

Valerio Voliani

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Short Bio

My background in inorganic chemistry is enriched by years of interdisciplinary work in physics, oncology, bio- and nano-chemistry.

My efforts are focused on the establishment of non-invasive combined treatments for primary carcinoma and metastasis by exploiting hybrid nanotechnologies. My research interests comprise nanomedicine, nanotoxicology, chemoradiotherapy, photothermal conversion, drug delivery, photoacoustic imaging and alternative biomodels development. My main contribution to the oncological research has been the introduction of the ultras-small-in-nano approach for the design of non-persistent plasmonic nanotherapeutics. Within my approach, I have released a family of plasmonic and biodegradable nano-architectures for the concurrent photo/chemo- or chemo/radio-treatment of both HPV-negative and HPV-positive oral neoplasms. Part of the generated IP have led to the filing of two international patents extended to EU, US and CN. Beyond the materials side, I became increasingly active in the development and standardization of advanced biomodels of neoplasms. Indeed, during my work on nanomaterials, I recognized the lack of bridging cancer models in preclinical research. For that reason, I have established a facility for the production and employment of alternative *in vivo* models that supports the translation of the most promising emergent treatments for some malignancies.

More on my group: <https://vvoliani.wixsite.com/my-site-1>

Education

- Sep 2007 - Sep 2011: **PhD in Molecular Biophysics** – Scuola Normale Superiore (Pisa, Italy).
- Oct 2004 – Oct 2006: **MSc in Chemistry** – Scuola Normale Superiore (Pisa, Italy).
- Oct 2001 – Jul 2004: **BSc in Molecular Chemistry** – University of Pisa (Pisa, Italy).

National Scientific Habilitation (ASN)

- 02/B1 (Physics) – Full Professor (Fascia I) - from 11-2020.
- 02/D1 (Applied Physics) – Full Professor (Fascia I) - from 11-2020.
- 03/B1 (Inorganic Chemistry) – Full Professor (Fascia I) - from 04-2021.
- 03/B2 (Chemical basis of technologies) – Associate Professor (Fascia II) - from 07-2017.

Professional Experience

- Oct 2022 – to date: tenure track assistant professor at the Department of Pharmacy, School of Medical and Pharmaceutical Sciences, University of Genoa (Genoa, Italy). Research: i) inorganic nanomaterials, ii) nanomedicine, and iii) alternative biomodels.
- Jun 2018 – Sept 2022: researcher at Center for Nanotechnology Innovation @NEST, Fondazione Istituto Italiano di Tecnologia (Pisa, Italy). Research: i) hybrid nanotechnologies, ii) inorganic nanocatalysts, iii) alternative biomodels.
- Jun 2014 – May 2018: postdoc at Center for Nanotechnology Innovation @NEST, Fondazione Istituto Italiano di Tecnologia (Pisa, Italy). Research: i) hybrid nanotechnologies, ii) inorganic nanocatalysts.
- May 2013 – May 2014: postdoc at NEST - Scuola Normale Superiore (Pisa, Italy). Research: i) SERS nanoprobes, and ii) graphene-based biosensors.
- Feb 2012 – May 2013: postdoc at ICMOL - University of Valencia (Valencia, Spain). Research: i) up-conversion nanocrystals, and ii) nanomedicine.

Fundings

- Oct 2021 – Feb 2024: Commercial contract. Project: “Hyperthermia effects on alternative *in vivo* cancer models”.
- Jan 2018 – Jan 2023: Individual AIRC Grant MFAG 2017, number: 19852. Project: “Biodegradable noble metal-based nano-architectures as theranostics agents over head/neck neoplasms”.
- Jan 2018 – Jun 2018: Lions Club Grant. Project: “Lions of Science”.
- Apr 2017 – May 2018: Materials Research Society Foundation Grassroots Grant. Project: “Boost-up the new generation of materials scientists”.

Honors – Achievements - Awards

- 2024: Recognized as Outstanding Reviewer Journal of Materials Chemistry B (Royal Society of Chemistry)
- 2023: Top 10 Papers in 2022 in the Section "Biology and Medicines" for doi: 10.3390/nano12060945.
- 2019/2020 Top Cited Article @Wiley for doi: 10.1002/ppsc.201800464
- Guest of the President of the Republic of Italy for “I giorni della Ricerca AIRC” (10-2018).
- Recognized by the Mayor of the city of Leghorn for scientific merits (08-2018).
- Covers on DOI: 10.1002/adma.202400949, 10.1002/adtp.202470023, 10.1039/D2TB01930B, 10.1039/D2BM00994C, 10.1021/acsptsci.1c00083, 10.1021/acsbiomaterials.0c00617, 10.1039/c9mh00096h, 10.1002/ppsc.201600175, 10.1039/c5cc02771c, 10.1039/c3tb20798f, 10.1002/sml.201101753.
- Reported online on “Traguardi AIRC”: i) *Nanoparticelle d'oro per cuocere i tumori* (2019-05, regarding doi: 10.1039/c9mh00096h), ii) *Chemioterapici: liberi o incapsulati?* (2023-01, regarding doi: 10.1039/D2TB01930B).
- 2018: Recognized as top 10 Outstanding Reviewer for Materials Horizons (Royal Society of Chemistry).
- Recognized with the “Publons Peer Review Award” 2017 (Multidisciplinary), 2018 (Materials Science), 2019 (Cross-Field).
- Third prize at Royal Society of Chemistry Twitter Poster Conference 2017 for the best poster.
- Winner of the national award "Premio NEST@NEST 2011" for the best published work on experimental nanoscience of the year 2010/2011 (doi: 10.1002/sml.201101753).
- First prize in the category “micro” at “FotCiencia10” organized by Spanish FECYT and CSIC for the image “Grafeo post-impressionista” (2011).

Reviewer – Editor - Membership

Reviewer: 350+ reviewed manuscripts (2013-to date – data from Publons) for various Journals, among which: Chemical Society Review (RSC), Advanced Materials, Materials Horizons, Nanoscale, ACS AMI, Biomaterials, Chemical Communications, Small.

Editorial Board member: Discover Nano (Springer Nature).

Associate Editor: Nanobiotechnology (specialty section of Frontiers in Bioengineering and Biotechnology, Frontiers in Molecular Biosciences, and Frontiers in Materials).

Membership: American Chemical Society (ACS), Materials Research Society (MRS), Società Chimica Italiana (SCI), Society for Redox Biology and Medicine (SfRBM).

Collaborators

Academic

- Pisa University Hospital (Pisa, IT). The topics of the collaboration (from 2020) are: radiotherapy, chemotherapy, development of alternative models from patients.
- German Cancer Research Center (DKFZ, Heidelberg, DE). The collaboration (from 2020) topics are: metastasis, nanomaterials, radiotherapy, ROS.

- CNR-IFC (Pisa, IT). The collaboration (from 2017) is on the following topics: organic/inorganic nanomaterials, photoacoustics, ultrasound, photothermal treatment.
- Dept. Pharmaceutical Sciences (Perugia, IT). The collaboration (from 2022) is on metal complexes development for oncological applications.
- Children's Cancer Institute (Sydney, AU). Topics of collaboration (from 2018): pediatric glioblastoma, organic/inorganic nanomaterials, combined therapies.
- Gustave Roussy Cancer Campus (Paris, FR). Topics of collaboration (from 2022): head and neck carcinoma, adjuvant chemoradiotherapy.
- Sloan Kettering Cancer Center (NY, USA). Topics of collaboration (from 2023): cuproptosis, radioactive nanomaterials.
- Kyoto University (Kyoto, JP). Topics of collaboration (from 2024): hadron therapy, nanomaterials.

Patents

- *Process for the preparation of hollow nanoparticles having a metal core*; Valerio Voliani; 2017, May 10th. Patent: WO2017/195127.
European Patent EP 3455012; issue date July 8th, 2020
United States Patent US 16099715; date August 31st, 2021
Chinese Patent CN 109153073; issue date August 25th, 2020
- *Hollow nanoparticles having a modulable metal core*; Valerio Voliani, and Vincenzo Piazza; 2016, March 2nd. Patent: WO2016/139591.
European Patent EP 3265256; issue date October 3rd, 2018
United States Patent US 10124407; issue date November 13th, 2018
Chinese Patent CN 107405684; issue date July 7th, 2020
- *Biosensore grafenico per l'analisi di esosomi in fluidi biologici, suoi procedimenti di preparazione e relativi usi (Device with electronic or optical readout for the recognition of Exosomes from human fluids)*; Valerio Voliani, et al.; 2014, December 3rd. Patent: IT TO20141005 (issue date February 15th, 2017).
- *Vector for the release of an active agent which is photocleavable by irradiation in the visible*; Valerio Voliani, et al.; 2011, June 27th. Patent: IT TO20110561 (issue date February 14th, 2015) - 2013, January 3rd. Patent: WO2013/001451.

Books – Chapters

1. *Fondamenti di Chimica*; Edizioni EdISES, (expected: September 2025, teaching book for students in pharmacy and pharmaceutical chemistry). Author of the chapter 19 “Chemistry of the Elements”.
2. *Gold Nanoparticles: an Introduction to Synthesis, Properties and Applications* (2nd Edition of “Update on Gold Nanoparticles: From Cathedral Windows to Nanomedicine”); Valerio Voliani, De Gruyter GmbH Publisher (2020). ISBN: 978-1-5015-1901-7. Author.
3. *Nanomaterials and Neoplasms: Towards Clinical Applications*; Valerio Voliani, Pan Stanford Publishing (2020). ISBN: 9814800392, 9789814800396. Editor.
4. *Behaviors and Persistence of Nanomaterials in Biomedical Applications*; Domenico Cassano and Valerio Voliani, Wiley-Scrivener (2018). ISBN: 1119418275, 978-1119418276. Author.
5. *Coating strategies for gold and lanthanides nanostructures with protocols*; Valerio Voliani, Nova Science Publishers, Ltd. (2015). Chapter of “Comprehensive guide for nanocoatings technology”, Vol 4: Application and Commercialization. ISBN: 978-1634826488. Author.
6. *Recent Advances in Drug Delivery Research*; Valerio Voliani, Nova Science Publishers, Ltd. (2013). ISBN: 978-1-62948-228-6. Editor.
7. *Fluorescent probes based on upconverting lanthanide nanostructures*; Valerio Voliani and Julia Pérez-Prieto, Nova Science Publishers, Ltd. (2013). Chapter of “Fluorophores: Characterization, Synthesis and Applications”. ISBN: 978-1628082685-1628082692. Co-Author.
8. *Update on Gold Nanoparticles: From Cathedral Windows to Nanomedicine*; Valerio Voliani, Smithers Rapra Publishing (2013). ISBN: 978-1847356437. Author.

Publications

1. *Inorganic Nanomaterials Meet the Immune System: an Intricate Balance*; Gloria Pizzoli, Marco Gargaro, Giuliana Drava, and Valerio Voliani; *Advanced Healthcare Materials*, 2025, DOI: 10.1002/adhm.202404795. ISSN: 2192-2640, Scopus: 2-s2.0-86000610550, WoS: 001445123400001.
2. *Non-Persistent Nano-Architectures Enhance Concurrent Chemoradiotherapy in an Immunocompetent Orthotopic Model of HPV+ Head/Neck Carcinoma*; Alessandra Gonnelli, Marine Gerbé de Thoré, Maria Laura Ermini, Valentina Frusca, Agata Zamborlin, Nicolas Signolle, Olivia Bawa, Céline Clémenson, Lydia Meziani, Paul Bergeron, Ismail El-Azrak, Patrizia Sarogni, Enrico Mugnaioli, Noemi Giannini, Giuliana Drava, Eric Deutsch, Fabiola Paiar, Michele Mondini, and Valerio Voliani; *Advanced Materials*, 2024, DOI: 10.1002/adma.202400949. ISSN: 1521-4095, Scopus: 2-s2.0-85194480206, WoS: 001231191400001.
3. *Invasiveness modulation of glioma cells by copper complex-loaded nanoarchitectures*; Agata Zamborlin, Francesca Pagliari, Maria Laura Ermini, Valentina Frusca, Daniel García-Calderón, Luca Tirinato, Stefania Volante, Giulio Bresciani, Fabio Marchetti, Joao Seco, and Valerio Voliani; *Colloids and Surfaces B: Biointerfaces*, 2024, DOI: 10.1016/j.colsurfb.2024.114187. ISSN: 1873-4367, Scopus: 2-s2.0-85203191257, WoS: 001313119100001.
4. *Neoadjuvant hyperthermia combined with hybrid nano-architectures enhances chemoradiotherapy efficacy in head and neck carcinoma*; Patrizia Sarogni, Valentina Frusca, Agata Zamborlin, Noemi Giannini, Michele Menicagli, Luigi Brancato, Stefania Linsalata, Fabio Di Martino, Alessandra Gonnelli, Fabiola Paiar, Johan Van den Bossche, Johannes Bogers, and Valerio Voliani; *ACS Applied Materials & Interfaces*, 2024, DOI: 10.1021/acsami.4c07393. ISSN: 1944-8252, Scopus: 2-s2.0-85201049770, WoS: 001290031800001.
5. *In Vivo Combined Photoacoustic Imaging and Photothermal Treatment of HPV-negative Head and Neck Carcinoma with NIR-responsive Non-Persistent Plasmon Nano-Architectures*; Valentina Frusca, Chiara Cavallini, Agata Zamborlin, Giuliana Drava, Virginia Barone, Lisa Gherardini, Mario Chiariello, Paolo Armanetti, Maria Laura Ermini, Luca Menichetti, and Valerio Voliani; *Advanced Therapeutics*, 2024, DOI: 10.1002/adtp.202400110. ISSN: 2366-3987, Scopus: 2-s2.0-85195270746, WoS: 001239757200001.
6. *Tumor Growth-Arrest Effect of Tetrahydroquinazoline-derivative Human Topoisomerase II- α Inhibitor in HPV-Negative Head and Neck Squamous Cell Carcinoma*; Patrizia Sarogni, Nicoletta Brindani, Agata Zamborlin, Alessandra Gonnelli, Michele Menicagli, Ana Katrina Mapanao, Federico Munafò, Marco de Vivo, and Valerio Voliani; *Scientific Reports*, 2024, 14:9150, DOI: 10.1038/s41598-024-59592-5. ISSN: 2045-2322, Scopus: 2-s2.0-85190781218, WoS: 001207003700010.
7. *3D Tumor-Engineered Model Replicating the Osteosarcoma Stem Cell Niche and In Vivo Tumor Complexity*; Bassi Giada, Rossi Arianna, Campodoni Elisabetta, Sandri Monica, Sarogni Patrizia, Fulle Stefania, Voliani Valerio, Panseri Silvia, Montesi Monica; *ACS Applied Materials & Interfaces*, 2024, DOI: 10.1021/acsami.4c02567. ISSN: 1944-8252, Scopus: 2-s2.0-85205771022, WoS: 001327116900001.
8. *A bioconvergence study on platinum-free concurrent chemoradiotherapy for the treatment of HPV-negative head and neck carcinoma*; Alessandra Gonnelli, Patrizia Sarogni, Noemi Giannini, Stefania Linsalata, Fabio Di Martino, Agata Zamborlin, Valentina Frusca, Maria Laura Ermini, Paola Puccini, Valerio Voliani, Fabiola Paiar; *Artificial Cells, Nanomedicine and Biotechnology*, 2024, 52 (1), 122-129, DOI: 10.1080/21691401.2024.2309233. ISSN: 2169-141X, Scopus: 2-s2.0-85184271401, WoS: 001156913100001.
9. *Drug-Free Hybrid Nano-Architectures Modulation of the Metastatic Behavior of Pancreatic Ductal Adenocarcinoma in Alternative In Vivo Models*; Agata Zamborlin, Patrizia Sarogni, Valentina Frusca, Alessandra Gonnelli, Noemi Giannini, Maria Laura Ermini, Andrea Marranci, Francesca Pagliari, Chiara Maria Mazzanti, Joao Seco, Valerio Voliani; *ACS Applied Nanomaterials*, 2023, 6, 24, 22532–22544, DOI: 10.1021/acsanm.3c05299. ISSN: 2574-0970, Scopus: 2-s2.0-85181922295, WoS: 001130240700001.

10. *Organic Selenium induces ferroptosis in pancreatic cancer cells*; Roberta Noè, Noemi Inglese, Patrizia Romani, Thauan Serafini, Marco Fantuz, Agata Zamborlin, Beatrice Calciolari, Nicoletta C. Surdo, Carlotta Paoli, Vittoria Spada, Sara Volta, Martina Spacci, Maria Laura Ermini, Giulietta Di Benedetto, Valentina Frusca, Claudio Santi, Konstantinos Lefkimmatis, Sirio Dupont, Valerio Voliani, Luca Sancineto, Alessandro Carrer; *Redox Biology*, 2023, DOI: 10.1016/j.redox.2023.102962. ISSN: 2213-2317, Scopus: 2-s2.0-85178662872, WoS: 001127561100001.
11. *Evolving Approaches in Glioma Treatment: Harnessing the Potential of Copper Metabolism Modulation*; Riccardo Cazzoli, Agata Zamborlin, Maria Laura Ermini, Antonietta Salerno, Manuela Curcio, Nicoletta Fiore Pasquale, Francesca Iemma, Orazio Vittorio, Valerio Voliani, Giuseppe Cirillo; *RSC Advances*, 2023, 13, 34045-34056, DOI: 10.1039/d3ra06434d. ISSN: 2046-2069, Scopus: 2-s2.0-85178071945, WoS: 001105312100001.
12. *Hybrid nano-architectures loaded with metal complexes for the co-chemotherapy of head and neck carcinoma*; Melissa Santi, Valentina Frusca, Maria Laura Ermini, Ana Katrina Mapanao, Patrizia Sarogni, Alessandra Gonnelli, Noemi Giannini, Agata Zamborlin, Lorenzo Biancalana, Fabio Marchetti, and Valerio Voliani; *Journal of Materials Chemistry B*, 2023, 11, 325 - 334, DOI: 10.1039/D2TB01930B. ISSN: 2050-7518, Scopus: 2-s2.0-85144683895, WoS: 000894678700001.
13. *Copper nano-architectures topical cream for the accelerated recovery of burnt skin*; Maria Laura Ermini, Maria Summa, Agata Zamborlin, Valentina Frusca, Ana Katrina Mapanao, Rosalia Bertorelli, and Valerio Voliani; *Nanoscale Advances*, 2023, 5, 1212 - 1219, DOI: 10.1039/D2NA00786J. ISSN: 2516-0230, Scopus: 2-s2.0-85147762335, WoS: 000922703800001.
14. *Gold nanoparticles as antiangiogenic and antimetastatic agents*; Agata Zamborlin, and Valerio Voliani; *Drug Discovery Today*, 2023, 28(2), 103438, DOI: 10.1016/j.drudis.2022.103438. ISSN: 1359-6446, Scopus: 2-s2.0-85145560821, WoS: 000917237100003.
15. *Hyperthermia reduces irradiation-induced tumor repopulation in an in-vivo pancreatic carcinoma model*; Patrizia Sarogni, Agata Zamborlin, Ana Katrina Mapanao, Tine Logghe, Luigi Brancato, Eke van Zwol, Michele Menicagli, Noemi Giannini, Alessandra Gonnelli, Stefania Linsalata, Robin Colenbier, Johan Van den Bossche, Fabiola Paiar, Johannes Bogers, and Valerio Voliani; *Advanced Biology*, 2023, DOI: 10.1002/adbi.202200229. ISSN: 2701-0198, Scopus: 2-s2.0-85149378838, WoS: 000941939000001.
16. *The fate of intranasally instilled silver nano-architectures*; Agata Zamborlin, Maria Laura Ermini, Maria Summa, Giulia Giannone, Valentina Frusca, Ana Katrina Mapanao, Doriana Debellis, Rosalia Bertorelli, and Valerio Voliani; *Nano Letters*, 2022, 22, 5269–5276, DOI: 10.1021/acs.nanolett.2c01180. ISSN: 1530-6992, Scopus: 2-s2.0-85134427081, WoS: 000823655400001.
17. *Pro-apoptotic and size-reducing effects of protein corona-modulating nano-architectures enclosing platinum prodrug in in vivo oral carcinoma*; Ana Katrina Mapanao, Patrizia Sarogni, Melissa Santi, Michele Menicagli, Alessandra Gonnelli, Agata Zamborlin, Maria Laura Ermini, and Valerio Voliani; *Biomaterials Science*, 2022, 10, 6135–6145, DOI: 10.1039/D2BM00994C. ISSN: 2047-4849, Scopus: 2-s2.0-85138819991, WoS: 000850560200001.
18. *Biodegradable Ultrasmall-In-Nano Architectures Loaded with Cisplatin Prodrug in Combination with Ionizing Radiation Induces DNA Damage and Apoptosis in Pancreatic Ductal Adenocarcinoma*; Pei Pei Che, Ana Katrina Mapanao, Alessandro Gregori, Maria Laura Ermini, Agata Zamborlin, Mjriam Capula, Danitsja Ngadimin, Ben J. Slotman, Valerio Voliani, Peter Sminia, and Elisa Giovannetti; *Cancers*, 2022, 14(12), 3034, DOI: 10.3390/cancers14123034. ISSN: 2072-6694, Scopus: 2-s2.0-85132198661, WoS: 000818119800001.
19. *Chorioallantoic membrane tumor models highlight the effects of cisplatin compounds in the treatment of HPV-negative head and neck carcinoma*; Patrizia Sarogni, Ana Katrina Mapanao, Alessandra Gonnelli, Sabrina Marchetti, Claudia Kusmic, Fabiola Paiar, and Valerio Voliani; *iScience*, 2022, 25(3), 103980, DOI: 10.1016/j.isci.2022.103980. ISSN: 2589-0042, Scopus: 2-s2.0-85126005648, WoS: 000773438200006.
20. *Curcumin and Graphene Oxide Incorporated into Alginate Hydrogels as Versatile Devices for the Local Treatment of Squamous Cell Carcinoma*; Lorenzo Francesco Madeo, Patrizia Sarogni, Giuseppe

- Cirillo, Orazio Vittorio, Valerio Voliani, Manuela Curcio, Tyler Shai-Hee, Bernd Büchner, Michael Mertig, and Silke Hampel; *Materials*, 2022, DOI: 10.3390/ma15051648. ISSN: 1996-1944, Scopus: 2-s2.0-85125180070, WoS: 000768240600001.
21. *Experimental Evaluation of Radiation Response and Thermal Properties of NPs-Loaded Tissues-Mimicking Phantoms*; Somayeh Asadi, Sanzhar Korganbayev, Wujun Xu, Ana Katrina Mapanao, Valerio Voliani, Vesa-Pekka Lehto, and Paola Saccomandi; *Nanomaterials*, 2022, DOI: 10.3390/nano12060945. ISSN: 2079-4991, Scopus: 2-s2.0-85126374390, WoS: 000774382200001.
 22. *Antimicrobial Nano-Agents: The Copper Age*; Maria Laura Ermini, and Valerio Voliani; *ACS nano*, 2021, 15(4), 6008–6029, DOI: 10.1021/acsnano.0c10756. ISSN: 1936-086X, Scopus: 2-s2.0-85104908246, WoS: 000645436800013.
 23. *A standard protocol for the production and bio-evaluation of ethical in vivo models of HPV-negative head and neck squamous cell carcinoma*; Patrizia Sarogni, Ana Katrina Mapanao, Sabrina Marchetti, Claudia Kusmic, and Valerio Voliani; *ACS Pharmacology & Translational Science*, 2021, DOI: 10.1021/acspsci.1c00083. ISSN: 2575-9108, Scopus: 2-s2.0-85105728065, WoS: 000662229400018.
 24. *Doxorubicin-loaded gold nanoarchitectures as a therapeutic strategy against Diffuse Intrinsic Pontine Glioma*; Caitlin Ung, Maria Tsoli, Jie Liu, Domenico Cassano, Salvador Pocovi-Martínez, Dannielle H. Upton, Anahid Ehteda, Friederike M. Mansfeld, Timothy W. Failes, Annafranca Farfalla, Christopher Katsinas, Maria Kavallaris, Greg M. Arndt, Orazio Vittorio, Giuseppe Cirillo, Valerio Voliani, and David S. Ziegler; *Cancers*, 2021, 13(6), 1278, DOI: 10.3390/cancers13061278. ISSN: 2072-6694, Scopus: 2-s2.0-85102373973, WoS: 000634348500001.
 25. *Tumor Grafted – Chick Chorioallantoic Membrane as an Alternative Model for Biological Cancer Research and Conventional/Nanomaterial-Based Theranostics Evaluation*; Ana Katrina Mapanao, Pei Pei Che, Patrizia Sarogni, Peter Sminia, Elisa Giovannetti, and Valerio Voliani; *Expert Opinion on Drug Metabolism & Toxicology*, 2021, DOI: 10.1080/17425255.2021.1879047. ISSN: 1742-5255, Scopus: 2-s2.0-85100971320, WoS: 000616857200001.
 26. *Ruthenium arene complexes in the treatment of 3D models of Head and Neck Squamous Cell Carcinomas*; Melissa Santi, Ana Katrina Mapanao, Lorenzo Biancalana, Fabio Marchetti, and Valerio Voliani; *European Journal of Medicinal Chemistry*, 2021, 212, 113143, DOI: 10.1016/j.ejmech.2020.113143. ISSN: 0223-5234, Scopus: 2-s2.0-85099159277, WoS: 000629622800035.
 27. *A flexible, transparent chemosensor integrating an inkjet-printed organic field-effect transistor and a non-covalently functionalized graphene electrode*; Stefano Lai, Ylea Vlamidis, Neeraj Mishra, Piero Cosseddu, Vaidotas Miseikis, Pier Carlo Ricci, Valerio Voliani, Camilla Coletti, and Annalisa Bonfiglio; *Advanced Materials Technologies*, 2021, DOI: 10.1002/admt.202100481. ISSN: 2365-709X, Scopus: 2-s2.0-85111721141, WoS: 000680936600001.
 28. *Total- and semi-bare noble metal nanoparticles@silica core@shell catalysts for hydrogen generation by formic acid decomposition*; Marco Santucci, Maria Laura Ermini, Giulio Bresciani, Andrea Griesi, Mauro Gemmi, Guido Pampaloni, Fabio Marchetti, and Valerio Voliani; *Emergent Materials*, 2021, DOI: 10.1007/s42247-020-00160-8. ISSN: 2522-5731, Scopus: 2-s2.0-85099926341, WoS: 000610481700001.
 29. *Complementary effect of non-persistent silver nano-architectures and chlorhexidine on infected wound healing*; Mykola Pernakov, Maria Laura Ermini, Oksana Sulaieva, Domenico Cassano, Marco Santucci, Yevhenia Husak, Viktoriia Korniiienko, Giulia Giannone, Aziza Yusupova, Iryna Liubchak, Maria Teodora Hristova, Anton Savchenko, Viktoriia Holubnych, Valerio Voliani, Maksym Pogorielov; *Biomedicines*, 2021, DOI: 10.3390/biomedicines9091215. ISSN: 2227-9059, Scopus: 2-s2.0-85115219756, WoS: 000699350400001.
 30. *Titania-decorated hybrid nano-architectures and their preliminary assessment in catalytic applications*; Marco Santucci, Maria Laura Ermini, Giulio Bresciani, Enrico Mugnaioli, Mauro Gemmi, Fabio Marchetti, Guido Pampaloni, and Valerio Voliani; *Nano Structures & Nano Objects*, 2021, DOI: 10.1016/j.nanoso.2021.100788. ISSN: 2352-5088.
 31. *Biokinetics and clearance of inhaled gold ultrasmall-in-nano architectures*; Ana Katrina Mapanao, Giulia Giannone, Maria Summa, Maria Laura Ermini, Agata Zamborlin, Melissa Santi, Domenico

- Cassano, Rosalia Bertorelli and Valerio Voliani; *Nanoscale Advances*, 2020, 2, 3815-20, DOI: 10.1039/D0NA00521E. ISSN: 2516-0230, Scopus: 2-s2.0-85090598000, WoS: 000570501200009.
32. *Combined chemo-photothermal treatment of 3D head and neck squamous cell carcinomas by ultrasmall-in-nano gold architectures*; Ana Katrina Mapanao, Melissa Santi, and Valerio Voliani; *Journal of Colloid and Interface Science*, 2020, 582, 1003-1011, DOI: 10.1016/j.jcis.2020.08.059. ISSN: 0021-9797, Scopus: 2-s2.0-85090571362, WoS: 000591521100005.
 33. *Production of 3D tumor models of head and neck squamous cell carcinomas for nanotheranostics assessment*; Melissa Santi, Ana Katrina Mapanao, and Valerio Voliani; *ACS Biomaterials Science & Engineering*, 2020, 6(9), 4862-4869, DOI: 10.1021/acsbiomaterials.0c00617. ISSN: 2373-9878, Scopus: 2-s2.0-85090587085, WoS: 000572822300010.
 34. *A cost-effective approach for ultrasmall-in-nano architectures production*; Giulia Giannone, Melissa Santi, Maria Laura Ermini, Domenico Cassano, and Valerio Voliani; *Nanomaterials*, 2020, 10(8), 1600, DOI: 10.3390/nano10081600. ISSN: 2079-4991, Scopus: 2-s2.0-85093945963, WoS: 000568128600001.
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