

BIOGRAPHICAL SKETCH

Name: **Maria Semitekolou**

Position/Title: SeniorPost-doctoral Researcher / Instructor

Personal Details

Date of Birth: 06/07/1981

Home Address:Ergotelous, 64, Therisssos, Heraklion, Crete

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Education

Institution and Location	Degree	Year	Field of Study
		Conferred	
University of Crete, Department of Biology	B.S.	2004	Biological Sciences
University of Athens, Medical School	Ph.D.	2011	Immunology

A. Personal Statement

My research has focused, so far, on dissecting the role of immunosuppressive cytokines and regulatory T cells in the context of inflammatory responses in the airways and related diseases [severe asthma, non-small cell lung cancer (NSCLC)]. Moreover, I have been engaged in studies exploring novel, immune-based, predictive biomarkers for NSCLC and severe asthma management.

B. Research and Professional Experience

Academic positions:

2025-present	Research Associate, “Laboratory of Molecular and Cellular Pulmonology”, Medical School, University of Crete.
2024-2025	Research Associate, “Dendritic cells and adaptive immunity” Unit, Immunology Department, CNRS UMR3738 “Developmental biology and stem cells”, Institut Pasteur.
2023-2024	Affiliated Postdoctoral Researcher, Laboratory of Rheumatology, Immunity and Inflammation, School of Medicine, University of Crete.
2021-2023	Affiliated Postdoctoral Researcher, Laboratory of Immune Regulation and Tolerance, School of Medicine, University of Crete.
2021-present	Affiliated Postdoctoral Researcher, Cellular Immunology Laboratory, Biomedical Research Foundation of the Academy of Athens (BRFAA).
2018-2021	Independent Postdoctoral Researcher, Cellular Immunology Laboratory, BRFAA.
2011-2017	Postdoctoral Researcher, Cellular Immunology Laboratory, BRFAA.

Fellowships:

2009-2010	European Respiratory Society (ERS) Research Fellow, Department of Asthma, Allergy and Respiratory Science at Kings College, London.
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C. Research Funding

2026-	AstraZeneca research grant, <u>Title:</u> Mapping the interplay between epithelial dysfunction and immune activation in chronic respiratory diseases. <u>Role in project:</u> Co-Principal Investigator , <u>Budget:</u> 45.000 euros.
2024-2026	Bristol Myers Squibb Foundation research grant, <u>Title:</u> Targeting DC-associated immune checkpoints to spark anti-tumor immunity against lung cancer. <u>Role in project:</u> Co-Principal Investigator , <u>Budget:</u> 80.000 euros.
2024-2026	AstraZeneca research grant, <u>Title:</u> Deciphering the role of type I interferon pathway in kidney inflammation and damage in lupus nephritis. <u>Role in project:</u> Co-Principal Investigator , <u>Budget:</u> 75.000 euros.

- 2024-2026 AstraZeneca research grant, Title: Dissecting the molecular mechanisms underlying TSLP-driven non-type 2 inflammatory responses in severe asthma. Role in project:**Principal Investigator**, Budget:50.000 euros.
- 2023-2024 AstraZeneca research donation, Title: Dissecting the molecular mechanisms underlying TSLP-driven non-type 2 inflammatory responses in severe asthma. Role in project:**Principal Investigator**, Budget:5.000 euros.
- 2020-2021 Supporting researchers with an emphasis on young researchers- Cycle B, Hellenic Ministry of Education, Research and Religious affairs (ESPA 2014-2020), Title: Delineating the role of autophagy as a regulator of aberrant inflammatory responses in patients with severe asthma. Role in project:**Junior Researcher**, Budget: 19.500 euros.
- 2018-2021 Hellenic Foundation for Research and Innovation (H.F.R.I.) to Support Post-Doctoral Researchers (1st Call), General Secretariat for Research and Technology (GSRT), Hellenic Ministry of Education, Title: ‘Activin-A as a Regulator of anti-Tumor Immunity in lung Cancer’. Role in project:**Principal Investigator**, Budget: 180.000 euros.

Participation in Research Funding:

- 2025-2027 Suisse Grant (CHERCHETROUVER), Title: A new approach for the immunotherapy of lung cancer by targeting dendritic cell activation. Role in project:**Research Associate**, PI: P. Guernonprez. Budget:500.000 euros.
- 2021-2023 Onassis Foundation Research Grant, Title: The effects of neuromuscular electrical stimulation during extracorporeal membrane oxygenation (ECMO) support, Role in project:**Post-doctoral Researcher**, PI: A. Karabinis, Co-PI: G. Xanthou, Nanas S. Budget: 18.665 euros.
- 2015-2017 ‘The Michael J. Fox Foundation for Parkinson’s Research Grant’, Title: Delineation of the in vivo anti-inflammatory role of activin-A in the protection against alpha synuclein-mediated pathology, Role in project:**Post-doctoral Researcher**, PI: G. Xanthou, Budget: 240.000 dollars.
- 2014-2015 ‘Aristia’ Scientific Excellence Grant, GSRT, Hellenic Ministry of Education. Title: Delineation of the role of activin-A-induced regulatory T cells in the

- protection against allergic asthma, Role in project:**Post-doctoral Researcher**, PI: G. Xanthou, Budget: 215.000 euros.
- 2012-2014 Fondation Santé Research Grant in the Biomedical Sciences, Title: Elucidation of the molecular mechanisms involved in the differentiation of activin-A-induced regulatory T cells, Role in project:**Post-doctoral Researcher**, PI: G. Xanthou, Budget: 40.000 euros.
- 2011-2013 Hellenic Respiratory Society Research grant. Title: Role of activin-A and its signaling pathways in severe asthma, Role in project:**Post-doctoral Researcher**, PI: G. Xanthou, Budget: 15.000 euros.
- 2011-2012 Novartis Research grant, Title: Immune response regulation in allergic diseases, Role in project:**Post-doctoral Researcher**, PI: G. Xanthou, Budget: 18.000 euros.

D. Awards

- 2022 European Association for Cancer Research (EACR)-Standard BioTools Spatial Biology Grant Award.
- 2018 Poster presentation award for the participation in the 16th Annual Meeting of the Association for Cancer Immunotherapy (CIMT), Mainz, Germany.
- 2017 Poster presentation award by the ERS for the participation in the Lung Science Conference (LSC), Estoril, Portugal.
- 2016 Oral presentation award by EFIS for the participation to the International Conference in Immunology (ICI), Melbourne, Australia.
- 2015 Oral presentation award by EFIS for the participation to the European Conference in Immunology (ECI), Vienna, Austria.
- 2013 Oral presentation award for the participation to the World Immune Regulation Meeting (WIRM), Davos, Switzerland.
- 2009 Oral presentation award by the European Federation of Immunological Society (EFIS) for the participation to the European Conference in Immunology (ECI), Berlin, Germany.
- 2008 Poster presentation award for the participation to the European Academy of Allergy and Clinical Immunology (EAACI) Conference, Barcelona, Spain.
- 2007 Travel award and best poster award for the participation to the World Immune Regulation Meeting (WIRM) Conference, Davos, Switzerland.

E. Editorial Activities

Ad Hoc Reviewer: BMC Pulmonary Medicine, International Journal of COPD, BMC Pulmonary Medicine, Journal of International Medical Research, Inflammation Journal, Human Immunology Journal, Respiratory Research Journal, Pharmaceuticals Journal, Human Cell Journal, Clinical and Experimental Medicine, BMC Cancers, International Journal of Immunopathology and Pharmacology, International Journal, Scientific Reports, Frontiers in Neurology, Frontiers in Immunology.

Editor/Editorial Board Member:

2022- Frontiers in Immunology
2022- Frontiers in Neurology
2021- Frontiers in Allergy
2019- International Journal of Molecular Sciences

F. Organization of Conferences & Workshops

2023 4thImmunologyWorkshopfor Clinicians, Event Location: Heraklion, CreteRole: Organizing Committee member and Speaker.
2021 3rdImmunologyWorkshopfor Clinicians, Event Location: Heraklion, CreteRole: Organizing Committee member and Speaker.
2015 International Workshop on “Regulatory T cells in allergic and autoimmune diseases” Funded by an ‘Aristeia’ Research Excellence Grant, General Secreteriat for Research & Technology, Event Location: BRFAA, Role: Organizing Committee member and Speaker.

G.Teaching activities

2025-2026 Invited lecturer, Undergraduate Program,“Immunology of Respiratory Diseases”, Pathophysiology I, School of Medicine, University of Crete.
2025-2026 Invited lecturer, Postgraduate Program“Pathophysiology of Asthma”, School of Medicine, University of Crete.
2023-2025 Invited lecturer, Postgraduate Program “Immunology: Basic Principles and Clinical Applications”, School of Medicine,N.K.U.A.

- 2021-2025 Invited lecturer, Postgraduate Program “Molecular Basis of Human Diseases”, School of Medicine, University of Crete.
- 2022-2023 Invited lecturer, Postgraduate Program “International MSc Molecular Biomedicine”, School of Medicine, National and Kapodistrian University of Athens (N.K.U.A.) and Biomedical Sciences Research Center “Alexander Fleming”.
- 2020 Invited lecturer, Postgraduate Program “Pediatric Pneumonology”, School of Medicine, N.K.U.A.
- 2016-2022 Invited lecturer, Biology-Physiology Course, Postgraduate Program “Information Technologies in Medicine and Biology”, Department of Informatics and Telecommunications, N.K.U.A.
- 2014-2016 Invited speaker, School of Clinical Immunology, organized by the Greek Pediatric Allergy Society.

Co-supervision of graduate students

PhD candidates:

- 2025- Ioanna Argyriou, School of Medicine, University of Crete.
- 2019-present Dimitra Nikoleri, Department of Biology, School of Medicine, University of Crete.
- 2019-2026 Gina Papadopoulou, Department of Biology, Aristotle University of Thessaloniki.
- 2018-2022 Efi Theofani, School of Medicine, N.K.U.A.
- 2010-2018 Sofia Tousa, School of Medicine, University of Crete.

MSc students:

- 2023-2024 Konstantina Pampoukas, “Molecular Basis of Human Diseases”, University of Crete.
- 2022-2023 Despoina Xanthopoulou, “Molecular Basis of Human Diseases”, University of Crete.
- 2021-2022 Panagiotis Sidiropoulos, “Molecular Basis of Human Diseases”, University of Crete.
- 2019-2020 Katerina Tsitsopoulou, “Molecular Biomedicine”, N.K.U.A., Greece.

- 2017-2019 Gina Papadopoulou, “Molecular Biomedicine”, N.K.U.A., Greece.
- 2014-2016 Andreas Pavlou, “Applications of Biology in Medicine”, N.K.U.A., Greece.
- 2014-2016 Marina Adamou-Tzani, “Information Technologies in Medicine and Biology”, N.K.U.A., Greece.
- 2011-2014 Nikolaos Poulos, “Applications of Biology in Medicine”, N.K.U.A., Greece.

Undergraduate students:

- 2019-2022 Isidora Lyrsti, Department of Biological Applications and Technology, University of Ioannina.
- 2019 Annie Mais, Department of Biology, N.K.U.A.
- 2018-2019 Joana Lama, Department of Biological Applications and Technology, University of Ioannina.
- 2018 Christos Markatos, Department of Biochemistry and Biotechnology, University of Thessaly.
- 2017 Sofia Ainatzi, Department of Biology, N.K.U.A.
- 2015 Andreas Pavlou, Department of Molecular Biology and Genetics, University of Thrace.
- 2015 Anna Vatselia, Department of Molecular Biology and Genetics, University of Thrace.
- 2014 Dimitris Konstantopoulos, Department of Informatics and Telecommunications, N.K.U.A.

H. Publications

1. Vaudiau N*, Bourdely P*, **Semitekolou M**, Ok A, Gorline L, Savoldelli R, Gerber-Ferder Y, Rosa do Carmo F.L., Semervil A, Vétillard M, Rood A, Bouallegue S, Pamboukas K, Bornères J, Darrasse-Jèze G, Gautier E.L., Dalod M, Tartour E, Bergsbaken T, Van Gisbergen K.P.J.M., Hodivala-Dilke K.M., Saveanu L, Helft J, Benvenuti F, Guemonprez P. XCR1⁺ and IRF4⁺ migratory dendritic cells cooperate for the cross-priming of tumor-infiltrating Tissue Resident Memory-like CD8⁺ T cells. accepted in Nat. Communications.

2. **Semitekolou M[#]**, Paschalidis N[#], Domenico Lo Tartaro*, Tsitsopoulou A, Stamou P, Mavroudis A, Markaki E, Varveri A, Morianos I, Lavigne M, Fotsitzoudis C, Magkouta S, Dede K, Kalomenidis I, Samitas K, Potaris K, Cossarizza A, Mavroudis D, Biasi SD, Verginis P^{#,*}.iScience, 2025 Jun 2;28(9):112804.equal contribution, [#] correspondence.
3. Neofotistou-Themeli E, Goutakoli P, Chanis T, **Semitekolou M**,Sevdali E, Sidiropoulos P.Fibroblasts in rheumatoid arthritis: novel roles in joint inflammation and beyond.Front Med (Lausanne). 2025 Jan 21;11:1376925. Invited Review.
4. The molecular underpinnings of female predominance in lupus. Kosmara D, Neofotistou-Themeli E, **Semitekolou M**, Bertsias G. Trends Mol Med. 2024 Dec 2:S1471-4914(24)00303-4. doi: 10.1016/j.molmed.2024.11.002. Online ahead of print. Invited Review.
5. Leandrou E, Chalatsa I, Anagnostou D, Machalia C, **Semitekolou M**, Filippa V, Makridakis M, Vlahou A, Anastasiadou E, Vekrellis K, Emmanouilidou E.α-Synuclein oligomers potentiate neuroinflammatory NF-κB activity and induce Cav3.2 calcium signaling in astrocytes.TranslNeurodegener. 2024, 13:11.
6. Endotyping Eosinophilic Inflammation in COPD with ELAVL1, Zfp36 and HNRNPD mRNA Genes.Voulgareli I, **Semitekolou M**,Morianos I, Blizou M, Sfika M, Hillas G, Bakakos P, Loukides S.J Clin Med. 2024, 13:854.
7. A Peripheral Blood Signature of Increased Th1 and Myeloid Cells Combined with Serum Inflammatory Mediators Is Associated with Response to Abatacept in Rheumatoid Arthritis Patients.Goutakoli P, Papadaki G, Repa A, Avgoustidis N, Kalogiannaki E, Flouri I, Bertsias A, Zoidakis J, Samiotaki M, Bertsias G, **Semitekolou M**, Verginis P, Sidiropoulos P.Cells. 2023, 12:2808.
8. Theofani E, Tsitsopoulou A, Morianos I, **Semitekolou M**. Severe Asthmatic Responses: The Impact of TSLP. Int J Mol Sci. 2023, 24:7581.*Invited Review*.
9. Theofani E, **Semitekolou M**, Mais A, Galani IE, Triantafyllia V, Lama J, Morianos I, Stavropoulos A, Jeong S-J, Razani B, Andreakos E, Samitas K, Rovina N, Xanthou G. TFEB signaling attenuates NLRP3-driven inflammatory responses in severe asthma. Allergy. 2022, 77:2131-2146.
10. Morianos I, Tsitsopoulou A, Potaris K, Valakos D, Fari O, Vatsellas G, Bostantzoglou C, Photiades A, Gaga M, Xanthou G, **Semitekolou M**. Activin-A

impedes the establishment of CD4⁺ T cell exhaustion and enhances anti-tumor immunity in the lung. *J Exp Clin Cancer Res*. 2021, 40:295.

11. Skavatsou E, **Semitekolou M**, Morianos I, Karampelas T, Lougiakis N, Xanthou G, Tamvakopoulos C. Immunotherapy Combined with Metronomic Dosing: An Effective Approach for the Treatment of NSCLC. *Cancers*. 2021, 13:1901.
12. Morianos I and **Semitekolou M**. Dendritic cells: critical regulators of allergic asthma. *IJMS*. 2020, 21:7930. *Invited Review*.
13. Morianos I, Trochoutsou AI, Papadopoulou G, **Semitekolou M**, Banos A, Konstantopoulos D, Manousopoulou A, Kapasa M, Wei P, Lomenick B, Belaidi E, Kalamatas T, Karageorgiou K, Doskas T, Sallusto F, Pan F, Garbis S, Quintana FJ, Xanthou G. Activin-A limits Th17 pathogenicity and autoimmune neuroinflammation via CD39 and CD73 ectonucleotidases and Hif1- α -dependent pathways. *Proc Natl Acad Sci USA*. 2020, 117:12269-12280.
14. Gampierakis IA, Koutmani Y, **Semitekolou M**, Morianos I, Polissidis A, Katsouda A, Charalampopoulos I, Xanthou G, Gravanis A, Karalis KP. Hippocampal neural stem cells and microglia response to experimental inflammatory bowel disease (IBD). *Mol Psychiatry*. 2021, 26:3662.
15. Theofani M, **Semitekolou M**, Morianos I, Samitas K, Xanthou G. Targeting NLRP3 inflammasome activation in severe asthma. *J Clin Med*. 2019, 8:1615. *Invited Review*.
16. Morianos I, Papadopoulou G, **Semitekolou M**, Xanthou G. Activin-A in the regulation of immunity in health and disease. *J Autoimmun*. 2019, 104:102314. *Invited Review*.
17. **Semitekolou M**, Xanthou G. Activated Leukocyte Cell Adhesion Molecule: A Novel Regulator of Allergic Inflammation in the Airways. *Am J Respir Crit Care Med*. 2018, 197:973-975. *Commentary*.
18. Karampetsou M, Ardah MT, **Semitekolou M**, Polissidis A, Samiotaki M, Kalomoiri M, Majbour N, Xanthou G, El-Agnaf OMA, Vekrellis K. Phosphorylated exogenous alpha-synuclein fibrils exacerbate pathology and induce neuronal dysfunction in mice. *Sci Rep*. 2017, 28:16533.
19. **Semitekolou M***, Morianos I*, Banos A, Konstantopoulos D, Adamou-Tzani M, Sparwasser T, Xanthou G. Dendritic cells conditioned by activin-A-induced regulatory T cells exhibit enhanced tolerogenic properties and protect against

- experimental asthma. *J Allergy Clin Immunol*. 2018, 141:671-684.e7. *equal contribution.
20. **Semitekolou M***, Tousa S*, Morianos I, Banos A, Trochoutsou A, Brodie T, Poulos N, Samitas K, Kapasa M, Konstantopoulos D, Paraskeuopoulos G, Gaga M, Hawrylowicz CM, Sallusto F, Xanthou G. Activin-A co-opts IRF4 and AhR-signaling to induce human regulatory T cells that restrain asthmatic responses. *Proc Natl Acad Sci USA*. 2017, 114:E2891-E2900. *equal contribution.
21. Samitas K, Malmhäll C, Rådinger M, Ramos-Ramirez P, Lu Y, Deák T, **Semitekolou M**, Gaga M, Sjöstrand M, Lötvall J, Bossios A. Precursor B Cells Increase in the Lung during Airway Allergic Inflammation: A Role for B Cell-Activating Factor. *PLoS One*. 2016, 11:e0161161.
22. **Semitekolou M***, Samitas K*, Poulos N*, Morianos I, Tousa S, Economidou E, Robinson DS, Kariyawasam HH, Zervas E, Corrigan CJ, Ying S, Xanthou G, Gaga M. Activin-A is over-expressed in severe asthma and is implicated in angiogenic processes. *Eur Respir J*. 2016, 47:769-82. *equal contribution.
23. Tsoumakidou M, Tousa S, **Semitekolou M**, Panagiotou P, Panagiotou A, Morianos I, Litsiou E, Trochoutsou AI, Konstantinou M, Potaris K, Footitt J, Mallia P, Zakynthinos S, Johnston SL, Xanthou G. Tolerogenic signaling by pulmonary CD1c+ dendritic cells induces regulatory T cells in patients with chronic obstructive pulmonary disease by IL-27/IL-10/inducible costimulator ligand. *J Allergy Clin Immunol*. 2014, 134:944-954.
24. Vittorakis S, Samitas K, Tousa S, Zervas E, Aggelakopoulou M, **Semitekolou M**, Panoutsakopoulou V, Xanthou G, Gaga M. Circulating conventional and plasmacytoid dendritic cell subsets display distinct kinetics during in vivo repeated allergen skin challenges in atopic subjects. *Biomed Res Int*. 2014;2014:231036.
25. Kariyawasam HH, **Semitekolou M**, Robinson DS, Xanthou G. Activin-A: a novel critical regulator of allergic asthma. *Clin Exp Allergy*. 2011, 41:1505-14. *Invited Review*.
26. Petrakou E, Fotopoulos S, Anagnostakou M, Anatolitou F, Samitas K, **Semitekolou M**, Xanthou G, Xanthou M. Activin-A exerts a crucial anti-inflammatory role in neonatal infections. *Pediatr Res*. 2013, 74:675-81.
27. Litsiou E, **Semitekolou M**, Galani IE, Morianos I, Tsoutsas A, Kara P, Rontogianni D, Bellenis I, Konstantinou M, Potaris K, Andreacos E, Sideras P, Zakynthinos S,

Tsoumakidou M. CXCL13 production in B cells via Toll-like receptor/lymphotoxin receptor signaling is involved in lymphoid neogenesis in chronic obstructive pulmonary disease. *Am J Respir Crit Care Med*. 2013, 187:1194-202.

28. Samitas K, Zervas E, Vittorakis S, **Semitekolou M**, Alissafi T, Bossios A, Gogos H, Economidou E, Lötvall J, Xanthou G, Panoutsakopoulou V, Gaga M. Osteopontin expression and relation to disease severity in human asthma. *Eur Respir J*. 2011, 37:331-41.
29. **Semitekolou M**, Alissafi T, Aggelakopoulou M, Kourepini E, Kariyawasam HH, Kay AB, Robinson DS, Lloyd CM, Panoutsakopoulou V, Xanthou G. Activin-A induces regulatory T cells which suppress T helper responses and protect from allergic airway disease. *J Exp Med*. 2009, 206:1769-1785.
30. Kyvelidou C, Chatzi K, **Semitekolou M**, Papathanassiou X, Vassiliadis S, Athanassakis I. Characterization of CD25-positive T cells during syngeneic pregnancy: production of stimulatory class II MHC molecules. *Scand J Immunol*. 2009, 70:584-95.
31. Xanthou G, Alissafi T, **Semitekolou M**, Simoes DC, Economidou E, Gaga M, Lambrecht BN, Lloyd CM, Panoutsakopoulou V. Osteopontin has a crucial role in allergic airway disease through regulation of dendritic cell subsets. *Nat Med*. 2007, 13:570-8.

Metrics:

1st author publications: 5

Last author publications: 3

Co-corresponding author publications: 1

Total publications: 29

Total citations: 1.405

h-index: 18

Commentaries/Editorials:

Our study published in *Nat Med* 2007 has been commented in high peer reviewed journals (*Cell*, *Nature Reviews Immunol*, *Nat Immunol*). The same applies for the study published in *J Exp Med* 2009 (*JEM*, *JACI*, *Science Business Exchange*, *Faculty of Medicine 1000*), the *Clin Exp Allergy* 2011 publication (*Global Medical Discovery Series*) and for the *Proc Natl Acad Sci USA* 2020 (*Proc Natl Acad Sci USA*).

I. Professional Memberships

2022-European Association for Cancer Research

2019 -American Association for Cancer Research

2014 -American Association of Immunologists

2014 - European Federation of Immunological Societies

2008 - European Respiratory Society

2006 - European Academy of Allergology and Clinical Immunology

J. Certificates

FELASA Accreditation (FELASA Certificate ID:051/15_14_2023)