

Zoi Piperigkou

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CURICULUM VITAE

SHORT PRESENTATION

Dr. Zoi Piperigkou is an Assistant Professor of Biochemistry and Extracellular Matrix in Department of Chemistry of the University of Patras. She obtained her Diploma in Chemistry in 2011, her MSc in Applied Biochemistry in 2013 and her PhD in Cellular and Molecular Biology in 2018 from the Department of Chemistry University of Patras. She has worked as a Post-doctoral researcher in the Laboratory of Biochemistry, Department of Chemistry, in the University of Insubria, Italy (Prof. A. Passi) and as a full-time researcher in the University Clinic of Münster, Germany (Laboratory of Prof. M. Götte). She has also worked as an Adjunct Lecturer in the Department of Chemistry, University of Patras. She has participated in 7 funded European and National research projects. She was Member of the Organizing Committees of 11 National and International scientific conferences/meetings and she was the Chairwoman of two international scientific meetings. She is Guest Editor of three Special Issues in international peer-reviewed scientific journals with high impact factor and she is Reviewer in more than 10 scientific journals. She has co-authored 44 publications in peer-reviewed international journals and 3 book chapters as first author. Her work has been cited more than 2350 times and her h-index is 25 (Google Scholar, 2023). She research interests are focused on the pathobiology of the extracellular matrix and the molecular role of matrix biomolecules in the pathogenesis and progression of cancer and osteoarthritis.

RESEARCH INTERESTS

- Development of advanced 3D *in vitro* breast cancer cell-derived models mimicking the tumor microenvironment and architecture
- Evaluation of the structure and functionality of extracellular matrix macromolecules, such as cellular and extracellular proteoglycans, glycosaminoglycans, matrix metalloproteinases and other proteases and glycolytic enzymes, as well as microRNAs in malignant neoplasms
- Studies on the biological actions of glycosaminoglycans and their nano-derivatives, growth factors, growth factor receptors, estrogens and estrogen receptors in *in vitro* breast cancer models (growth, migration, invasion, angiogenesis, cellular morphology) and *in vivo* models
- Studies on the differentiation potential of mesenchymal stem cells to chondrocytes using matrix-based bioscaffolds for the development of novel therapeutic approaches for joint pathologies
- Mechanisms of cellular signaling and biosynthesis of macromolecules
- Evaluation of the effects of pharmaceutical compounds at the molecular and cellular level
- Cytotoxicity studies of nanomaterials and new synthetic products at the cellular and molecular level to determine the potential health risks of human exposure that are applied in air filters, innovative food packaging, roof materials and novel therapeutic approaches

EDUCATION

2014-2018: PhD Thesis "Evaluation of the regulatory mechanisms governing biomolecules expression, functional properties and morphological characteristics of breast cancer cells", Department of Chemistry, University of Patras, Greece

2011-2013: Master of Science in Applied Biochemistry: Clinical chemistry, Biotechnology and Evaluation of Pharmaceutical Products, Department of Chemistry, University of Patras, Greece

2007-2011: Diploma in Chemistry, University of Patras, Greece

ACADEMIC POSITIONS/MOBILITY

2023-present: Assistant Professor, Department of Chemistry, University of Patras

2021-2023: Adjunct Lecturer, Scientific field of Biochemistry, Department of Chemistry, University of Patras

2020-2023: Postdoctoral researcher, Foundation for Research and Technology-Hellas (FORTH)/Institute of Chemical Engineering Sciences (ICE-HT), Greece

2020: Adjunct Lecturer (P.D. 407/1980), Laboratory of Biochemistry, Department of Chemistry, University of Patras

2019-2020: Postdoctoral researcher, Department of Chemistry, University of Patras

2019: Postdoctoral researcher (FEBS fellow), Laboratory of Biochemistry, Department of Medicine and Surgery, School of Medicine, University of Insubria, Italy

2016-2017: Visiting researcher (Marie Skłodowska-Curie Research and Innovation Staff Exchange) in spin-off Serend-IP GmbH, Nanotechnology Center, University of Münster, Germany

2016: Visiting researcher (DAAD fellow) in the Department of Medicine, University of Münster and in the University Medical Center, Münster, Germany

TEACHING EXPERIENCE

- 2022-2023: Adjunct Lecturer of Enzymology and Biotechnology (lectures and laboratory practice), Department of Chemistry, University of Patras
- 2021-2022: Adjunct Lecturer of Enzymology and Biotechnology (lectures and laboratory practice), Department of Chemistry, University of Patras
- 2021: Adjunct Lecturer of Food Biochemistry and Biotechnology (lectures and laboratory practice), Department of Chemistry, University of Patras
- 2020: Adjunct Lecturer (P.D. 407/1980) of Biochemistry, Laboratory of Biochemistry, Department of Chemistry, University of Patras
- 2012-2017: Teaching and laboratory assistance (Biochemistry, Clinical Chemistry, Biotechnology, Microbiology, Biology), Department of Chemistry, University of Patras

RESEARCH GUIDANCE & TRAINEES

As a Post-doctoral Researcher, she has been responsible for laboratory training of students of the Biochemistry, Biochemical Analysis and Matrix Pathobiology research group (Biochemistry Laboratory, Department of Chemistry, University of Patras). She has co-supervised undergraduate, MSc and PhD theses as co-responsible for organizational and laboratory experimental design and basic biochemical laboratory training of a multi-membered research teams (Department of Chemistry, University of Patras; Department of Gynaecology and Obstetrics, University Hospital of Münster, Germany).

EDITORIAL ACTIVITY

- Editor in Special Issue: Recent Advances in Extracellular Matrix Targeting in Solid Tumors, *Oncology Reviews*, *soon to be announced*, 2023
- Editor in Special Issue: Desiphering the Network of Cell Receptors and Matrix in Health and Disease 2023, *Biomolecules*, <https://www.mdpi.com/si/153670>, 2023-present
- Co-Editor with Prof. Nikos Karamanos in Topical Collection: Matrix Effectors and Cancer, *Cancers*, <https://www.mdpi.com/si/43300>, 2020-present
- Co-Editor with Prof. Marco Franchi in Special Issue: Desiphering the Network of Cell Receptors and Matrix in Health and Disease, *Biomolecules*, <https://www.mdpi.com/si/34569>, 2020
- Invited reviewer in several international scientific journals, among others: *Nature Scientific Reports*, *Molecular Biology Reports*, *Proteoglycan Research*, *PLOS ONE*, *Bioengineering*, *The FEBS Journal*, *FEBS Open Bio*, *Food and Chemical Toxicology*, *International Journal of Biological Sciences*.
- Editorial Board Member of *Frontiers in Oncology* (<https://www.frontiersin.org/journals/oncology/sections/cancer-molecular-targets-and-therapeutics>)
- Editorial Board Member of *American Journal of Physiology-Cell Physiology* (<https://journals.physiology.org/ajpcell/edboard>)
- Associate Academic Member in Faculty Opinions (H1 Connect) (<https://connect.h1.co/member/1089746>)

ORGANIZATION OF SCIENTIFIC CONFERENCES/MEETINGS/FORUMS

- 9th Young Scientists Forum of the Hellenic Society of Biochemistry and Molecular Biology (HSBMB), 2022, *Chairwoman*
- 6th, 7th, 8th FEBS Advanced Lecture Course on Matrix Pathobiology, Signaling & Molecular Targets (FEBS-MPST), 2017, 2019, 2022
- Young Scientists Committees in 6th & 8th FEBS-MPST, 2017 & 2022
- FEBS Education Workshop on Molecular Life Sciences, 2018, *Chairwoman*
- FEBS Advanced Lecture Course on Extracellular Matrix: Cell Regulation, Epigenetics & Modeling, 2018
- 3rd, 5th, 7th Young Scientists Forum of the HSBMB, 2015, 2017, 2019

HONORS AND AWARDS

2022: Young Investigator award by the International Society for Matrix Biology, 8th FEBS-MPST, for the best oral presentation, Title: ESR2 drives epithelial-to-mesenchymal transition and tumorigenesis through epigenetic signatures in aggressive breast cancer

2022: FEBS Journal top-cited Paper award, Title: A guide to the composition and functions of the extracellular matrix

2021: Early career researcher award in Chemistry by Greek Chemists Association, 1st International Forum Women+

2020: Recommended article in Faculty Opinions (H1 Connect), Top 2% articles in *Developmental Biology*, Title: Estrogen receptor beta as epigenetic mediator of miR-10b and miR-145 in mammary cancer

2019: Best oral presentation award by *The FEBS Journal*, 7th FEBS-MPST, Title: Estrogen receptor beta as epigenetic mediator of miR-10b, miR-200b and miR-145 in mammary cancer

2018: Best oral presentation award by *FEBS Letters*, FEBS-ECM 2018, Title: Estrogen receptors as epigenetic mediators of miR-10b and miR-200b in mammary cancer

2017: Best oral presentation award by *Matrix Biology Ireland*, 6th FEBS-MPST, Title: MicroRNA targeting as a regulatory mechanism of breast cancer cells with different estrogen receptor status

2017: Recommended article in Faculty Opinions (H1 Connect), Top 2% articles in Cellular Biology, Title: Estrogen receptor beta modulates breast cancer cells functional properties, signaling and expression of matrix molecules

2017: Travel grant from HSBMB for the 6th FEBS-MPST

2016: Travel grant from German Society for Matrix Biology for the 2nd Matrix Biology Europe

2011-2018: Travel grants from HSBMB for participating the annual HSBMB conferences

2009: Excellence award by the Greek State Scholarships Foundation (IKY)

FELLOWSHIPS

2019: FEBS (Federation of European Biochemical Societies) short-term post-doctoral fellowship

2018: FORTH-ICE/HT postgraduate fellowship

2017-2018: Greek State Scholarships Foundation PhD fellowship

2016: Short-term Research Grant by German Academic Exchange Service (DAAD)

2016: Erasmus+ Exchange Studies internship

2012-2017: Postgraduate fellowship for teaching and laboratory assistance by the Department of Chemistry, University of Patras

2012-2013 & 2014-2015: FORTH-ICE/HT postgraduate fellowships

RESEARCH PROJECTS

- DIAGONAL – Development and scaled implementation of safe by design tools and guidelines for multicomponent and harn nanomaterials, Horizon 2020, FORTH/ICE-HT (2021-2023)
- ROOF-BREATH – Development of nano carbon embedded breathable polyolefin films for industrial/construction roofing membranes, NSRF 2014-2020, FORTH/ICE-HT (2020-2021)
- ArthroMicroPerMed – Nanobiotechnological Injectable Extracellular Matrix (ECM) for cartilage regeneration, personalized therapy and identification of “individual” microbe metabolites involved in joint regeneration, NSRF 2014-2020, Department of Chemistry, University of Patras (2019-2020)
- GLYCAN – Matrix glycans as multifunctional pathogenesis factors and therapeutic targets in cancer, Marie Skłodowska-Curie Research and Innovation Staff Exchange (RISE), Horizon 2020, Serend-IP GmbH, University of Münster, Germany (2016-2017)
- NanoBarrier – Extended shelf-life biopolymers for sustainable and multifunctional food packaging solutions, FP7-NMP, FORTH/ICE-HT (2012-2013, 2014-2015)
- BioCancerTalk – Intracellular crosstalk between ER α / β , EGF and IGF receptors in development and progression of breast cancer, NSRF 2007-2013, Department of Chemistry, University of Patras (2014-2016)
- BioNexGen – Developing the Next Generation of Biocatalysts for Industrial Chemical Synthesis, Seventh framework program (FP7)-K B B E (2012)

PUBLICATIONS/METRICS/RECOGNITION

- 44 publications in international peer-reviewed (refereed) journals
- 3 publications as chapters in book series
- >60 abstracts in proceedings of International and National scientific conferences
- Invited Lecture in FEBS Advanced Course “Crosstalk between the ECM and Proteases from destruction to regeneration”, The Weizmann Institute of Science, Israel, 2023, Title: ECM remodeling in cancer: old and new bioactive players
- h-index: 25; i-index: 30 (Google Scholar)
- Citations >2300 (Google Scholar)

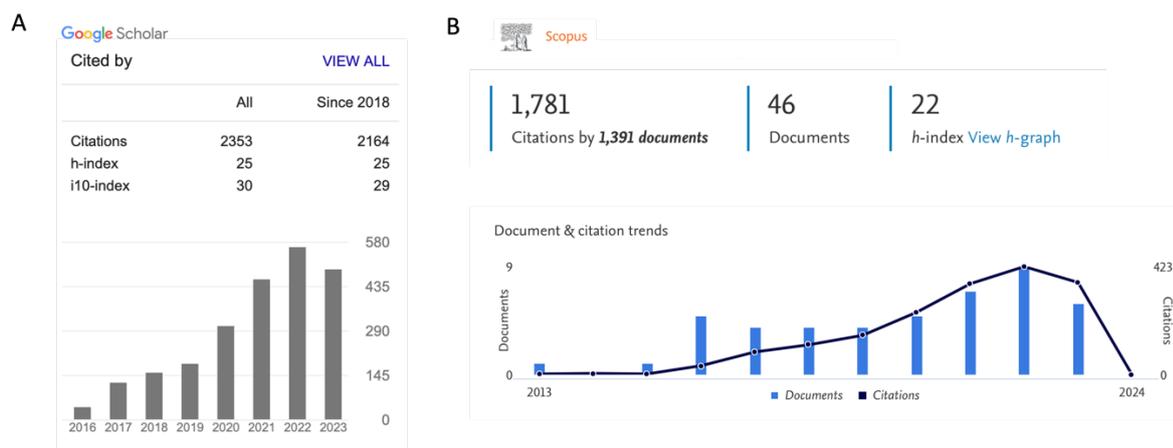


Figure 1. Total number of citations and publication metrics from Google Scholar (A) and Scopus (B) databases (Date: 11/09/2023).

LIST OF PUBLICATIONS IN PEER-REVIEWED INTERNATIONAL JOURNALS

1. Franchi M, **Piperigkou Z**, Mastronikolis NS, Karamanos N. Extracellular matrix biomechanical roles and adaptation in health and disease. *FEBS J*, 2023, In Press. doi: 10.1111/febs.16938. IMPACT FACTOR (IF): 5.62
2. **Piperigkou Z**, Bainantzou D, Makri N, Papachristou E, Mantsou A, Papi R, Choli-Papadopoulou T, Theocharis AD, Karamanos NK. Enhancement of mesenchymal stem cells' chondrogenic potential by type II collagen-based bioscaffolds, *Mol Biol Rep*, 2023, 50(6):5125-5135. doi: 10.1007/s11033-023-08461-x. IF: 2.8
3. Mastronikolis NS, Kyrodimos E, Spyropoulou D, Delides A, Giotakis E, **Piperigkou Z**, Karamanos NK. The Role of Exosomes in Epithelial-to-Mesenchymal Transition and Cell Functional Properties in Head and Neck Cancer. *Cancers (Basel)*, 2023, 5;15(7):2156. doi: 10.3390/cancers15072156. IF: 6.64
4. Kyriakopoulou K[#], Koutsakis C[#], **Piperigkou Z**^{*#}, Karamanos NK. Recreating the extracellular matrix: novel 3D cell culture platforms in cancer research, *FEBS J*, 2023, In Press, doi: 10.1111/febs.16778. IF: 5.62 [#]Equal contribution
5. Kokoretsis D, Maniaki EK, Kyriakopoulou K, Koutsakis C, **Piperigkou Z**, Karamanos NK. Hyaluronan as "Agent Smith" in cancer extracellular matrix pathobiology: Regulatory roles in immune response, cancer progression and targeting. *IUBMB Life*, 2022, 74(10):943-954. doi: 10.1002/iub.2608. IF: 4.71
6. Kyriakopoulou K, **Piperigkou Z**, Tzaferi K, Karamanos NK. Trends in extracellular matrix biology, *Mol Biol Rep*, 2023, 50(1), 853-863, doi: 10.1007/s11033-022-07931-y. IF: 2.32
7. Druvari D, Tzoumani I, **Piperigkou Z**, Tzaferi K, Tselentis D, Vlamis-Gradikas A, Karamanos NK, Kallitsis IK. Development of environmentally friendly polymeric coatings based on water-soluble quaternary ammonium biocidal copolymers for application on air-cleaning filters. *ACS Omega*, 2022, doi: 10.1021/acsomega.2c04427. IF: 4.13
8. Papakonstantinou E, **Piperigkou Z**, Karamanos NK, Zolota V. Altered adipokine expression in tumor microenvironment promotes development of triple negative breast cancer. *Cancers*, 2022, 14 (17), 4139. doi: 10.3390/cancers14174139. IF: 6.64
9. **Piperigkou Z**, Koutsandreas A, Franchi M, Zolota V, Kletsas D, Passi AG, Karamanos NK. ESR2: a critical factor of mesenchymal-to-epithelial transition, matrix expression and triple-negative breast cancer tumorigenesis in vivo. *Front Oncol*, 2022, 12, 917633. doi: 10.3389/fonc.2022.917633. IF: 6.24
10. **Piperigkou Z**, Tzaferi K, Makrokanis G, Cheli K, Karamanos NK. The microRNA-cell surface proteoglycan axis in cancer progression. *Am J Physiol Cell Physiol*, 2022, 322(5), C825-C832. doi: 10.1152/ajpcell.00041.2022. IF: 5.28

11. Kyriakopoulou K, Kefali E, **Piperigkou Z**, Riethmüller C, Greve B, Franchi M, Götte M, Karamanos NK. EGFR is a pivotal player of the E2/ER β -mediated functional properties, aggressiveness, and stemness in triple-negative breast cancer cells. *FEBS J*, 2022, 289(6), 1552-1574. doi: 10.1111/febs.16240. IF: 5.62
12. Lada ZG, Andrikopoulos KS, Mathioudakis GN, **Piperigkou Z**, Karamanos NK, Perlepes SP, Voyiatzis GA. Tuning the Spin-Crossover Behaviour in Fe(II) Polymeric Composites for Food Packaging Applications. *Magnetochemistry*, 2022, 8(2), 16. doi: 10.3390/magnetochemistry8020016. IF: 3.34
13. Vassileiou C, Kalantzi S, Vachlioti E, Athanassopoulos CM, Koutsakis C, **Piperigkou Z**, Karamanos N, Stivarou T, Lymberi P, Avgoustakis K, Papaioannou D. New Analogs of Polyamine Toxins from Spiders and Wasps: Liquid Phase Fragment Synthesis and Evaluation of Antiproliferative Activity. *Molecules*, 2022, 27(2), 447. doi: 10.3390/molecules27020447. IF: 4.93
14. **Piperigkou Z***, Karamanos NK (2021) Matrix Effectors and Cancer. *Cancers*, 2021, 14(1), 200. doi: 10.3390/cancers14010200. IF: 6.64
15. Karamanos NK, Theocharis AD, **Piperigkou Z**, Manou D, Passi A, Skandalis SS, Vynios DH, Orian-Rousseau V, Ricard-Blum S, Schmelzer CEH, Duca L, Durbeej M, Afratis NA, Troeberg L, Franchi M, Masola V, Onisto M. A guide to the composition and functions of the extracellular matrix. *FEBS J*, 2021, 288(24), 6850-6912. doi: 10.1111/febs.15776. IF: 5.62
16. Karamanos NK, **Piperigkou Z**, Passi A, Götte M, Rousselle P, Vlodavsky I. Extracellular matrix-based cancer targeting. *Trends Mol Med*, 2021, 27(10), 1000-1013. doi: 10.1016/j.molmed.2021.07.009. IF: 11.95
17. Tavianatou AG, **Piperigkou Z**, Koutsakis C, Barbera C, Beninato R, Franchi M, Karamanos NK (2021) The action of hyaluronan in functional properties, morphology and expression of matrix effectors in mammary cancer cells depends on its molecular size. *FEBS J*, 2021, 288(14), 4291-4310. doi: 10.1111/febs.15734. IF: 5.62
18. Lepedda AJ, Nieddu G, **Piperigkou Z**, Kyriakopoulou K, Karamanos N, Formato M. Circulating Heparan Sulfate Proteoglycans as Biomarkers in Health and Disease. *Semin Thromb Hemost*, 2021, 47(3), 295-307. doi: 10.1055/s-0041-1725063. IF: 6.40
19. **Piperigkou Z***, Kyriakopoulou K, Koutsakis C, Mastronikolis S, Karamanos NK. Key Matrix Remodeling Enzymes: Functions and Targeting in Cancer. *Cancers*, 2021, 13(6), 1441. doi: 10.3390/cancers13061441. IF: 6.64
20. Zolota V, Tzelepi V, **Piperigkou Z**, Kourea H, Papakonstantinou E, Argentou MI, Karamanos NK. Epigenetic Alterations in Triple-Negative Breast Cancer-The Critical Role of Extracellular Matrix. *Cancers*, 2021, 13(4):713. doi: 10.3390/cancers13040713. IF: 6.64
21. Rassias G, Leonardi S, Rigopoulou D, Vachlioti E, Afratis K, **Piperigkou Z**, Koutsakis C, Karamanos NK, Gavras H, Papaioannou D. Potent antiproliferative activity of bradykinin B2 receptor selective agonist FR-190997 and analogue structures thereof: A paradox resolved? *Eur J Med Chem*, 2021, 210, 112948. doi: 10.1016/j.ejmech.2020.112948. IF: 7.09
22. Kyriakopoulou K, Riti E, **Piperigkou Z**, Koutroumanou Sarri K, Bassiony H, Franchi M, Karamanos NK. EGFR/ER β -Mediated Cell Morphology and Invasion Capacity Are Associated with Matrix Culture Substrates in Breast Cancer. *Cells*, 2020, 9(10), 2256. doi: 10.3390/cells9102256. IF: 7.67
23. Franchi M, **Piperigkou Z**, Karamanos KA, Franchi L, Masola V. Extracellular Matrix-Mediated Breast Cancer Cells Morphological Alterations, Invasiveness, and Microvesicles/Exosomes Release. *Cells*, 2020, 9(9), 2031. doi: 10.3390/cells9092031. IF: 7.67
24. **Piperigkou Z***, Karamanos NK. Estrogen receptor-mediated targeting of the extracellular matrix network in cancer. *Semin Cancer Biol*, 2020. 62, 116-124. doi: 10.1016/j.semcancer.2019.07.006. IF: 15.7
25. Franchi M, **Piperigkou Z**, Riti E, Masola V, Onisto M, Karamanos NK. Long filopodia and tunneling nanotubes define new phenotypes of breast cancer cells in 3D cultures. *Matrix Biol Plus*. 6-7, 2020, 100026. doi: 10.1016/j.mbplus.2020.100026. IF: 4.93

26. **Piperigkou Z**, Franchi M, Riethmüller C, Götte M, Karamanos NK. miR-200b restrains EMT and aggressiveness and regulates matrix composition depending on ER status and signaling in mammary cancer. *Matrix Biol Plus*, 2020, 6-7, 100024. doi: 10.1016/j.mbps.2020.100024. IF: 4.93
27. **Piperigkou Z***, Karamanos NK. Dynamic Interplay between miRNAs and the Extracellular Matrix Influences the Tumor Microenvironment. *Trends Biochem Sci*, 2019, 44(12), 1076-1088. doi: 10.1016/j.tibs.2019.06.007. IF: 14.26
28. Tavianatou AG, Caon I, Franchi M, **Piperigkou Z**, Galesso D, Karamanos NK. Hyaluronan: molecular size-dependent signaling and biological functions in inflammation and cancer. *FEBS J*, 2019, 286(15), 2883-2908. doi: 10.1111/febs.14777. IF: 5.62
29. Tavianatou AG, **Piperigkou Z**, Barbera C, Beninato R, Masola V, Caon I, Onisto M, Franchi M, Galesso D, Karamanos NK. Molecular size-dependent specificity of hyaluronan on functional properties, morphology and matrix composition of mammary cancer cells. *Matrix Biol Plus*, 2019, 3, 100008. doi: 10.1016/j.mbps.2019.100008. IF: 4.93
30. Franchi M, Masola V, Bellin G, Onisto M, Karamanos KA, **Piperigkou Z**. Collagen Fiber Array of Peritumoral Stroma Influences Epithelial-to-Mesenchymal Transition and Invasive Potential of Mammary Cancer Cells. *J Clin Med*, 2019, 8(2), 213. doi: 10.3390/jcm8020213. IF: 4.96
31. Kyriakopoulou K, Kefali E, **Piperigkou Z**, Bassiony H, Karamanos NK. Advances in targeting epidermal growth factor receptor signaling pathway in mammary cancer. *Cell Signal*, 2018, 51, 99-109. doi: 10.1016/j.cellsig.2018.07.010. IF: 5.71
32. Karamanos NK, **Piperigkou Z**, Theocharis AD, Watanabe H, Franchi M, Baud S, Brézillon S, Götte M, Passi A, Vigetti D, Ricard-Blum S, Sanderson RD, Neill T, Iozzo RV. Proteoglycan Chemical Diversity Drives Multifunctional Cell Regulation and Therapeutics. *Chem Rev*, 2018, 118(18), 9152-9232. doi: 10.1021/acs.chemrev.8b00354. IF: 60.62
33. **Piperigkou Z**, Götte M, Theocharis AD, Karamanos NK. Insights into the key roles of epigenetics in matrix macromolecules-associated wound healing. *Adv Drug Deliv Rev*, 2018, 129:16-36. doi: 10.1016/j.addr.2017.10.008. IF: 15.47
34. Afratis NA, Karamanou K, **Piperigkou Z**, Vynios DH, Theocharis AD. The role of heparins and nano-heparins as therapeutic tool in breast cancer. *Glycoconj J*, 2017, 34(3):299-307. doi: 10.1007/s10719-016-9742-7. IF: 2.92
35. **Piperigkou Z**, Franchi M, Götte M, Karamanos NK. Estrogen receptor beta as epigenetic mediator of miR-10b and miR-145 in mammary cancer. *Matrix Biol*, 2017, 64, 94-111. doi: 10.1016/j.matbio.2017.08.002. IF: 11.58
36. Karamanou K, Franchi M, **Piperigkou Z**, Perreau C, Maquart FX, Vynios DH, Brézillon S. Lumican effectively regulates the estrogen receptors-associated functional properties of breast cancer cells, expression of matrix effectors and epithelial-to-mesenchymal transition. *Nat Sci Rep*, 2017, 7, 45138. doi: 10.1038/srep45138. IF: 5.0
37. Neagu M, **Piperigkou Z**, Karamanou K, Engin AB, Docea AO, Constantin C, Negrei C, Nikitovic D, Tsatsakis A. Protein bio-corona: critical issue in immune nanotoxicology. *Arch Toxicol*, 2017, 91(3), 1031-1048. doi: 10.1007/s00204-016-1797-5. IF: 5.15
38. **Piperigkou Z**, Bouris P, Onisto M, Franchi M, Kletsas D, Theocharis AD, Karamanos NK. Estrogen receptor beta modulates breast cancer cells functional properties, signaling and expression of matrix molecules. *Matrix Biol*, 2016, 56, 4-23. doi: 10.1016/j.matbio.2016.05.003. IF: 11.58
39. **Piperigkou Z**, Mohr B, Karamanos N, Götte M. Shed proteoglycans in tumor stroma. *Cell Tissue Res*, 2016, 365(3), 643-55. doi: 10.1007/s00441-016-2452-4. IF: 5.03
40. Magoulas GE, Rigopoulos A, **Piperigkou Z**, Gialeli C, Karamanos NK, Takis PG, Troganis AN, Chrissanthopoulos A, Maroulis G, Papaioannou D. Synthesis and antiproliferative activity of two diastereomeric lignan amides serving as dimeric caffeic acid-l-DOPA hybrids. *Bioorg Chem*, 2016, 66, 132-44. doi: 10.1016/j.bioorg.2016.04.003. IF: 5.28

41. **Piperigkou Z**, Karamanou K, Engin AB, Gialeli C, Docea AO, Vynios DH, Pavão MS, Golokhvast KS, Shtilman MI, Argiris A, Shishatskaya E, Tsatsakis AM. Emerging aspects of nanotoxicology in health and disease: From agriculture and food sector to cancer therapeutics. *Food Chem Toxicol*, 2016, 91:42-57. doi: 10.1016/j.fct.2016.03.003. IF: 4.6
42. **Piperigkou Z**, Karamanou K, Afratis NA, Bouris P, Gialeli C, Belmiro CL, Pavão MS, Vynios DH, Tsatsakis AM. Biochemical and toxicological evaluation of nano-heparins in cell functional properties, proteasome activation and expression of key matrix molecules. *Toxicol Lett*, 2016, 240(1):32-42. doi: 10.1016/j.toxlet.2015.10.005. IF: 4.37
43. Bouris P, Skandalis SS, **Piperigkou Z**, Afratis N, Karamanou K, Aletras AJ, Moustakas A, Theocharis AD, Karamanos NK. Estrogen receptor alpha mediates epithelial to mesenchymal transition, expression of specific matrix effectors and functional properties of breast cancer cells. *Matrix Biol*, 2015, 43, 42-60. doi: 10.1016/j.matbio.2015.02.008. IF: 11.58
44. Tsonis AI, Afratis N, Gialeli C, Ellina MI, **Piperigkou Z**, Skandalis SS, Theocharis AD, Tzanakakis GN, Karamanos NK. Evaluation of the coordinated actions of estrogen receptors with epidermal growth factor receptor and insulin-like growth factor receptor in the expression of cell surface heparan sulfate proteoglycans and cell motility in breast cancer cells. *FEBS J*, 2013, 280(10), 2248-59. doi: 10.1111/febs.12162. IF: 5.62
(* co-correspondence)

BOOK CHAPTERS IN BOOK SERIES

1. **Piperigkou Z***, Karamanos NK (2023) Evaluating the effects of microRNAs on proteoglycans and matrix constituents' expression and functional properties. In: Karamanos NK (ed) *Methods in Molecular Biology, Proteoglycans: Methods and Protocols*. Chapter 19. Springer Nature. doi: 10.1007/978-1-0716-2946-8_19.
2. **Piperigkou Z***, Manou D, Bainantzou D, Zolota V, Papakonstantinou E, Theocharis AD, Karamanos NK (2022). The microRNA-extracellular matrix interplay in breast cancer. In: Kovalszky I, Franchi M, Alaniz L (eds) *The Extracellular Matrix and The Tumor Microenvironment*. Springer Nature. doi: 10.1007/978-3-030-99708-3_16
3. **Piperigkou Z**, Manou D, Karamanou K, Theocharis AD (2018) Strategies to Target Matrix Metalloproteinases as Therapeutic Approach in Cancer. In: Cal S, Obaya A (eds) *Proteases and Cancer. Methods in Molecular Biology*, vol 1731. Humana Press, New York, NY. doi: 10.1007/978-1-4939-7595-2_27
(* co-correspondence)

COLLABORATION NETWORKS

International Collaborators

- University of Bologna, Italy (Prof. M. Franchi)
- University of Insubria, Italy (Prof. A. Passi)
- University of Padova, Italy (Prof. M. Onisto)
- University of Münster, Germany (Prof. M. Götte, Prof. B. Greve)
- Weizmann Institute of Science, Israel (Prof. I. Sagi)
- University of Gdansk, Poland (Prof. S. Samsonov)
- University of Lyon, France (Prof. S. Ricard-Blum)
- University of Reims, France (Prof. S. Brezillon)
- University of Oulu, Finland (Prof. V. Izzi)

National Collaborators

- National Center of Scientific Research “Demokritos” (Dr. D. Kletsas)
- University of Patras (Prof. V. Zolota)
- University of Crete (Prof. G. Tzanakakis, Prof. D. Nikitovic)

SCIENTIFIC MEMBERSHIPS

- International Society for Matrix Biology (Council and Executive Committee Member as elected Early Career Researcher)
- Hellenic Society for Biochemistry & Molecular Biology (FEBS Constituent Society)
- German Society for Matrix Biology
- Association of Greek Chemists

SUBSTANTIAL EXPERTISE

- *In vitro* cell culture of several human cancer cell lines under controlled conditions according to the Guidance on Good Cell Culture Practice (GCCP)
- Development of advanced 3D *in vitro* breast cancer cell-derived models mimicking the tumor microenvironment and architecture
- Functional *in vitro* analyses on cancer cell growth, migration, invasion, angiogenesis, cellular morphology on different substrates and matrix-based bioscaffolds
- Ectopic overexpression/suppression of microRNAs and extracellular matrix components in cell culture models
- Molecular analysis of cellular signaling and biosynthesis of macromolecules
- Real-time Polymerase Chain Reaction (PCR) analysis of gene and microRNA expression
- Evaluation of the structure and functionality of extracellular matrix macromolecules, such as cellular and extracellular proteoglycans, glycosaminoglycans, matrix metalloproteinases and other proteases and glycolytic enzymes, as well as microRNAs in malignant neoplasms
- *In vivo* studies on gene knockout mouse models (Collaboration with NCSR “Demokritos”, Institute of Biosciences & Applications, Dr D. Kletsas)
- All standard molecular biology, cell biology, biochemistry and immunocytochemistry techniques
- Studies on the differentiation potential of mesenchymal stem cells to chondrocytes using matrix-based bioscaffolds for the development of novel therapeutic approaches for joint pathologies
- Cytotoxicity studies of nanomaterials and new synthetic products at the cellular and molecular level to determine the potential health risks of human exposure that are applied in air filters, innovative food packaging, roof materials and novel therapeutic approaches

USEFUL LINKS

Google Scholar	https://scholar.google.gr/citations?user=11hs3-0AAAAJ&hl=en
Scopus	https://www.scopus.com/authid/detail.uri?authorId=55605590600
PublicationsList	http://publicationslist.org/php/publist.php?u=zoi.piperigkou
ORCID	https://orcid.org/my-orcid?orcid=0000-0002-0472-5389
PubMed	https://www.ncbi.nlm.nih.gov/pubmed/?term=piperigkou
Linkedin	https://www.linkedin.com/in/zoi-piperigkou-30210254/
ResearchGate	https://www.researchgate.net/profile/Zoi_Piperigkou