

<p>PERSONAL INFORMATION</p> <p>SURNAME: MORIANOS</p> <p>NAME: IOANNIS</p> <p>DATE OF BIRTH: 01.01.1984</p> <p>PLACE OF RESIDENCE: ERGOTELOUS 64, 71304, HERAKLION, GREECE</p> <p>e-mail: ioannis_morianos@imbb.forth.gr</p> <p>TEL.: +306970819208</p>

EDUCATION

- 03.2006 - 03.2012** Department of Biology, National and Kapodistrian University of Athens, Greece, Title of Thesis: "Study of the function of spuma virus vectors expressing human beta-globin and sh-RNA against alpha-globin in mouse models of beta-Thalassaemia", **PhD**
- 09.2001 - 07.2005** Department of Biology, University of Crete, Greece, **BSc**

RESEARCH/WORKING EXPERIENCE

- 02.2021 - present** **Post-doctoral Researcher**
Dissecting novel mechanisms of iron regulation during macrophage-fungal interplay
Host Defense and Fungal Pathogenesis Lab (PI: Chamilos G.)
Microbiology and Microbial Pathogenesis Department, School of Medicine, University of Crete (UoC) and Institute of Molecular Biology and Biotechnology (IMBB), Heraklion, Greece
- 11.2017 - 02.2021** **Post-doctoral Researcher**
Activin-A as a Regulator of anti-Tumor Immunity in lung Cancer
Cellular Immunology Lab (PI: Semitekolou M.)
Center of Basic Research, Biomedical Research Foundation of the Academy of Athens (BRFAA), Athens, Greece
- 06.2017 - 10.2017** **Visiting Scientist**
Lung-On-a-Chip Technology
Emulate Inc., Boston, MA, USA
- 03.2015 - 05.2017** **Post-doctoral Researcher**
Elucidation of the molecular mechanisms involved in the differentiation of activin-A-induced regulatory T cells
Cellular Immunology Lab (PI: Xanthou G.)
Center of Basic Research, BRFAA, Athens, Greece
- 04.2012 - 04.2014** **Post-doctoral Researcher**
Elucidation of immune suppressive mechanisms in autoimmune diseases targeting the development of improved immunotherapies
Cellular Immunology Lab (PI: Xanthou G.)
Center of Basic Research, BRFAA, Athens, Greece

PUBLICATIONS

- 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. Defective autophagy underlies NLRP3 inflammasome and metabolic dysregulation in severe asthma. *Under review*.
- **Morianos I**, Tsitsopoulou A, Potaris K, Valakos D, Fari O, Vatsellas G, Bostantsoglou C, Photiades A, Gaga M, Xanthou G, Semitekolou M. Activin-A impedes the establishment of a Tox-dictated CD4⁺ T cell exhaustion profile and enhances anti-tumor immunity in the lung. *J Exp Clin Cancer Res*. Sep 21;40(1):295. **2021**. DOI: 10.1186/s13046-021-02092-5.
- 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* (Basel). Apr 15;13(8):1901. **2021**. DOI: 10.3390/cancers13081901.
- **Morianos I**, Semitekolou M. Dendritic Cells: Critical Regulators of Allergic Asthma. *Int J Mol Sci*. Oct 26;21(21):7930. **2020**. DOI: 10.3390/ijms21217930.
- **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 SD, 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 U S A*. Jun 2;117(22):12269-12280. **2020**. DOI: 10.1073/pnas.1918196117.
- 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*. Jan 22. **2020**. DOI: 10.1038/s41380-020-0651-6.
- **Morianos I**, Papadopoulou G, Semitekolou M, Xanthou G. Activin-A in the regulation of immunity in health and disease. *J Autoimmun*. Aug 12:102314. **2019**. DOI: 10.1016/j.jaut.2019.102314.
- Theofani E, Semitekolou M, **Morianos I**, Samitas K, Xanthou G. Targeting NLRP3 Inflammasome Activation in Severe Asthma. *J Clin Med*. Oct 4;8(10):1615. **2019**. DOI: 10.3390/jcm8101615.
- 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*. Feb;141(2):671-684.e7. **2018**. DOI: 10.1016/j.jaci.2017.03.047.
- Thiriou D, **Morianos I**, Xanthou G, Samitas K. Innate immunity as the orchestrator of allergic airway inflammation and resolution in asthma. *Int Immunopharmacol*. Jul;48:43-54. **2017**. DOI: 10.1016/j.intimp.2017.04.027.
- Tousa S*, Semitekolou M*, **Morianos I**, Banos A, Trochoutsou AI, Brodie TM, Poulos N, Samitas K, Kapasa M, Konstantopoulos D, Paraskevopoulos 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 U S A*. Apr 4;114(14):E2891-E2900. **2017**. DOI: 10.1073/pnas.1616942114.
- Samitas K*, Poulos N*, Semitekolou M*, **Morianos I**, Tousa S, Economidou E, Robinson DS, Kariyawasam HH, Zervas E, Corrigan CJ, Ying S, Xanthou G, Gaga M. Activin-A is overexpressed in severe asthma and is implicated in angiogenic processes. *Eur Respir J*. Mar;47(3):769-82. **2016**. DOI: 10.1183/13993003.00437-2015.
- Tsoumakidou M, Tousa S, Semitekolou M, Panagiotou P, Panagiotou A, **Morianos I**, Litsiou E, Trochoutsou AI, Konstantinou M, Potaris K, Footitt J, Mallia P, Zakyntinos 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*. Oct;134(4):944-954.e8. **2014**. DOI: 10.1016/j.jaci.2014.05.045.
- Litsiou E, Semitekolou M, Galani IE, **Morianos I**, Tsoutsas A, Kara P, Rontogianni D, Bellenis I, Konstantinou M, Potaris K, Andreakos E, Sideras P, Zakyntinos 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*. Jun 1;187(11):1194-202. **2013**. DOI: 10.1164/rccm.201208-1543OC.
- **Morianos I**, Siapati EK, Pongas G, Vassilopoulos G. Comparative analysis of FV vectors with human α - or β -globin gene regulatory elements for the correction of β -thalassemia. *Gene Ther*. Mar;19(3):303-11. **2012**. DOI: 10.1038/gt.2011.98.
- Papadimitriou L, **Morianos I**, Michailidou V, Dionyssopoulou E, Vassiliadis S, Athanassakis I. Characterization of intracellular HLA-DR, DM and DO profile in K562 and HL-60 leukemic cells. *Mol Immunol*. Sep;45(15):3965-73. **2008**. DOI: 10.1016/j.molimm.2008.06.017.

* equal contribution

CONFERENCES/WORKSHOPS (Selective List)

- **16th Annual Meeting of the Association for Cancer Immunotherapy (CIMT)**, Activin-A protects against lung cancer progression by potentiating anti-tumor immunity (Oral & Poster), **2018**, Mainz, **Germany**
- **15th Lung Science Conference (LSC)**, Activin-A protects against lung cancer progression by potentiating anti-tumor immunity (Oral & Poster), **2017**, Estoril, **Portugal**
- **16th International Congress of Immunology (ICI)**, Activin-A potentiates anti-tumor immunity and protects against lung cancer progression in vivo (Poster), **2016**, Melbourne, **Australia**
- **China Tregs/Th Subsets 2014 Conference**, Activin-A-induced regulatory T cells drive the generation of tolerogenic dendritic cells that suppress experimental asthma through induction of Foxp3⁺ T regulatory cells (Poster), **2014**, Shanghai, **China**
- **Keystone Symposia on Molecular and Cellular Biology - Emerging Cytokine Networks**, Activin-A-induced regulatory T cells drive the generation of tolerogenic dendritic cells that suppress experimental asthma through induction of Foxp3⁺ T regulatory cells (Poster), **2014**, Vancouver, **Canada**
- **World Immune Regulation Meeting (WIRM) VII**, Activin-A-induced regulatory T cells drive the generation of tolerogenic dendritic cells that suppress experimental asthma through induction of Foxp3⁺ T regulatory cells (Poster), **2013**, Davos, **Switzerland**
- **XVth Annual Congress of the European Society of Gene and Cell Therapy**, Development of Foamy Virus Vectors for the Genetic Correction of beta-Thalassaemia (Oral), **2007**, Rotterdam, **The Netherlands**

FELLOWSHIPS and AWARDS

2018	Abstract presentation award for the participation in the 16th Annual Meeting of the Association for Cancer Immunotherapy (CIMT), Mainz, Germany
2017	Abstract presentation travel award by the ERS for the participation in the 15th Lung Science Conference (LSC), Estoril, Portugal
2016	American Association of Immunologists (AAI) Travel Grant for the International Congress of Immunology (ICI), Melbourne, Australia
2005	Graduation award donated by the Foundation Emmanouil Drettakis for excellent performance in the undergraduate studies
2001-2005	Scholarships donated by the State Scholarships Foundation (IKY) for excellent performance during undergraduate studies

MEMBERSHIPS & REVIEWING ACTIVITIES

2021	Invited Reviewer, <i>Biomedicines</i>
2021	Invited Reviewer, <i>Toxics</i>
2020-2021	Invited Reviewer, <i>Molecules</i>
2019	Associate Member, American Association for Cancer Research
2019	Invited Reviewer, <i>Analytical Cellular Pathology</i>
2016	Postdoc Member, American Association of Immunologists
2015	Invited Reviewer, <i>Lung</i>

TEACHING ACTIVITIES

2015	Invited speaker - Lecture entitled "Genetic & epigenetic mechanisms in immune responses" in the 2 nd School of Clinical Immunology organized by the Greek Pediatric Allergy Society, Delphi, Greece
2014	Invited speaker - Lecture entitled "New therapeutic approaches" in the 1 st School of Clinical Immunology organized by the Greek Pediatric Allergy Society, Nafplio, Greece
2006-2011	Teaching assistant - Undergraduate biology laboratory courses, Biology & Pharmacology Department, National and Kapodistrian University of Athens, Greece

RESEARCH GRANTS

Project Title	Funding source	Period	Role
Dissecting novel mechanisms of iron regulation during macrophage-fungal interplay	European Research Council	2020-2025	Post-Doctoral Fellow (PI: Chamilos G.)
Activin-A as a Regulator of anti-Tumor Immunity in Lung Cancer	Hellenic Foundation for Research and Innovation (HFRI)	2018-2021	Post-Doctoral Fellow (PI: Semitekolou M.)
Delineation of the in vivo anti-inflammatory role of activin-A in the protection against alpha synuclein-mediated pathology	The M.J.F. Foundation for Parkinson's Research	2015-2017	Post-Doctoral Fellow (PI: Xanthou G.)
Elucidation of the molecular mechanisms involved in the differentiation of activin-A-induced regulatory T cells	Fondation Santé	2012-2014	Post-Doctoral Fellow (PI: Xanthou G.)
Elucidation of immune suppressive mechanisms in autoimmune diseases targeting the development of improved immunotherapies	General Secretariat for Research and Technology (GSRT)	2011-2013	Post-Doctoral Fellow (PI: Xanthou G.)
Development of FV vectors for applications of RNAi in thalassemia	GSRT	2007-2009	PhD Student (PI: Vassilopoulos G.)

SCIENTIFIC ACHIEVEMENTS

I completed my studies at the Department of Biology of the University of Crete in 2005 and soon afterwards I realized I wanted to pursue a career in biomedical sciences, especially the field that explores the biology and treatment of human disease. Therefore, in 2006 I joined the Cell and Gene Therapy laboratory at BRFAA, as a PhD candidate. There, I was trained on how to exploit innovative genetic and molecular techniques and developed therapeutic strategies involving foamy viral vectors that achieved significant human β -globin expression leading to the restoration of the thalassaemic phenotype (Morianos I. et al, Gene Ther., 2012).

After completing my thesis, I chose to follow a research direction which would allow me to study aspects of the naturally occurring immunological defense mechanisms. Hence, in 2012, I joined the Cellular Immunology lab at BRFAA, headed by Dr. Xanthou, as a post-doctoral fellow. The mechanisms which govern the interactions between innate and adaptive immune cells and their role in the resolution of allergic airway inflammation, was my initial focus. Interestingly, my studies revealed that activin-A-induced regulatory T cells promote the generation of tolerogenic dendritic cells that protect against asthma (Semitekolou M. & Morianos I. et al., JACI, 2018). At Dr Xanthou's lab, I was also involved in other projects pertinent to the regulation of CD4⁺ T-cell mediated immune responses in allergic and autoimmune diseases. Firstly, we demonstrated that activin-A induces human Tr-1-like cells that effectively restrained human asthma (Tousa S. et al., PNAS, 2017) and lately we elucidated how activin-A suppresses the molecular pathways controlling Th17 cell pathogenicity in multiple sclerosis (Morianos et al. PNAS, 2020). In 2017 I joined the pioneering company Emulate, Inc. (Boston, MA), as a visiting scientist, and got acquainted with the novel system of lung-on-chip. The purpose of this training was to strengthen my expertise and employ this technology in future studies of pulmonary disease. Upon my return to Greece, I worked with Dr. Semitekolou in a project which focused on the modulation of antitumor immunity in the lung and specifically the role of activin-A in guiding CD4⁺ T cell-mediated immune responses against lung cancer (Morianos I. et al. J Exp Clin Cancer Res, 2021).

Overall, the results from my studies have been published in high-impact journals and presented in several prestigious conferences (ERS, Keystone Symposia, ICI, LSC-ERS and CIMT). My long-term goal is to identify a new research path where I can excel and therefore, I recently joined the laboratory of Host Defense and Fungal Pathogenesis (HDFP) at the IMBB-FORTH, led by Dr. Chamilos, and directed my investigation towards the emerging field of immunology of infectious diseases. My rationale is that although this field remains inadequately explored, it holds great promise for transcending into the new era of immunotherapy. The expertise I have gained during the years in the field of pulmonary immunology along with the expertise of the HDFP lab in host-pathogen interactions, has helped me develop the necessary experimental designs and set the bases required to successfully accomplish my future studies and advance my scientific career.