

# Maria Armaka | Curriculum Vitae

## Business Address

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ResearcherID: Q 6139 2017

## Education

**PhD in Functional Genetics and Immunobiology** — [BSRC “Al. Fleming”, Vari and Faculty of Biology, Aristotle University of Thessaloniki, Greece] [2001-2008]  
Supervision: Prof G. Kollias, BSRC “Alexander Fleming” (in collaboration with Aristotle University of Thessaloniki, Greece: Prof. M. Arsenakis). [Grade: 10/10]

**BSc in Biology** — [Aristotle University of Thessaloniki, Greece] [Grade: 7.24/10] [1993-1998]

**High School Certificate** [1<sup>st</sup> High School, Larissa] [1993]  
(Grade: 19.5/20)

## Current Positions

### • Research/Academic positions

**Researcher C’ (equivalent to assistant professor level)** – BSRC “Alexander Fleming” [2016-today]  
Scientific topic: Cellular and molecular mechanisms operating in intestine-joint disease pathogenesis

### • External scientific collaboration

**Consultant** on bone biology and MicroCT analysis - BioMedCode SA (Vari) [2015-today]

### • External scientific collaboration

**Member of the workgroup “Clinical Tissue Sampling Facility”-** pMedGR; Medical School, UoA [2018-today]

## Previous Positions

**Post-doctoral studies - BSRC “Al. Fleming”** [in collaboration with Prof. G. Kollias] [2008-2015]

1. “Signal transduction in synovial fibroblasts and its contribution to modelled arthritis”
2. “Cell-specific role of TNF receptor p55 in physiology and disease”

**External scientific collaborator: HELP SA (Ioannina)** [2010-2013]

Quality control scientist, Toxicity and absorption assays in *in vivo* systems

**Research Associate - Hellenic Pasteur Institute, Molecular Genetics Laboratory, G. Kollias’ lab** [1999-2001]  
“Functional analysis of an arthritogenic synovial fibroblast”

## Teaching Activities

**Invited Lecturer -MSc in Molecular Biomedicine [Medical School, UoA]** [2016-today]

(1. Pathogenic stroma, 2. Basic Laboratory Techniques, 3. Introduction to mCT)

## Supervision Of Graduate Students and Postdoctoral Fellows

- Training of Pre- and Post-Doctoral scientists in Laboratory Techniques** [BSRC Al. Fleming, G. Kollias' lab] [2006-2011]  
(Manolis Roulis, Ioannis Pandis, Maria Theodoropoulou, Yiannis Vasilopoulos, Vassiliki Grets, Darren Plant)
- Supervision of PhD candidates** [BSRC Al. Fleming, under the official supervision of G. Kollias] [2014-today]  
(Fani Roumelioti: "The role of microRNAs in mouse models of Inflammatory Polyarthritis", UoA, Medical School)
- Supervision of Bachelor Thesis** [BSRC Al. Fleming, under the official supervision of G. Kollias] [2016-2017]  
(Alexandra Demetriou: "The role of actin cytoskeleton in arthitogenicity of synovial", School of Biology, UoA, in collaboration with Assist. Prof. D. Stravopodis)
- Supervision of MSc students** in Lab rotations - MSc in Molecular Biomedicine [Medical School, UoA] [2017]  
Lida Iliopoulou: "Functional effects on the synovial fibroblast specific targeting of cyld and Ripk1 in NFkB and MAPK pathways"  
Nefeli Boni-Kazantzidou: "Characterization of the Tg3647 murine model of inflammatory polyarthritis"  
Panagiotis Garatziotis: "The effects of RIPK1 kinase activity and RIPK3 silencing in the survival of IKK2 deficient synovial fibroblasts"

## Institutional Responsibilities

- SiteMaster of microCT facility** [BSRC Al. Fleming] [2016-today]
- SiteMaster of  $\gamma$ -irradiator** [BSRC Al. Fleming] [2006-today]
- Member of the Committee for the guidance of the Institutional Animal Care and Use** [BSRC Al. Fleming] [2016-today]
- Member of the Bio-Ethics committee** [Technological Educational Institute of Athens] [2016-2018]

## Journal and Congress positions

### Journals

Peer reviewer	IF	
• Cellular & Molecular Immunology	2.8	[2016]
• PLOS ONE	2.8	[2014]
• Cellular and Molecular Life Sciences	5.8	[2013]
• Arthritis Research and Therapy	4.1	[2012]

### Congresses

#### Abstract reviewer and poster tour leader

- 37<sup>th</sup> European Workshop for Rheumatology Research (EWRR2017) [2017]

### F1000Prime

#### Reviewer- Associate Faculty Member (Faculty of Immunopharmacology & Hematologic Pharmacology)

- 2 reviews (<https://f1000.com/prime/thefaculty/member/1808070171145002>) [2017]

## Awards

- **Travel Grant/Abstract Award (by Arthritis National Research Foundation)** for attending TNF international conference, Quebec, Canada [2013]

- **Travel Grant (Masterswitch)** for attending ACR Annual meeting 2011 [2011]
- **Travel Grant (Masterswitch)** for visiting the laboratory for Experimental Rheumatology, Zurich University hospital (Pr. Steffen Guy) in order to explore the techniques for manipulating human samples and synovial cell culturing [2010]
- **Travel Bursary** for attending “European Workshop in Rheumatology Research” Firenze, Italy [2007]
- **Best presentation award by Greek Rheumatology Society** (XVII Greek Congress for Rheumatology) [2002]
- **Fellowship by «Soroptimist Federation of Europe»** for the young women in science [2001-2002]
- **1<sup>st</sup> position in Panhellenic National Examinations** [School of Sciences, Faculty Of Biology, Aristotle University of Thessaloniki] [1993]

## Current External Collaborations

- Prof. Manolis Pasparakis (University of Cologne, Germany)
  - Evaluation of death receptor and innate signalling in the arthritic phenotype of myeloid-specific A20 ko mice
- Prof. Geert Van Loo (VIB Center for Inflammation Research, Ghent, Belgium)
  - Characterization of new murine models of polyarthritis carrying A20 mutations
- Dr Caroline Ospelt (University of Zurich, Switzerland)
  - Alignment of mouse/human gene and miR expression/in vivo validation in mouse models, Translational research on RASFs
- Prof. George Sthathopoulos (Medical School, University of Patras)
  - Micro-CT imaging of lung tumours in murine models of carcinogenesis

## Participation in grants & related workshops

- European Commission – MRTN-CT-2004-005693, 2004-2008, Marie Curie Research Training Network (to George Kollias). Title: Functional Genomic Approaches Targeting Arthritis
- European Commission NoE – LSHG-CT-2005-005203, 2005-2009, Network of Excellence (to George Kollias). Title: Integrated functional genomics in mutant mouse models as tools to investigate the complexity of human immunological disease (MUGEN)
- European Commission – 028190, 2006-2009, Integrating and strengthening the European Research Area (to George Kollias). Title: TNF neutralization therapy for inflammatory diseases strategies to prevent TB reactivation (TB REACT)
- European Commission – MASTERSWITCH HEALTH-F2-2008-223404, 2008-2013, Large scale integrating project (to George Kollias). Title: Mechanisms to Attack Steering Effectors of Rheumatoid Syndromes with Innovative Therapy Choices
- Innovative Medicines Initiative Joint Undertaking (IMI JU)/ No.115142-2, 2011-2015, IMI Call topic: Inflammation – Translational Research and Adaptive Immunity (to George Kollias), Title: BeTheCure
- General Secretariat for Research and Technology, 2012-2015, ERC-06 “Innate activation of the Synovial Fibroblasts and early causalities driving chronic arthritis (INNATE FIBROBLAST) (to George Kollias)
- European Research Council (ERC-2013-AdG-340217), Advanced Grant (to George Kollias) Title: Mesenchymal Cells of the Lamina Propria in Intestinal Epithelial and Immunological Homeostasis (MCs-inTEST)
- European Regional Development Fund-Infrastructure grant -NSRF2014-2020 (to George Kollias), Title: Infraf frontier Phenotypos (Role: Head of Inflammatory Joint Disease group)
- European Regional Development Fund-Infrastructure grant- NSRF2014-2020 (to George Kollias), Title: pMED-GR

## Diversity & Outreach

[Soroptimist International of Europe](#), Kifisia-Ekali Club

[2008-present]

## Five-year track-record (2013-2018)

Total number of Publications: 22 (21 listed in Pubmed)

Pubmed: <https://www.ncbi.nlm.nih.gov/pubmed/?term=Armaka>

Google Scholar: <https://scholar.google.gr/citations?user=VIZaxIoAAAAJ&hl=en&oi=ao>

Web of Science:

h-index	i10-index	Average Citations per Item	total citations (w/o self-citations)
13	18	30.47	952

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### **Publications 2013-today**

1. Armaka M\*, Ospelt C, Pasparakis M, Kollias G\*

The p55TNFR-IKK2-Ripk3 axis orchestrates arthritis by regulating death and inflammatory pathways in synovial fibroblasts. *Nat Commun* (2018) Feb 12;9(1):618. (IF: 12.124, cited 4 times)

\*Corresponding authors

- ❖ Research highlight in *Nature Reviews Rheumatology* [(2018) 14:250]  
“TNF chronicity modifies synovial cell death” by McHugh, Jessica

2. Kaklamanos A, Rozman J, Roulis M, Karagianni N, Armaka M, Wu M, Brachthäuser L, Calzada-Wack J, Horsch M, Beckers J, Rathkolb B, Adler T, Neff F, Wolf E, Gailus-Durner V, Fuchs H, de Angelis MH, Kollias G. Extensive phenotypic characterization of a new transgenic mouse reveals pleiotropic perturbations in physiology due to mesenchymal hGH minigene expression. *Sci Rep*. 2017 May25;7(1):2397. (IF: 4.259, cited 1 time)

3. Frank-Bertoncelj M, Trenkmann M, Klein K, Karouzakis E, Rehrauer H, Bratus A, Kolling C, Armaka M, Filer A, Michel BA, Gay RE, Buckley CD, Kollias G, Gay S, Ospelt C.

Epigenetically-driven anatomical diversity of synovial fibroblasts guides joint specific fibroblast functions. *Nat Commun*. 2017 Mar 23;8:14852. (IF: 12.124, cited 17 times)

4. Wroblewski R\*, Armaka M\*, Kondylis V, Pasparakis M, Walczak H, Mittrücker HW, Schramm C, Lohse AW; Kollias G, Ehlken H  
\*equal contributors

TNFR1 signaling in myeloid derived cells plays opposing roles in T-cell mediated hepatitis and bacterial infection. *Hepatology* 2016 Aug;64(2):508-21 (IF:11.022, cited 5 times)

5. Danks L, Komatsu N, Guerrini MM, Sawa S, Armaka M, Kollias G, Nakashima T and Takayanagi H  
RANKL expressed on synovial fibroblasts is primarily responsible for bone erosions during joint inflammation. *Ann Rheum Dis* 2016 Jun;75(6):1187-95 (IF:12.384, cited 29 times)

6. Roulis M, Bongers G, Armaka M, Salviano T, He Z, Singh A, Seidler U, Becker C, Demengeot J, Furtado GC, Lira SA, and Kollias G

Host and microbiota interactions are critical for development of murine Crohn's-like ileitis. *Mucosal Immunol*. 2016 May;9(3):787-97(IF:6.103, cited 7 times)

7. Pallai A Kiss B, Vereb G, Armaka M, Kollias G, Szekanecz Z, Szondy Z  
Transmembrane TNF-alpha reverse signaling inhibits lipopolysaccharide-induced pro-inflammatory cytokine formation in macrophages by inducing TGF-beta: therapeutic implications. *J Immunol*. 2016 Feb 1;196(3):1146-57. (IF:4.922, cited 13 times)

8. Jacques P, Lambrecht S, Verheugen E, Pauwels E, Kollias G, Armaka M, Verhoye M, Van der Linden A, Achten R, Lories RJ, Elewaut D.

Proof of concept: enthesitis and new bone formation in spondyloarthritis are driven by mechanical strain and stromal cells. *Ann Rheum Dis*. 2014 Feb;73(2):437-45. (IF: 12.384, cited 94 times)

9. Van Hauwermeiren F\*, Armaka M\*, Karagianni N\*, Kranidioti K, Vandembroucke RE, Loges S, Van Roy M, Staelens J, Puimège L, Palagani A, Berghe WV, Victoratos P, Carmeliet P, Libert C, Kollias G.  
\*equal contributors

Cell-specific haploinsufficiency of TNF receptor p55 enables safe and effective TNF-based antitumor therapy. J Clin Invest. 2013 Jun;123(6):2590-603 (IF: 12.575, cited 27 times)

#### **Articles in greek:**

NEWSLETTER Hellenic Society of Biomedical & Laboratory Animal Science (<http://hsblas.gr/newsletter/>)

January 2017 (Ο μυσ TNF<sup>ΔARE</sup> ως πρότυπο μελέτης ρευματοειδούς αρθρίτιδας, αγκυλωτικής σπονδυλοαρθρίτιδας και νόσου του Crohn)

April 2018 (Μύες με υπερέκφραση του ανθρώπινου TNF (Tg197 ή hTNFtg) ως πρότυπο μελέτης ρευματοειδούς αρθρίτιδας και συννοσηροτήτων)

#### **Invited Lectures:**

1. 2018 November Invited lectures in BRFAA

The inflammatory /death signalling crosstalk in synovial fibroblasts orchestrates the development of arthritis

2. 2016 September 4<sup>th</sup> Animal Workshop BTCure, Athens, Greece

The ikk2/ripk3 axis regulates disease development in TNF-modelled arthritis

3. 2014 May 3<sup>rd</sup> Animal Workshop BTCure, Vienna, Austria

The TNFΔARE model

4. 2013 June 2<sup>nd</sup> Animal models Workshop, BTcure, Athens, Greece

The TNFΔARE model of Spondyloarthropathies

5. 2011 September Course On Laboratory Animal Science V, BSRC Al. Fleming, Vari, Greece

The experimental models of murine inflammatory polyarthritis as a tool to comprehend the rheumatoid arthritis

6. 2009 October MUGEN Workshop on Mouse Immune Phenotyping, Athens, Greece

Rheumatoid Arthritis Models

## **Current Funding**

- Foundation Stavros Niarchos (startup fund to Maria Armaka)

[2017-2019]