

Google Scholar: <https://scholar.google.it/citations?user=q1VbcUoAAAAJ&hl=en>

ORCID: <http://orcid.org/0000-0001-9751-1373>

## EDUCATION

15 Mar. 2011 **PhD** – Department of Inorganic Chemistry, University of Palermo (Italy); Supervisor: Prof. G. Barone. **Project:** Novel metal complexes and their interaction with B-DNA

31 Oct. 2007 **MSc** – Department of Inorganic Chemistry, University of Palermo (Italy); Supervisor: Prof. G. Barone. **Project:** Iron(III) complexes and their interaction with B-DNA

## CURRENT POSITION

From 01/2020 **Associate Professor of Inorganic Chemistry**, University of Palermo (Italy).

## PREVIOUS POSITIONS

2018 – 2019 **Marie Skłodowska-Curie Individual Postdoctoral Fellow** (Phorau, EU project n°: 746976); Donostia International Physics Center (DIPC), San Sebastián (Spain).

2014 – 2018 **Marie Curie COFUND Postdoctoral Research Fellow** (INDICAR, EU project n°: 609431); Institute of Inorganic Chemistry, Translational Cancer Therapy Research; University of Vienna (Austria)

2011–2014 **Postdoctoral Fellow**; Department of Biological, Chemical, and Pharmaceutical Sciences and Technologies (STEBICEF), University of Palermo (Italy)

2011 **Research Fellow**; C.I.R.C.M.S.B. (Interuniversity Consortium for Research on Metal Ions in Biological Systems), Inorganic Chem. Department, University of Palermo (Italy)

## FELLOWSHIPS and GRANTS AWARDED

2023 – 2025 PRIN PNRR 2022, University of Palermo (Italy)

2022 – 2023 EUROSTART Unipa, University of Palermo (Italy)

2018 – 2019 H2020 Marie Skłodowska-Curie Individual Fellowship; DIPC, San Sebastián (Spain)

2014 – 2017 FP7 Marie Curie COFUND Postdoc. Fellowship; University of Vienna (Austria)

2010 FP6 Marie Curie Early Stage Fellowship; University of Birmingham (UK)

2009 Visiting Ph.D. Student, Erasmus Placement Fellowship; University of La Coruña (Spain)

## AWARDS

2018 Outstanding Oral Presentation at “9th Asian Biological Inorganic Chemistry Conference (AsBIC9)”, Singapore 9-14 Dec. 2018

## JOURNAL COVERS AND OTHER RECOGNITIONS

2023 “Cover Picture” for *Chemical Science*, doi: 10.1039/D3SC04004F

2023 “Cover Picture” for *Dalton Transactions*, doi: 10.1039/D2DT03229E

- 2020 Hot Paper" per *Angewandte Chemie Int. Ed.* doi: 10.1002/anie.202008046  
 2019 "Cover Picture" for *Antioxidants* doi: 10.3390/antiox8100472  
 2019 "Cover Picture" for *Dalton Transactions*, doi: 10.1039/c9dt02078k  
 2017 "Cover Picture" for *Dalton Transactions* Vol. 46, Issue 2, doi: 10.1039/C6DT03876J  
 2012 "Cover Picture" per *Dalton Transactions* Vol. 41, Issue 39, doi: 10.1039/C2DT31116J  
 2010 "Cover Picture" per *Chemistry - A European Journal* Vol. 16, Issue 41. doi: 10.1002/chem.201090203

## ORGANISATION OF SCIENTIFIC MEETINGS

- 2020 Organizing committee member of "International AEBIN Photochemistry School 2020" Online (Zoom and Moodle Platforms provided by the University of Basque Country, 7-9 Sept. 2020 - San Sebastian (Spain))  
 2018 Organizing committee member of the workshop "From Bioinorganic Chemistry to Catalysis", 23 Nov 2018 - San Sebastian (Spain).  
 2016 Organizing committee member of the INDICAR International Workshop 2016, 12-16 Sept 2016 - Palermo (Italy). For further details (<http://indicar-workshop.univie.ac.at/>)  
 2015 Organizing committee member of the INDICAR International Workshop 2015, 14-16 Sept 2015 - Styria (Austria)

## COMMISSIONS OF TRUST

Regular Reviewer for several peer-reviewed international journals, among which: *J. Am. Chem. Soc.*, *Angew. Chem. Int. Ed.*, *Chem. Commun.*, *Eur.- J. Chem.*, *Inorg. Chem.*, *J. Inorg. Biochem.*

I am official .

## MEMBERSHIPS OF SCIENTIFIC SOCIETIES

- 2020-Present Società Chimica Italiana (SCI)  
 2018 – 2020 American Chemical Society (ACS)  
 2016 – 2018 Society of Biological Inorganic Chemistry (SBIC)

## ACADEMIC RECORDS IN NUMBERS

h-index:	28
Papers in peer reviewed journals:	71
Book chapters	1
Citations	2466
Lectures at conferences and institutions	22

## MAJOR COLLABORATIONS

- Prof. L. Salassa** Bioorthogonal photocatalytic activation of anticancer metal complexes"; DIPC (Donostia-San Sebastian, Spain)  
**Prof. B. Keppler** Development of metal-based drugs with anticancer activity (Austria)  
**Prof. W. Berger** Identification of the networks of molecular mechanisms cooperating in resistance against anticancer metal drugs; Institute of Cancer Research, Vienna Medical University (Austria)  
**Dr. C. Ducani** Development of novel tools based on DNA nanotechnology, Moligo Technologies Ab and Karolinska Institutet (Sweden)  
**Prof. C Peinador** Synthesis of metal-based metallacages, University of La Coruña (Spain)

## TRACK RECORD and RESEARCH ACTIVITY

I have authored 71 publications in peer-reviewed journals; according to Scopus, I have collected a total of 2466 citations, reaching a h-index of 28 (Nove 2023). I have presented my work (as well as in several poster presentations) at several national and international conferences. I was also invited to give seminars at international institutions. A selection is reported below:

Conferences: • Lecture at International Symposium on Bioorganometallic Chemistry 2021 (ISBOMC21) • Lecture at AsBIC9 9th Asian Biological Inorganic Chemistry Conference (Singapore, 2018) • Lecture at ISABC14, 14th International Symposium on Applied Bioinorganic Chemistry (Toulouse, France 2017) • Lecture at Metallomics 2017, 6th International Symposium on Metallomics (Vienna, Austria 2017) • Poster at G4thring, 6th International Meeting on Quadruplex Nucleic Acids (Prague, Czech Republic 2017) • Lecture at DIPC workshop "From Bioinorganic Chemistry to Catalysis" (San Sebastián, Spain 2017) • Lecture at EuroBIC, 13th European Biological Inorganic Chemistry Conference (Budapest, Hungary 2016); • Poster at ISABC13, 13th International Symposium on Applied Bioinorganic Chemistry (Galway, Ireland 2015).

Seminars at International Institutes: • Madrid Institute of Advanced Studies (IMDEA), Madrid (Spain, 2019) • Centro de Investigaciones Científicas Avanzadas, University of A Coruña (Spain, 2017) • Institute of Medicinal and Pharmaceutical Chemistry, Technische Universität Braunschweig (Germany, 2017) • STEBICEF department, University of Palermo (Italy, 2015); • Department of Medical Biochemistry and Biophysics, Karolinska Institutet (Sweden, 2015); • Pharmacokinetics, Toxicology and Targeting Department, University of Groningen (Netherlands, 2013).

**Outreach:** In Vienna, Donostia and now in Palermo I actively took part to different and well-attended outreach activities. The most recent ones include the "Pint of Science" (with the participation of Fomento de San Sebastián in April 2018), the "8º Encuentro de Vidas Científicas" (organized by Eureka!-Zientzia museoa in Nov. 2019) and the "Creativium Project" (organized by DIPC in Jan. 2019). In Palermo I am part of the project "Sharper-Notte Europea dei Ricercatori 2022-2023".

**Research:** I am an inorganic chemist by training, with experience in medicinal chemistry and cancer biology. Through competitive calls, I got to work in four European countries, in laboratories with different research perspectives. My Ph.D. and postdoctoral experiences have made me a highly motivated researcher, capable of crossing boundaries between different scientific disciplines. The core of the technical skills that I have acquired throughout my career are listed below:

- Organic and Inorganic synthetic techniques;
- Radiochemistry (labelling with radioisotopes for imaging purposes);
- Characterisation and separation techniques (IR, NMR, Mass Spectrometry, HPLC);
- Molecular spectroscopy techniques (UV-visible, Circular and Linear Dichroism, Fluorescence);
- Biochemical and molecular biology techniques (DNA oligonucleotides handling, Real Time PCR, FRET, EMSA);
- DFT Calculations (Gaussian 09) and Molecular Modelling (Autodock, Autodock Vina, Schrödinger Maestro Suite).

During the last years, I was particularly interested in G-quadruplexes (G4s). G4s are highly polymorphic DNA/RNA motifs that assemble into non-canonical four-stranded helical structures. They recently achieved a "star" status among the scientific community also based on the possibility of their subcellular visualization by immunofluorescence microscopy using G4-specific antibodies. G4s are not randomly distributed, being enriched in regions related to cancer development like telomeres and gene regulatory regions including splice sites, 5' untranslated regions and oncogenes. Researchers are therefore looking at such motifs as emerging targets for new anticancer drugs. With my research, I am trying to develop bioinorganic tools to interfere with G4 functions and to better understand their roles in cancer growth.

## Relevant Achievements

- **2008 - 2011: Ph.D. at the Inorganic Chemistry Department of the University of Palermo (Italy).**
  - My studies on the synthesis of metal complexes aimed at targeting ds-DNA, carried out as part of Prof. G. Barone's group, led to the publication of 10 manuscripts in international peer reviewed journals, which made me the most productive Chemistry Ph.D. student of the programme;
  - I joined the Supramolecular Chemistry group of Prof. Quintela at University of A Coruña for 7 months working on new Pt<sup>II</sup> and Pd<sup>II</sup> metallacages and metal based interlocked nanomachines;
  - Moreover, I worked 7 months at the University of Birmingham (UK) in the group of Prof. M.J. Hannon as a Marie Curie Early Stage Researcher.
- **Dec 2011 - Nov 2014: Postdoctoral fellowship at the STEBICEF Department of the University of Palermo (Medicinal Chemistry Section).**
  - I fostered my computational (DFT and molecular docking) and synthetic abilities in heterocyclic organic chemistry and, at the same time, I established my own research line in non-canonical DNAs recognition studies by molecular spectroscopy;
  - In 2013, I successfully submitted a peer-reviewed proposal at the ESRF synchrotron (France) and performed combined SAXS/EXAFS studies.
- **Dec 2014 - Feb 2018: Postdoctoral Marie Curie COFUND fellowship INDICAR at the University of Vienna (Austria).**
  - My project, developed between the Institute of Inorganic Chemistry (Prof. B.K. Keppler) and the Research Platform of Translational Cancer Therapy Research (Prof. W. Berger), focused on the in-cell interaction studies of metal complexes with G-quadruplex DNA motifs in oncogene promoters;
  - My studies led to the publication of 14 manuscripts in international peer reviewed journals, resulting the most prolific among the twelve postdoctoral fellows belonging to the INDICAR programme;
  - I set up a small research group working on my project, supervising a total of three visiting PhD, two MSc students and two research fellows, implementing the specific training on lab leading received during the laboratory management course offered by EMBO in Heidelberg, Germany;
  - Organisation of relevant international events. For two consecutive years (2015 and 2016) I was responsible for the organisation of the international workshop "Interdisciplinary Cancer Research" (<http://indicar-workshop.univie.ac.at>). The two workshops, held in Austria (Styria, 14-16 Sept. 2015) and in Italy (Palermo 12-15 Sept. 2016), brought together a total of 45 researchers and invited speakers, with the ultimate goal of conceiving new ideas and developing novel approaches in cancer research.
- **2017: Habilitation as Associate Professor.** I obtained the Habilitation as Associate Professor from the Italian Ministry for Research and Education.
- **2017: Official candidate of the University of Vienna for the "Italian Bilateral Scientific Cooperation Award"** awarded by The Italian Ministry of Foreign Affairs and International Cooperation (MAECI).
- **March 2018 – Dec 2019 : Marie Skłodowska-Curie Individual Postdoctoral Fellowship at Donostia International Physics Center (DIPC), San Sebastián (Spain)**
  - Awarded in Jan. 2017, my project at DIPC (Prof. L. Salassa) proposes to develop photoactivatable Au<sup>III</sup> anticancer prodrugs which simultaneously incorporate nuclear imaging capability, a strategy never attempted so far.
  - I received the award "Outstanding Oral Presentation" (350 S\$) at "9th Asian Biological Inorganic Chemistry Conference (AsBIC9)" in Singapore (9-14 Dec. 2018)
- **From Jan 20120: Associate Professor of Inorganic Chemistry, University of Palermo (Italy).**
- **2021: Habilitation as Full Professor.** I obtained the Habilitation as Full Professor of Inorganic Chemistry from the Italian Ministry for Research and Education.