

**Zoi Piperigkou**  
Assistant Professor, University of Patras, Greece

## CURRICULUM VITAE

### PERSONAL INFORMATION

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Name Zoi  
Surname Piperigkou  
Nationality Greek  
Date of Birth 16-07-1989  
Place of birth Chios, Greece  
e-mail [zoipip@upatras.gr](mailto:zoipip@upatras.gr);  
Telephone +30 2610 997 161 (*office*)

### SHORT PRESENTATION/PROFILE

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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 is Member of the Editorial Boards of 3 international peer-reviewed scientific journals, Guest Editor of 3 Special Issues in with high impact factor and she serves as an Invited Reviewer in more than 10 scientific journals. She has participated in 9 funded European and National research projects. She was Member of the Organizing Committees of 11 National and International scientific conferences and she was the Chairwoman of two international scientific meetings. She has co-authored 48 publications in peer-reviewed international journals and 3 book chapters as first author. Her work has been cited more than 2,850/2,250 times and her h-index is 26/25 (Google Scholar/Scopus, Jan 2024). Her 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.

### CURRENT POSITION

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**2023 – present: Assistant Professor** of Biochemistry and Extracellular Matrix, Department of Chemistry, University of Patras, Greece

### EDUCATION

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**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, Grade A

**2011-2013: Master of Science** in Applied Biochemistry: Clinical chemistry, Biotechnology and Evaluation of Pharmaceutical Products, Thesis “The role of heparin and nano-heparin derivatives in functional properties and proteasome activity in breast cancer cells”, Department of Chemistry, University of Patras, Greece, Grade A, 9.72/10

**2007-2011: Diploma** in Chemistry, Thesis “Evaluation of EGFR- and IGFR- dependent migration of ER $\alpha$ (+) and ER $\beta$ (+) breast cancer cells”, University of Patras, Greece, Second highest-ranked among those graduated (top 5%), Grade B, 8.14/10

### ACADEMIC POSITIONS/MOBILITY

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**2024:** European Registered Toxicologist (ERT), Federation of European Toxicologists & European Societies of Toxicology

**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

## PUBLICATIONS/METRICS/RECOGNITION

- 48 publications in international peer-reviewed (refereed) journals
- 3 publications as chapters in book series
- >70 abstracts in proceedings of International and National scientific conferences
- h-index: 26/25 (Google Scholar/Scopus, Jul 2024); i-index: 33 (Google Scholar, Jul 2024)
- Citations >2,850/2,250 (Google Scholar/Scopus, Jul 2024)
- Total Impact Factor (IF) of published papers: 360.29; Average IF per publication: 7.67 (Jul 2024)

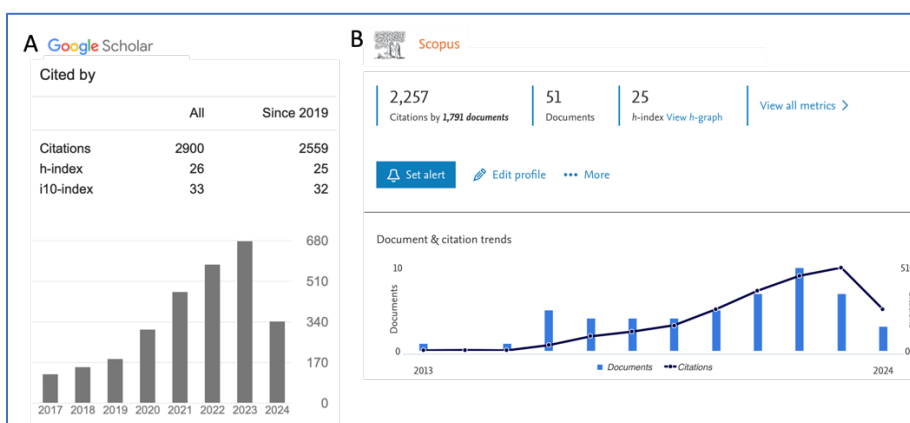


Figure 1. Total number of citations and publication metrics from Google Scholar (A) and Scopus (B) databases. Last access Jul 2024.

## LIST OF PUBLICATIONS IN PEER-REVIEWED INTERNATIONAL JOURNALS

1. Ioannou P, Tzaferi K, Koutsakis C, **Piperigkou Z\***, Karamanos NK. Targeting glypicans through EGFR and JAK/STAT signaling axes drives breast cancer progression. *Proteoglycan Res*, 2024, 2(1): e18. doi: 10.1002/pgr.2.18.
2. Mastronikolis NS, Delides A, Kyrodimos E, **Piperigkou Z**, Spyropoulou D, Giotakis E, Tsiambas E, Karamanos NK. *Mol Biol Rep*, 2024, 51(1):597. doi: 10.1007/s11033-024-09476-8. IF: 2.32
3. Mastronikolis NS, Kyrodimos E, **Piperigkou Z\***, Spyropoulou D, Delides A, Giotakis E, Alexopoulou M, Bakalis NA, Karamanos NK. Matrix-based molecular mechanisms, targeting and diagnostics in oral squamous cell carcinoma. *IUBMB Life*, 2024, 76(7):368-382. doi: 10.1002/iub.2803. IF: 4.71
4. Visvini GA, Mathioudakis GN, Soto Beobide A, **Piperigkou Z**, Giannakas AE, Messaritakis S, Sotiriou G, Voyiatzis GA. Improvement of Water Vapor Permeability in Polypropylene Composite Films by the Synergy of Carbon Nanotubes and  $\beta$ -Nucleating Agents. *Polymers*, 2023, 15(22):4432. doi: 10.3390/polym15224432. IF: 5.0
5. Mastronikolis NS, Spyropoulou D, Kyrodimos E, **Piperigkou Z**, Giotakis E, Delides A, Karamanos NK. The interplay between tumor and nodal microenvironments for the formation of nodal premetastatic niche in head and neck cancer. *Am J Physiol Cell Physiol*, 2023, 325(6):C1516-C1531. doi: 10.1152/ajpcell.00337.2023. IF: 5.28
6. Franchi M, **Piperigkou Z**, Mastronikolis NS, Karamanos NK. Extracellular matrix biomechanical roles and adaptation in health and disease. *FEBS J*, 2023, 291(3):430-440. doi: 10.1111/febs.16938. IF: 5.62
7. **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: 2.32

8. 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*, 2023, 5;15(7):2156. doi: 10.3390/cancers15072156. IF: 6.64
9. Kyriakopoulou K<sup>#</sup>, Koutsakis C<sup>#</sup>, **Piperigkou Z**<sup>#</sup>, Karamanos NK. Recreating the extracellular matrix: novel 3D cell culture platforms in cancer research, *FEBS J*, 2023, 290(22):5238-5247, doi: 10.1111/febs.16778. IF: 5.62  
#Equal contribution
10. 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
11. 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
12. 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
13. 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
14. **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
15. **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
16. 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 $\beta$ -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
17. 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
18. 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
19. **Piperigkou Z**<sup>\*</sup>, Karamanos NK (2021) Matrix Effectors and Cancer. *Cancers*, 2021, 14(1), 200. doi: 10.3390/cancers14010200. IF: 6.64
20. 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
21. Karamanos NK, **Piperigkou Z**, Passi A, Götte M, Rousselle P, Vlodaysky 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
22. 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
23. 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
24. **Piperigkou Z**<sup>\*</sup>, 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
25. 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

26. 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
27. Kyriakopoulou K, Riti E, **Piperigkou Z**, Koutroumanou Sarri K, Bassiony H, Franchi M, Karamanos NK. EGFR/ER $\beta$ -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
28. 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
29. **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
30. 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
31. **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.mbplus.2020.100024. IF 4.93
32. **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
33. 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
34. 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.mbplus.2019.100008. IF: 4.93
35. 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
36. 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
37. 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
38. **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
39. 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: 3.0
40. **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
41. 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
42. 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
43. **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

44. **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: 4.06
45. 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-I-DOPA hybrids. *Bioorg Chem*, 2016, 66, 132-44. doi: 10.1016/j.bioorg.2016.04.003. IF: 5.31
46. **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: 5.57
47. **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
48. 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
49. 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

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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)

### CONFERENCES/COURSES/FORUMS

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More than 70 abstracts in proceedings of International and National scientific conferences; 2 invited lectures and 14 selected talks in national and international scientific conferences/forums/meetings.

Most recent invited and selected talks are presented:

- 73<sup>rd</sup> Annual Conference of the Hellenic Society of Biochemistry and Molecular Biology (HSBMB), Title: The expanding boundaries of ECM remodeling in cancer, 2023, Athens, Greece – **Invited Lecture**
- FEBS Advanced Course (ALC) “Crosstalk between the ECM and Proteases from destruction to regeneration”, Title: ECM remodeling in cancer: old and new bioactive players, 2023, Weizmann Institute of Science, Rehovot, Israel – **Invited Lecture**
- 72<sup>nd</sup> Annual Conference of HSBMB, Title: ERβ guides triple-negative breast cancer cell behavior and tumor growth in vivo, 2022, Patras, Greece – **Selected Talk**
- Matrix Biology Europe 2024, Title: Sulfated hyaluronan's anticancer effect on breast cancer: insights from 3D culture models and in vivo studies, 2024, Lyon, France
- 40 Congresso della Società Italiana per lo Studio del Connettivo (SISC 2024), Title: Peri-tumoral array of collagen fibers and fibrils confine and drive breast cancer cell invasion during tumor development, 2024, Padova, Italy

- 8<sup>th</sup> FEBS ALC in Matrix Pathobiology, Signaling and Molecular Targets (8th FEBS-MPST), Title: Epigenetics in matrix-related cancer research, 2022, Crete, Greece – **Selected Talk**
- 8<sup>th</sup> FEBS-MPST, Title: ESR2 drives epithelial-to-mesenchymal transition and tumorigenesis through epigenetic signatures in aggressive breast cancer, 2022, Crete, Greece – Selected Talk (awarded as best oral presentation)
- 70<sup>th</sup> Annual Conference of the HSBMB, Title: Estrogen receptors inversely regulate miR-200b to stimulate epithelial-to-mesenchymal transition and matrix expression in mammary cancer, 2019, Athens, Greece – **Selected Talk**
- 7<sup>th</sup> FEBS-MPST, Title: Estrogen receptor beta as epigenetic mediator of miR-10b, miR-200b and miR-145 in mammary cancer, 2019, Porto Heli, Greece – **Selected Talk** (awarded as best oral presentation)
- FEBS 2018 Advanced Course “Extracellular Matrix: Cell Regulation, Epigenetics and Modeling”. Title: Estrogen receptors as epigenetic mediators of miR-10b and miR-200b in mammary cancer, 2018, Patras, Greece – **Selected Talk** (awarded as best oral presentation)
- 2<sup>nd</sup> Matrix Biology Europe, Title: MicroRNA targeting as a regulatory mechanism of breast cancer cells with different estrogen receptor status, 2016, Athens, Greece – **Selected Talk**

### ORGANIZATION OF SCIENTIFIC CONFERENCES/MEETINGS/FORUMS

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- 9<sup>th</sup> Young Scientists Forum of the Hellenic Society of Biochemistry and Molecular Biology (HSBMB), 2022, *Chairwoman*
- 6<sup>th</sup>, 7<sup>th</sup>, 8<sup>th</sup> FEBS Advanced Lecture Course on Matrix Pathobiology, Signaling & Molecular Targets (FEBS-MPST), 2017, 2019, 2022
- Young Scientists Committees in 6<sup>th</sup> & 8<sup>th</sup> 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
- 3<sup>rd</sup>, 5<sup>th</sup>, 7<sup>th</sup> Young Scientists Forum of the HSBMB, 2015, 2017, 2019

### EDITORIAL ACTIVITY

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**2023 – present:** Editorial Board Member of [BMC Cancer](#)

**2023 – present:** Editorial Board Member of [Nature Scientific Reports](#)

**2023 – present:** Co-Editor in Special Issue: Desiphering the Network of Cell Receptors and Matrix in Health and Disease 2023, *Biomolecules*, <https://www.mdpi.com/si/153670>

**2022 – present:** Editorial Board Member of [American Journal of Physiology-Cell Physiology](#)

**2022 – present:** Review Editor for Cancer Molecular Targets and Therapeutics of *Frontiers in Oncology* <https://www.frontiersin.org/journals/oncology/editors>

**2020 – present:** Co-Editor in [Topical Collection: Matrix Effectors and Cancer](#), *Cancers*

**2020:** Co-Editor in [Special Issue](#) Desiphering the Network of Cell Receptors and Matrix in Health and Disease, *Biomolecules*

**2016 – present:** Associate Academic Member in Faculty Opinions ([H1 Connect](#))

**2016 – present:** 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*

### SCIENTIFIC MEMBERSHIPS

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**2016 – present: Council and Executive Committee Member** as elected Early-Career Researcher, *International Society for Matrix Biology*

**2016 – present: Member**, *German Society for Matrix Biology*

**2011 – present: Member**, *Hellenic Society of Biochemistry and Molecular Biology*

**2011 – present: Member**, *Association of Greek Chemists*



## TEACHING EXPERIENCE

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**2023 – present:** Undergraduate courses: Enzymology, Food Biochemistry Biotechnology (lectures & laboratory practice), Biochemistry II (laboratory practice), Department of Chemistry, University of Patras, Greece

**2023 – present:** Postgraduate course: Molecular Biology-Molecular Biotechnology of the Joint MSc Programme “Applied Biochemistry: Clinical Chemistry, Biotechnology, Evaluation of Pharmaceutical Products”, Department of Chemistry, University of Patras, Greece

**2022 – 2023:** Adjunct Lecturer of the undergraduate courses Enzymology and Biotechnology (lectures and laboratory practice), Department of Chemistry, University of Patras, Greece

**2021 – 2022:** Adjunct Lecturer of the undergraduate courses Enzymology and Biotechnology (lectures and laboratory practice), Department of Chemistry, University of Patras, Greece

**2020:** Adjunct Lecturer (P.D. 407/1980) of Biochemistry II (tutorials & laboratory practice), Department of Chemistry, University of Patras, Greece

**2012 – 2017:** Tutorials and laboratory assistance on the undergraduate courses: Biochemistry II, Clinical Chemistry, Biotechnology, Microbiology, Biology, Department of Chemistry, University of Patras, Greece

## SUPERVISION OF UNDERGRADUATE & POSTGRADUATE STUDENTS

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**2024:** Mentoring (supervisor) the Patras Medicine iGEM 2024 student research team in the Synthetic Biology competition, iGEM Competition

**2023 – present:** Supervisor of 3 MSc and 2 BSc Theses, Department of Chemistry, Biochemistry, Biochemical Analysis and Matrix Pathobiology Res. Group, Laboratory of Biochemistry, University of Patras, Greece

**2023 – present:** Co-supervisor of 4 MSc and 6 BSc Theses, Department of Chemistry, Biochemistry, Biochemical Analysis and Matrix Pathobiology Res. Group, Laboratory of Biochemistry, University of Patras, Greece

**2023:** Member of the seven-membered examination committee of 1 PhD Thesis, Department of Chemistry, University of Patras, Greece

**2019 – 2023:** Co-supervisor of 2 PhD, 6 MSc and 10 BSc Theses as a Post-doctoral researcher under the group's PI, Prof. Nikos Karamanos, Department of Chemistry, Biochemistry, Biochemical Analysis and Matrix Pathobiology Res. Group, Laboratory of Biochemistry, University of Patras, Greece

**2016 – 2017:** Co-supervisor of 2 MSc Theses during secondment period in the Department of Gynaecology and Obstetrics, University of Münster, Germany, PI: Prof. Martin Götte

## COLLABORATION NETWORKS

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**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); The 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); National and Kapodistrian University of Athens (Prof. N. Afratis); University of Patras (Prof. V. Zolota); University of Crete (Prof. G. Tzanakakis, Prof. D. Nikitovic)

## HONORS AND AWARDS

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**2023:** Professorship award by the Organizing Committee (Prof. I. Sagi) of the FEBS Advanced Course “Crosstalk between the ECM and Proteases from destruction to regeneration”, The Weizmann Institute of Science, Israel

**2022:** Young Investigator award by the International Society for Matrix Biology, 8<sup>th</sup> 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, 1<sup>st</sup> 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, 7<sup>th</sup> 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, 6<sup>th</sup> 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 6<sup>th</sup> FEBS-MPST
- 2016:** Travel grant from German Society for Matrix Biology for the 2<sup>nd</sup> 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

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- 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 GRANTS

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- MEDIKOS, University of Patras (2023-2025), *Coordinator*
- CARES – Human ECM-based platform for anti-cancer drug testing, (2023-present), *Partner*
- DIAGONAL – Development and scaled implementation of safe by design tools and guidelines for multicomponent and harn nanomaterials, Horizon 2020, FORTH/ICE-HT (2021-2023), *Researcher*
- ROOF-BREATH – Development of nano carbon embedded breathable polyolefin films for industrial/construction roofing membranes, NSRF 2014-2020, FORTH/ICE-HT (2020-2021), *Researcher*
- 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), *Researcher*
- GLYCANC – 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), *Researcher*
- NanoBarrier – Extended shelf-life biopolymers for sustainable and multifunctional food packaging solutions, FP7-NMP, FORTH/ICE-HT (2012-2013, 2014-2015), *Researcher*
- BioCancerTalk – Intracellular crosstalk between ER $\alpha$ / $\beta$ , EGF and IGF receptors in development and progression of breast cancer, NSRF 2007-2013, Department of Chemistry, University of Patras (2014-2016), *Researcher*
- BioNexGen – Developing the Next Generation of Biocatalysts for Industrial Chemical Synthesis, Seventh framework program (FP7)-KBBE (2012), *Researcher*

## USEFUL LINKS

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



## RESEARCH INTERESTS

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- 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

## SUBSTANTIAL EXPERTISE

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- *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