

Curriculum Vitae

NAME Yiorgos Apidianakis, PhD	POSITION TITLE Assistant Professor, Department of Biological Sciences, University of Cyprus
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EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR	FIELD OF STUDY
University of Crete, Greece	B.S.	1994	Biology
University of Crete, Greece	M.S.	1996	Molecular Genetics
University of Crete, Greece	Ph.D.	2001	Molecular Genetics
Harvard Medical School, Boston, USA	Postdoctoral	2002-2008	Host-Microbe Interaction

A. Personal Statement

Yiorgos Apidianakis, PhD has been trained for 10 years at Harvard Medical School in Biomedical Research. He worked for 6 years as a postdoctoral fellow and 4 years as an Instructor in Medicine in the field of human infectious diseases, practicing his research at the Massachusetts General Hospital and the Shriners Hospitals for Children in Boston, USA. He has published tens of articles in international peer-reviewed journals, such as Proceedings of the National Academy of Sciences USA, Nature Communications, Nature Protocols, Cell Host & Microbe and EMBO Reports. His papers have attracted >1,000 total citations. 5 of his main author papers are influential in the field with more than 100 citations each. As an Assistant Professor at the University of Cyprus (2012-2017) he is awarded funds by various European agencies to support his research. Since 2012 Prof. Apidianakis has supervised 2 postdoctoral researchers, 8 postgraduate students (4 M.Sc. and 5 PhD) and 19 undergraduate (B.Sc.) students.

He is an expert in modeling human infectious diseases and carcinogenesis in *Drosophila* and mice exploiting their potential for preclinical trials (Apidianakis & Rahme *Nat. Protoc.* 2009; Apidianakis *et al PNAS* 2009; Bangi *et al EMBO Rep* 2012). His team extends findings obtained through model organism research by analysing human samples from clinical studies. For example, the *Drosophila* detoxification gene Glutathione S-transferase S1 (GstS1) and its mouse and human analog (GSTA4) were found to contribute to host defence against infection with the human opportunistic pathogen *Pseudomonas aeruginosa* (Apidianakis *et al PNAS* 2005; Apidianakis *et al PLoS One* 2007; Apidianakis *et al FASEB J.* 2012). At the University of Cyprus he leads "The Cyprus Intestinal Health Study" (National Bioethics Committee Licence Number: EEBK/ΕΠ/2015/38) a translational to clinical study to explore primarily the effect of regenerative inflammation in colon cancer prevention (Panayidou and Apidianakis *Pathogens* 2013; Panagi *et al Oncotarget* 2015; Apidianakis and Iliopoulos *EMBO Rep* 2015). The following main author publications of his are influential in his field with more than 100 citations each:

1. **Apidianakis Y**, Rahme L. *Drosophila* as a model for human intestinal infection and pathology. *Dis Model Mech.* 2011 Jan;4(1):21-30.
2. **Apidianakis Y**, Pitsouli C, Perrimon N and Rahme LG. Synergy between Bacterial Infection and Genetic Predisposition in Intestinal Dysplasia. *Proc Natl Acad Sci U S A.* 2009 Dec; 106(49):20883-8.

3. **Apidianakis Y**, and Rahme LG. *Drosophila melanogaster* as a model host for studying *Pseudomonas aeruginosa* infection. Nature Protocols 2009 Aug 13; 4:1285-1294.
4. **Apidianakis Y**, Mindrinis MN, Xiao W, Lau GW, Baldini RL, Davis RW, Rahme LG. Profiling early infection responses: *Pseudomonas aeruginosa* eludes host defences by suppressing antimicrobial peptide gene expression. Proc Natl Acad Sci U S A. 2005 Feb;102(7):2573-8.
5. **Apidianakis Y**, Rahme LG, Heitman J, Ausubel FM, Calderwood SB, Mylonakis E. Challenge of *Drosophila melanogaster* with *Cryptococcus neoformans* and the Role of the Fly Innate Immune Response. Eukaryotic Cell 2004 Apr; 3(2):413-9.

B. Positions and Honors

Positions and Employment

2012-	Assistant Professor, University of Cyprus, Nicosia, Cyprus
2008-2012	Instructor in Medicine, Harvard Medical School, Boston, USA
2008-2012	Assistant in Biology, Massachusetts General Hospital, Boston, USA
2008-2012	Research Staff, Shriners Hospital for Children, Boston, USA

Other Experience and Professional Memberships

2016-	Editor, Cyprus Medical Review
2012-	Editor, Frontiers in Cellular and Infection Microbiology
2012-	<i>Ad-hoc</i> reviewer in Nature Publishing Journals (Nature, Nature Cell Biology, Nature Communications)
2012	Visiting Professor, Institute of Molecular Biology and Biotechnology, Greece
2009-2016	Associate Faculty Member, Faculty of 1000
1999-2001	Medical Assistant, Military Service Duty, Greek Air Forces

Honors

2017	Research Award, Fontation Sante
2013	Research Award, Fontation Sante
2012	Marie Curie, Career Integration Grant
2011	Concept Award, Department of Defense, USA
2007	Honorary mention for best abstract, Proceedings ISMRM, May 2007
2005	Shriners Hospital for Children Research Fellowship Award
1998	European Commission bursary for the "7 th European Symposium on <i>Drosophila</i> Neurobiology", University of Warwick.
1997	Membership in the "Molecular and Cellular Approaches to Genetic Analysis of Development", ERASMUS Interuniversity Cooperation Program, Paris.
1995	COMMET (UETP ACTION LINK) grant for training at the European Molecular Biology Laboratory (EMBL), Heidelberg.
1994	Scholarship from the Institute of Molecular Biology and Biothechnology for M.Sc. and Ph.D. studies in Molecular Genetics.

C. Published articles & Book Chapters (shaded) in chronological order

- Tamamouna V, Panagi M, Theophanous A, Demosthenous M, Teloni S, Michael M, Papadopoulou M, Pitsouli C & **Apidianakis Y**. Tissue-intrinsic Eiger/TNF controls stem cell divisions and propensity for tumorigenesis. *Submitted*
- Kamilari E, **Apidianakis Y**, Panagi M (2017) Flies to Humans - Humans to Flies: A Virtuous Circle of Colorectal Cancer Prevention. *Arch Clin Gastroenterol* 3(3): 047-060. DOI: <http://doi.org/10.17352/2455-2283.000038>
- Rivas AL, Leitner G, Jankowski MD, Hoogesteijn AL, Iandiorio MJ, Chatzipanagiotou S, Ioannidis A, Blum SE, Piccinini R, Antoniadis A, Fazio JC, **Apidianakis Y**, Fair JM and Van Regenmortel MHV (2017) Nature and Consequences of Biological Reductionism for the Immunological Study of Infectious Diseases. *Front. Immunol.* 8:612.
- Apidianakis Y**, Tamamouna V, Teloni S and Pitsouli P. Intestinal Stem Cells: a decade of intensive research in *Drosophila* and the road ahead. Elsevier 2017 *Advances in Insect Physiology* Volume 52: Insect Immunity – Chapter Five. pp139–178
- Panayidou S, **Apidianakis Y**. *Pseudomonas aeruginosa*. CRC Press 2017/3/23. *Laboratory Models for Foodborne Infections*. pp373-390
- Constantinou C, **Apidianakis Y**, Psychogios N, Righi V, Mindrinos MN, Khan N, Swartz HM, Szeto HH, Tompkins RG, Rahme LG, Tzika AA. In vivo high-resolution magic angle spinning magnetic and electron paramagnetic resonance spectroscopic analysis of mitochondria-targeted peptide in *Drosophila melanogaster* with trauma-induced thoracic injury. *Int J Mol Med*. 2016 Feb;37(2):299-308.
- Panagi M, Georgila K, Eliopoulos AG, **Apidianakis Y**. Constructing personalized longitudinal holo'omes of colon cancer-prone humans and their modeling in flies and mice. *Oncotarget*. 2015 Dec 4. doi: 10.18632/oncotarget.6463.
- Apidianakis Y**, Eliopoulos AG. A holo'ome approach in colon cancer: we change as we age. *EMBO Rep*. 2015 Oct;16(10):1239-40. doi: 10.15252/embr.201541224.
- Christofi T, **Apidianakis Y**. Parallels Between Mammals and Flies in Inflammatory Bowel Disease. 2015. Springer International Publishing. *Life Extension – Lessons from Drosophila*, pp151-189
- Apidianakis Y**, Ferrandon D. Modeling hologenome imbalances in inflammation and cancer. *Front Cell Infect Microbiol*. 2014 Sep 24;4:134. doi: 10.3389/fcimb.2014.00134. eCollection 2014.
- Kapsetaki, S-E., Tzelepis I, Avgousti K, Ioannis Livadaras, Garantonakis N, Varikou K & **Apidianakis Y**. The bacterial metabolite 2-aminoacetophenone promotes association of pathogenic bacteria with flies. *Nat. Commun.* (2014) 5:4401 doi: 10.1038/ncomms5401.
- Righi V, **Apidianakis Y**, Psychogios N, Rahme LG, Tompkins RG, Tzika AA. In vivo high-resolution magic angle spinning proton NMR spectroscopy of *Drosophila melanogaster* flies as a model system to investigate mitochondrial dysfunction in *Drosophila* GST2 mutants. *Int J Mol Med*. 2014 Jul;34(1):327-33.
- Panayidou S, Ioannidou E & **Apidianakis Y**. Human pathogenic bacteria, fungi and viruses in *Drosophila*: disease modeling, lessons and shortcomings. *Virulence* 2014 Jan 7;5(2).
- Markou P & **Apidianakis Y**. Pathogenesis of *Pseudomonas aeruginosa* infection in patients with cancer. *Front Cell Infect Microbiol*. 2014 Jan 7;3:115.
- Tzelepis I, Kapsetaki SE, Panayidou S & **Apidianakis Y**. *Drosophila melanogaster*: a first step and a stepping-stone to anti-infectives. *Curr Opin Pharmacol*. 2013 Oct;13(5):763-8.
- Christofi T & **Apidianakis Y**. *Drosophila* and the Hallmarks of Cancer. *Adv Biochem Eng Biotechnol*. 2013 Apr 25; 135:pp79-110. PMID: 23615878

- Christofi T & **Apidianakis Y.** (2013) *Drosophila* immune priming against *Pseudomonas aeruginosa* is short-lasting and depends on cellular and humoral immunity. *F1000Research* 2013, 2:76
- Panayidou S & **Apidianakis Y.** Regenerative Inflammation: Lessons from *Drosophila* Intestinal Epithelium in Health and Disease. *Pathogens*. 2013; 2(2):209-231.
- Christofi T and **Apidianakis Y.** Ras-oncogenic *Drosophila* hindgut but not midgut cells use an inflammation-like program to disseminate to distant sites. *Gut Microbes* 2013 Jan-Feb;4(1):54-9. PMC3555887
- Bangi E, Pitsouli C, Rahme L, Cagan R, **Apidianakis Y.** Immune response to bacteria induces dissemination of Ras-activated *Drosophila* hindgut cells. *EMBO Rep.* 2012 Jun 1;13(6):569-76. PMC3367237
- Apidianakis Y** and Kontoyiannis D. *Immerging strategies of antimicrobial drug discovery.* CABI, Wallingford Oxfordshire, UK. 2012, 1st Edition, Chapter 19 pp300-309.
- Apidianakis Y,** Que YA, Xu W, Tegos GP, Zimniak P, Hamblin MR, Tompkins RG, Xiao W, and Rahme LG. Down-regulation of glutathione S-transferase alpha 4 (hGSTA4) in the muscle of thermally injured patients is indicative of susceptibility to bacterial infection. *FASEB J.* 2012 Feb;26(2):730-7. PMC3290433
- Kesarwani M, Hazan R, He J, Que YA, **Apidianakis Y,** Lesic B, Xiao G, Dekimpe V, Milot S, Deziel E, Lépine F, Rahme L. A Small Volatile Bacterial Molecule Reduces Acute Virulence and Promotes Chronic Infection Phenotypes. *PLoS Pathog.* 2011 Aug 4;7(8): e1002192.
- Apidianakis Y,** Rahme L. *Drosophila* as a model for human intestinal infection and pathology. *Dis Model Mech.* 2011 Jan;4(1):21-30.
- Righi V, **Apidianakis Y.,** Mintzopoulos D, Astrakas L, Rahme L.G., Tzika A.A. (2010) In vivo high-resolution magic angle spinning magnetic resonance spectroscopy of *Drosophila melanogaster* at 14.1 T shows trauma in aging and in innate immune-deficiency is linked to reduced insulin signaling. *Int J Mol Med.* 2010 Aug;26(2):175-84.
- Righi V., **Apidianakis Y.,** Rahme L.G., Tzika A.A. Magnetic Resonance Spectroscopy of live *Drosophila melanogaster* using Magic Angle Spinning. 2010. *J Vis Exp.* 2010 Apr 15;(38). pii: 1710. doi: 10.3791/1710.
- Hazan R, He J, Xiao G, Dekimpe V, **Apidianakis Y,** Lesic B, Astrakas C, Déziel E, Lépine F, Rahme LG. Homeostatic interplay between bacterial cell-cell signaling and iron in virulence. *PLoS Pathog.* 2010 Mar 12;6(3):e1000810.
- Pitsouli C, **Apidianakis Y,** Perrimon N. Homeostasis in infected epithelia: stem cells take the lead. *Cell Host Microbe.* 2009 Oct 22; 6(4):301-7.
- Apidianakis Y,** Pitsouli C, Perrimon N and Rahme LG. Synergy between Bacterial Infection and Genetic Predisposition in Intestinal Dysplasia. *Proc Natl Acad Sci USA.* 2009 Dec; 106(49):20883-8.
- An D, **Apidianakis Y,** Boechat AL, Baldini RL, Goumnerov BC, Rahme LG. The pathogenic properties of a novel and conserved gene product, KerV, in proteobacteria. *PLoS One.* 2009 Sep 25;4(9):e7167.
- Apidianakis Y,** and Rahme LG. *Drosophila melanogaster* as a model host for studying *Pseudomonas aeruginosa* infection. *Nature Protocols* 2009 Aug 13; 4:1285-1294. PMID: 19680242
- Apidianakis Y,** Mindrinou MN, Xiao W, Tegos GP, Papisov MI, Hamblin MR, Tompkins RG, Davis RW, and Rahme LG. Involvement of Skeletal Muscle Gene Regulatory Network in Susceptibility to Wound Infection following Trauma. *PLoS ONE,* 2007 Dec 26;2(12):e1356.

- Bejarano F, Pérez L, **Apidianakis Y**, Delidakis C and Milan M. Hedgehog restricts its domain in the anterior wing pouch. *EMBO Rep.* 2007 Aug; 8(8):778-83.
- Apidianakis Y**, Mindrinos MN, Xiao W, Lau GW, Baldini RL, Davis RW, Rahme LG. Profiling early infection responses: *Pseudomonas aeruginosa* eludes host defenses by suppressing antimicrobial peptide gene expression. *Proc Natl Acad Sci USA.* 2005 Feb;102(7):2573-8.
- Apidianakis Y**, Rahme LG, Heitman J, Ausubel FM, Calderwood SB, Mylonakis E. Challenge of *Drosophila melanogaster* with *Cryptococcus neoformans* and the Role of the Fly Innate Immune Response. *Eukaryotic Cell* 2004 Apr; 3(2):413-9.
- Nagel AC, **Apidianakis Y**, Wech I, Maier D, Delidakis C, Preiss A. Neural hyperplasia induced by RNA interference with *m4/malpa* gene activity. *Mech. Dev.* 2000 Nov; 98(1-2): 19-28.
- Apidianakis Y**, Grbavec D, Stifani S, Delidakis C. Groucho mediates a Ci-independent mechanism of hedgehog repression in the anterior wing pouch. *Development* 2001 Nov; 128(21): 4361-70.
- Apidianakis Y**, Nagel AC, Chalkiadaki A, Preiss A, Delidakis C. Overexpression of the *m4* and *malpa* genes of the E(spl)-complex antagonizes Notch mediated lateral inhibition. *Mech. Dev.* 1999 Aug; 86(1-2): 39-50.
- Ligoxygakis P, Bray SJ, **Apidianakis Y**, Delidakis C. Ectopic expression of individual E(spl) genes has differential effects on different cell fate decisions and underscores the biphasic requirement for Notch activity in wing margin establishment in *Drosophila*. *Development* 1999 May; 126(10): 2205-14.

D. Research Support

Ongoing Research Support

Fontation Sante (40,000 Euros)

Apidianakis (PI) 01/03/17 - 28/2/19

“Dietary and pharmacological intervention for preventing intestinal tumorigenesis”. The goal of this project is to identify dietary aminoacids and chemotherapy drugs in reducing the rate of age-induced tumorigenesis.

Association of Francophone Universities (\$20,000)

Apidianakis (network PI) 12/2015-12/2017.

Projets de Cooperation Scientifique Inter-Universitaire (PCSI). Scientific collaboration on *Drosophila* Intestinal Stem Cells between the University of Lebanon, the University of Cyprus and the University of Toulouse.

Completed Research Support

Marie Curie (100,000 Euros)

Apidianakis (PI) 01/04/12-31/04/16

“Identifying genetic and microbial factors that promote intestinal inflammation and cancer using *Drosophila*”. This grant aims to pinpoint the role of human intestinal microbes in intestinal inflammation and cancer.

Fontation Sante (40,000 Euros)

Apidianakis (PI) 01/01/13-31/12/14

“Bacterial interactions that establish a low inflammatory state in the *Drosophila* and mouse intestine”. The goal of this project was to identify bacterial species, including *Pseudomonas aeruginosa* and *Escherichia coli*, able to inhibit the pathogenicity of other virulent bacterial species.

Department of Defense USA #PR100240 (\$75,000)

Apidianakis (PI) 01/08/11-31/07/12

“Identification of Human Intestinal Bacteria that Promote or Inhibit Inflammation”. The goal of this project was to design a platform for the identification of pro- and anti-inflammatory intestinal bacteria, including *Pseudomonas aeruginosa* and *Escherichia coli*.

Department of Defense USA #W81XWH10DMRDP-BRA

Apidianakis (Co-Investigator) 01/12/11-30/3/12

Lipid peroxidation as a biomarker of increased susceptibility to burn wound infection and delayed wound closure”. The goal of this project was to assess lipid peroxidation as a molecular predictor of the severity of burn wound infection.

5 R01 AI063433-04

Apidianakis (Investigator) 04/01/06-03/31/11

“Function of MvfR in *Pseudomonas aeruginosa* Virulence”. The major long-term goal of this proposal was to develop effective and selective therapies that reduce the incidence and complications associated with wound infection with *Pseudomonas aeruginosa*.

Shriners Hospitals for Children, #85600 (\$120,000)

Apidianakis (PI) 01/01/10-12/31/11

“Role of muscle 4-hydroxy-nonenal protein adduct formation in susceptibility to *Pseudomonas aeruginosa* burn wound infection”. The goal of this project was to assess via genomic and biochemical approaches muscle responses the role of lipid peroxidation product 4HNE in trauma and infection.

Shriners Hospitals for Children, #8892

Apidianakis (Investigator) 01/01/07-12/31/09

“Modulation of muscle gene regulation in the host defense response to *Pseudomonas aeruginosa* infection”. The goal of this project was to assess genomic muscle responses to trauma and infection.

E. Invited Talks

November 3, 2017 5th International Multithematic Bio-Medical Congress
European University Cyprus, 2-4 November 2017, Nicosia,
Cyprus

October 6, 2017 Fondation Sante Fellows Symposium, 6 October 2017, Ionic Center, Athens, Greece

September 26, 2017 4th Model Host Aegean Conference, 22-27 Sept 2015, Rhodes, Greece

December 6, 2016 American University of Beirut, Department of Biology

December 5, 2016 Lebanese University, Department of Biology

November 5, 2016 4th Multithematic Biomedical Scientific Cyprus Congress, Cultural Center, European University Cyprus, 4-5 Nov 2016.

October 15, 2016 5th International Biennial Conference, University of Cyprus – New University Campus, 14-15 Oct 2016

April 2, 2016 Symposium on GI Tumors: Are we making progress in Gastrointestinal Malignancies? Porto Palace Hotel Greece, 31 March – 3 April 2016

September 20, 2015 3rd Model Host Aegean Conference, 17-22 Sept 2015, Chania, Greece

June 16, 2015 Barcelona BioMed Conference, Drosophila as a model in Cancer, June 15-17, 2015, Bachelona, Spain

June 25, 2014 19th Molecular and Developmental Biology of Drosophila meeting, June, 2014 Chania, Greece

March 11, 2014 École polytechnique fédérale de Lausanne, March 11, 2014 Laussane, Switzzetland

December 4, 2013 Research Symposium in Biological Sciences (under Research Promotion Foundation), Dec 2013, Nicosia, Cyprus

September 3, 2012 2nd Model Host Aegean Conference, 3 Sept 2012, Rhodes, Greece

September 27 2nd InfaCare Summer School Conference, 27 Sept 2012, Malia, Crete, Greece

March 8, 2012 53rd *Drosophila* Research Conference, Chicago, USA

November 3, 2011 Massachusetts General Hospital *Drosophila* Meeting, Boston, USA

January 26, 2011 Department of Biological Sciences, University of Cyprus, Cyprus

December 20, 2010 Biomedical Sciences Research Center, Alexander Fleming, Greece

December 16, 2010 Department of Molecular Biology and Genetics, Koc University, Istanbul, Turkey

November 19, 2010 Department of Infectious Diseases, MD Anderson Cancer Center, University of Texas, Houston, USA

September 8, 2010 Department of Biology, University of Crete, Heraklion, Greece

August 19, 2010 Department of Microbiology and Immunology, University of North Dakota, Grand Forks, USA

June 3, 2010 Department of Surgery, Rhode Island Hospital, Brown University, USA

May 17, 2010 Department of Developmental and Regenerative Biology, Mt Sinai Medical Center, USA

April 10, 2010 51st Drosophila Research Conference, Washington DC, USA

February 1, 2010 Department of Biological Sciences, Wayne State University, Detroit, USA

April 11, 2009 Broad Institute at MIT, Cambridge, USA

February 19, 2009 Developmental Immunology, MGH, Harvard Medical School, USA