BIOGRAPHICAL SKETCH

NAME Latsoudis, Helen	POSITION TITLE Post-Doctoral Research Fellow
eRA COMMONS USER NAME LatsoudisH CONTACT INFORMATION E-mail:lena.latsoudi@gmail.com	

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE	YEAR(s)	FIELD OF STUDY
King's College University	B.Sc.	7/1997	Clinical Sciences
King's College University (Institute of Psychiatry)	M.Sc.	11/1998	Neurosciences
King's College University (Institute of Psychiatry)	Ph.D.	2/2004	Genetics (Parkinson's Disease Society award)

A. Positions.

Research Appointments

03/2019-present	Research Fellow, Information Systems Laboratory, Institute of Computer Sciences (ICS), Foundation for Research and Technology Hellas, FORTH
05/2015-12/2018	Research Fellow, Genomics Facility, Institute of Molecular Biology and Biotechnology (IMBB), Foundation for Research and Technology Hellas, FORTH
05/2013-04/2015	Research Fellow, Department of Internal Medicine (School of Medicine, University of Crete)
11/2014-12/2014	Post-doctoral Fellow, Department of Neurology (School of Medicine, University of Crete)
03/2011-06/2012	Post-doctoral Research Fellow, Department of Pharmacology (School of Medicine, University of Crete)
03/2004–02/2011	Post-doctoral Research Fellow, Department of Neurology (School of Medicine, University of Crete, Greece)

Faculty Appointments

2016-2018	Molecular and Genetic Pathophysiology of Parkinson's Disease (MSc The Molecular Basis of Human Disease, School of Medicine, University of Crete)
2014-2018	Methodological Issues around gene expression analyses (M.Sc. in Neurosciences, School of Medicine, University of Crete)
2008-2018	Molecular Biology (M.Sc. in Optics and Vision, School of Medicine, University of Crete)
2010-2016	Molecular mechanisms of Neurodegeneration (M.Sc. in Neurosciences, School of Medicine, University of Crete)
2006-2016	Genetic tools and analysis of CNS disorders (M.Sc. in Neurosciences, School of Medicine, University of Crete)
2006-2009	Molecular mechanisms and Parkinson's Disease pathology (M.Sc. in Neurosciences, School of Medicine, University of Crete)
2006-2009	Human Genetics Lecturer, Presidential Decree 407/80, School of Biology, University of
2006-2008	Genetics of Neurodegenerative diseases (M.Sc. The Molecular Basis of Human Disease, School of Medicine, University of Crete)

Research Supervision

06/2019-present	Research Supervisor (Information Systems Laboratory, ICS, FORTH) • Mr. Emmanouil Stylianakis (MSc student, Bioinformatics: School of Medicine, University of Crete): *"Bioinformatic analysis of intra and inter population HLA diversity in Crete for the creation of a regional public cord blood bank"*
06/2018-11/2019	Research Supervisor (Genomics Facility, IMBB, FORTH) • Mrs. Maria Astrinaki (MSc student, Bioinformatics: School of Medicine, University of Crete): *"An open and interactive pipeline for variant discovery and downstream exome sequencing data*
05/2017-10/2017	Research Supervisor (Genomics Facility, IMBB, FORTH) • Ms. Maria Andreaki (MSc student, Demokritus University of Thrace: *"Genetic analyses in a patient with gynecological sarcoma that experienced an exceptional response to Pazopanib treatment"*
01/2012-04/2012	Research Supervisor (Laboratory of Molecular Basis of Neurological disorders, Department of Neurology, School of Medicine, University of Crete) • Ms. Zoi Mprizoli (PhD student: *"Functional analyses of GDH expression in human tissues"*)

01/2004-02/2011	Research Supervisor (Laboratory of Molecular Basis of Neurological disorders, Department of Neurology, School of Medicine, University of Crete • "Erasmus" students (University of Paris) Ms., Burlet-Parendel Anne 2009, Mr. Charafi Nordin 2008, Ms. Guilmatre Audrey 2005, Ms. Fourcot Agnes 2004 • Postgraduate students (M.Sc. in Neurosciences program for 3-months rotations and 6 months M.Sc. dissertations): Ms. Rogdaki Maria 2008, Ms. Vlavaki Maria 2006, Ms. Panou Theodora 2006 • Undergraduate students (Biology School for 3-months rotations and 6 months B.Sc. dissertations: Ms. Dimou Zeta 2009, Ms. Sarafera Chrysoula 2008-9, Ms. Pliota Penelope 2007-8, Ms. Simaioudaki Eleftheria 2007, Ms. Pavlidou Athanasia 2007-8, Mr. Papadakis Antonis 2007-8, Ms. Mavridi Chrysoula 2006
1999	Research Supervisor of "Erasmus" student from University of Pisa (Laboratory of Molecular Genetics, Department of Psychological Medicine, Institute of Psychiatry, King's College London, London)

B. Projects

- 01/2019-present: NGS data analysis, Variant Annotation Tool implementation, Information Management System design, FORTH (ICS)

  1. Public Cord Blood Bank of Crete (cordbloodbankcrete.gr):
     "HLA characterization of the Cretan population for the increase of the repository of the Umbilical Cord Blood Units"

  2. Hellenic Network of Precision Medicine in Cardiology and the Prevention of Sudden Juvenile Death (icardiacnet.gr):
     "Development and implementation of targeted NGS data analyses workflow in the clinical diagnosis of patients with heart diseases and sudden death syndrome"

  3. Hellenic Network of Precision Medicine in Oncology (oncopmnet.gr):
     "Development and implementation of targeted NGS data analyses workflow in the clinical diagnosis of patients with cancer"

- 05/2015-12/2018: NGS data curator and analyst, FORTH (IMBB)

  1. "Whole Exome Sequencing analyses of samples with Alzheimer's disease"
     (collaboration with Dr. Zaganas, University of Crete, supported by the Operational Program "Education and Lifelong Learning" of the National Strategic Reference Framework (NSRF) - Research Funding Program: THALES entitled "UOC-Multidisciplinary network for the study of Alzheimer's Disease" (Grant Code: MIS 377299).)
  2. "Application of whole exome sequencing in cancer samples"
     (collaboration with Dr. Sklaviadis, General Hospital of Heraklion "Venizeleio, supported by OncoSeed "Biology of circulating tumor cells. Distant metastasis and development of liquid biopsy methods")

  3. "Whole Exome Sequencing data annotation and analyses in the diagnosis of Neurological and other diseases"

(collaboration with clinicians from Crete and Thessaloniki, no. KA4106, School of Medicine, University of Crete)

4. "Development & application of Next Generation Sequencing data analyses workflows"
   (Implementation of American College of Medical Genetics (ACMG) recommendations and of in house-developed gene-specific associated list of genes supported by the
   i. *Operational Program "Competitiveness, Entrepreneurship and Regional Transition" of the National Strategic Reference Framework (NSRF) - Research Funding Program: "Development of Interdisciplinary Research Activities in Systems Biology, BIOSYS, NSRF 2007-2013";*
   ii. *Operational Program "Competitiveness, Entrepreneurship and Innovation" of the National Strategic Reference Framework (NSRF) - Research Funding Program: "Advanced Research Activities in Biomedical and Agrifood Technologies, BITAD, NSRF 2014-2020";*

- 05/2013-04/2015: Molecular Geneticist, Department of Internal Medicine (School of Medicine, University of Crete)

1. "Transcriptome Reference Database for Rheumatology Research"
   (member of a European task force on the exploitation of transcriptome data using BioRetis platform of analyses, headed by Prof. Haüpl from Department of Rheumatology and Clinical Immunology, Charité University)

2. "Network of miRNAs and transcriptomic analyses of monocytes from patients with the auto-inflammatory Familial Mediterranean Fever (FMF) using miRNA microarrays"
   (no. KA3407, 09ΣΥΝ-12-898, Ministry for Development and Competitiveness NSRF 2007-2013)

3. "construction of miRNA functional synergistic networks using High Performance Chip Data Analysis (HPCDA) through BioRetis and SiPaGene gene expression databases"
   (*Erasmus Staff Mobility for Training (STT) grant 2013-2014, collaborating teams: PD Dr. med. Haüpl and Dr. Stuhlmüller from Division of Rheumatology and Clinical Immunology, Charité University and Prof. Radbruch, Dr. Mashreghi and Dr. Grün from Department of Cell Biology and Bioinformatics of the DRFZ, Charite University*)

- 11/2014-12/2018: Geneticist, Department of Neurology, School of Medicine, University of Crete & Genomics Facility, IMBB, FORTH

"Whole Exome Sequencing data annotation and analyses in the diagnosis of Neurological and other diseases"
(no. KA4106, School of Medicine, University of Crete)

- 01/2012-06/2012: Department of Pharmacology (School of Medicine, University of Crete)
  «Gene-by-gene pathway differential expression profile of NGF-deprived newborn rat Superior Servical Ganglia (SCGs) following treatment with dehydro-epiadrosterone and microneurotrophins».

- 2004-2/2011: Molecular Geneticist, Department of Neurology, Faculty of Medicine, University of Crete)

1. "DNA bank network of patients with neurological diseases"
   (collaboration between the laboratory of Molecular Basis of Neurological Disorders, Crete and GENetic DIAgnostics Network, Belgium).
2. "Analysis of the European Mitochondrial DNA Haplogroups in Parkinson's disease patients from the island of Crete".

3. "Screening of *tRNALys* mutations in patients with mitochondrial diseases (Myoclonic Epilepsy associated with Red Ragged Fibers)".
4. "Screening of *LRRK2* Mutations in Cretan patients with Parkinson's disease and Progressive Supranuclear Palsy"
   (*led to a collaboration with Prof. Farrer from University of British Columbia*)
5. "Linkage and Mutational analysis of candidate chromosomal regions characterized by high LOD score (>3.0) in Cretan families with Parkinson's disease".
6. "Mutational screening of the *ROBO3* gene in a Greek family with Horizontal Gazy Palsy and Progressive Scoliosis (HGPPS) and Progressive External Opthalmoplegia (PEO)"
   (collaboration with Dr. Jen, Associate Professor in Neurology-University College of Los Angeles-USA).
7. "Case-control association analysis of the M129V polymorphism of the *PRNP* gene in Parkinson's disease patients from the island of Crete".
8. "Analysis of the M129V polymorphism of the *PRNP* gene in two groups of controls from Northern and Southern Greece"
   (*collaboration with Dr. Sklaviadis from University of Thessaloniki*).
9. "Mutational screening of the *PRNP* gene in probable Creudjfeld-Jakob disease cases".
10. "Screening of spastin mutations in patients with Familial Spastic Paraplegia and mRNA expression studies in patients lymphocytes in order to investigate a possible splicing effect".
11. "Screening of human glutamate dehydrogenase genes *Glud1* and *Glud2* in patients with neurodegenerative diseases (i.e. Parkinson's disease, Motor Neuron Disease, Alzheimer's disease)",
    (collaboration with Prof. Al-Chalabi, Professor of Neurology and Complex Disease Genetics, King's College London and Prof. C. Shaw, Professor of Neurology and Neurogenetics, King's College London).
12. "Genotypic analyses of *Glud2*-T1492G rare variant in patients with Parkinson's disease from Crete, Central Greece and Northern California"
    (collaboration with Prof. Ritz, Professor of Epidemiology, Environmental Health Sciences, and Neurology-University of California-Los Angeles and Prof. Hadjigeorgiou, Associate Professor of Neurology-Medical School-University of Thessaly).
13. "Screening of genes coding for the Aralar and Citrin glutamate transporters in Motor Neuron Disease and Parkinson's disease patients".
14. "Cloning of wild type and mutant *Glud2*-T1492G in pcDNA3.1 expression vector. Stable transfection of the transformed vectors in human kidney cells and measurement of oxidative stress (H_2O_2) in the surviving cells".
15. "Isolation and quantitation of *Glud1* and *Glud2* mRNAs from various tumor cell lines and peripheral human tissues".
16. "Functional analyses of GDH expression in human tissues".

C. Reviewer in Journals

- BMC Medical Genetics
- Clinical and Experimental Rheumatology
- IEEE Bioinformatics and Bioengineering

D. Peer-reviewed publications (in chronological order).

1. Mavroudi I, **Latsoudis H**, Zamanakou M, Kanterakis A, Papadaki HA: Two novel HLA-DRB1 alleles detected in inhabitants from the island of Crete. HLA (2020, accepted).
2. Georgopoulou A, **Latsoudis H**, Vatsiou S, Stylianakis E, Papadaki HA: Detection of the novel HLA-DQB1*03:439 variant in an inhabitant from the island of Crete. HLA (2020, accepted).
3. Lygerou D, Dermitzaki EK, Drosataki E, Maragkou SA, **Latsoudis H**, Kafetzopoulos D, Michaelidou K, Bourbouli M, Zaganas I, Daphnis E, Stylianou K.: Dent disease-2 with a Bartter like phenotype due to an OCRL mutation and a calcium sensing receptor variation. A case report. BMC Medical Genetics (2020, accepted)

4. Zaganas I, Mastorodemos V, Spilioti M, Mathioudakis M, **Latsoudis H**, Michaelidou K, Kotzamani D, Notas K, Dimitrakopoulos K, Skoula I, Ioannidis S, Klothaki E, Erimaki S, Stavropoulos G, Vassilikos V, Amoiridis G, Efthimiadis E, Evangeliou A, Mitsias P: Genetic cause of heterogeneous inherited myopathies in a cohort of Greek patients. Molecular Genetics and Metabolism (2020, submitted)
5. Dimovasili C, Mathioudakis L, **Latsoudis H**, Bourbouli M, Gouna G, Vogiatzi E, Basta M, Kapetanaki S, Panagiotakis S, Boumpas D, Lionis C, Plaitakis A, Simos P, Vgontzas A, Kafetzopoulos D, Zaganas I.: Study of Alzheimer's disease-associated and human glutamate dehydrogenase genes in the Cretan Aging Cohort. Journal of Neurology (in preparation)
6. Astrinaki M, Kanterakis A, **Latsoudis H**, Potamias G, Kafetzopoulos D: Zazz: Variant annotation and exploration of Next Generation Sequencing variants. 2019 IEEE 19th International Conference on Bioinformatics and Bioengineering
7. **H. Latsoudis**, M. F. Mashreghi, J. R. Grün, H. D. Chang, B. Stuhlmüller, A. Repa, I. Gergiannaki, E. Kabouraki, T. Haüpl, A. Radbruch, P. Sidiropoulos, D. Kardassis, D. T. Boumpas, G. N. Goulielmos. Differential expression of miR-4520a associated with pyrin mutations in Familial Mediterranean Fever (FMF). J Cell Physiol. 2017 Jun; 232(6):1326-1336.
8. Zaganas IV, Kanavouras K, Borompokas N, Arianoglou G, Dimovasili C, **Latsoudis H**, Vlassi M, Mastorodemos V. The odyssey of a young gene: structure-function studies in human glutamate dehydrogenases reveal evolutionary-acquired complex allosteric regulation mechanisms. Neurochem Res. 2014 Mar; 39(3):471-86.
9. Plaitakis A., **Latsoudis H** and Spanaki C. The human *Glud2* glutamate dehydrogenase and its regulation in health and disease. Neurochem Int. 2011; 59(4):495-509 (PubMed ID: 21420458)
10. **Latsoudis H** and Papapetropoulos S: Glucocerebrosidase as a genetic modifier influencing susceptibility and phenotype of Parkinson's disease. Future Neurol. 2010; 5(2): 189-93. (DOI**:** 10.2217/fnl.10.8)
11. Plaitakis A, **Latsoudis H**, Kanavouras K, Ritz B, Bronstein J, Skoula I, Mastorodemos V, Papapetropoulos S, Borompokas N, Zaganas I, Xiromerisiou G, Hadjigeorgiou G, Spanaki C: Gain-of-function variant in GLUD2 glutamate dehydrogenase modifies Parkinson's disease onset. Eur J Hum Gen. 2010; 18(3): 336- 41. (PubMed ID: 19826450)
12. Zaganas I, **Latsoudis H**, Papadaki E, Vorgia P, Spilioti M, Plaitakis A. A8344G tRNALys Mutation Associated with Recurrent Brain Stem Stroke-like Episodes. *J Neurol 2009* Feb; 256(2):271-3. (PubMed ID: 19253012)
13. Kanavouras K, Borompokas N, **Latsoudis H**, Stagourakis A, Zaganas I, Plaitakis A. Mutations in human GLUD2 glutamate dehydrogenase affecting basal activity and regulation. J Neurochem. 2009; 109(Sup1):167-73. (PubMed ID: 19393024)
14. Zaganas I, Kanavouras K, Mastorodemos V, **Latsoudis H**, Spanaki C, Plaitakis A: The human GLUD2 glutamate dehydrogenase: localization and functional aspects. Neurochem Int. 2009; 55(1-3):52-63. (PubMed ID: 19428807)
15. Mastorodemos V, Kotzamani D, Zaganas I, Arianoglou G, **Latsoudis H**, Plaitakis A: Human GLUD1 and GLUD2 localize to mitochondria and endoplasmic reticulum. Biochem Cell Biol. 2009; 87(3):505-16. (PubMed ID: 19448744)
16. Ross OA, Spanaki C, Griffith A, Lin CH, Kachergus J, Haugarvoll K, **Latsoudis H**, Plaitakis A, Ferreira JJ, Sampaio C, Bonifati V, Wu RM, Zabetian CP, Farrer MJ. Haplotype analysis of Lrrk2 R1441H carriers with Parkinsonism. Parkinsonism Relat Disord. 2009; 15(6):466-7. (PubMed ID: 18952485)
17. **Latsoudis H**, Spanaki C, Chlouverakis G, Plaitakis A.: Mitochondrial DNA polymorphisms and haplogroups in Parkinson's disease and control individuals with similar genetic background. J Hum Genet. 2008; 53(4):349-56. (PubMed ID: 18286226)
18. Spanaki C[*], **Latsoudis H**[*], and Plaitakis A.: *LRRK2* Mutations on Crete: R1441H associated with PD evolving to PSP. Neurology. 2006; 67 (8): 1518-19 ([*]equal contribution, PubMed ID: 17060595)
19. Kotta K, Paspaltsis I, Bostantjopoulou S, **Latsoudis H**, Plaitakis A, Kazis A, Collinge J, Sklaviadis T: Novel mutation of the *PRNP* gene of a clinical CJD case. BMJ Infect Dis 2006; 6 (169) (PubMed ID: 17129366)

20. Amoiridis G, Tzagournissakis M, Christodoulou P, Karampekios S, **Latsoudis H**, Panou T, Simos P, and Plaitakis A: Patients with horizontal gaze palsy and progressive scoliosis due to ROBO3 E319K mutation have both uncrossed and crossed central nervous system pathways and perform normally on neuropsychological testing. J Neurol Neurosurg Psychiatry. 2006; 77(9):1047-53 (PubMed ID: 16772357)
21. Peng R, Gou Y, Yuan Q, Li T, **Latsoudis H**, Yuan G, Luo D, Liu X, Collier DA: Mutation screening and association analysis of the parkin gene in Parkinson's disease patients from South-West China. Eur Neurol. 2003; 49 (2):85-89 (PubMed ID: 12584415)

E. Selected Abstracts (in chronological order).

1. Stylianakis E, Kanterakis A, **Latsoudis H**, Mavroudi I, Georgopoulou A, Gontika I, Mpatsali A, Fragkiadaki E, Gkioka B, Vatsiou S, Zamanakou M, Papadaki HA. "*The significance of public umbilical cord blood banks in unraveling regional population diversity in allogenic haemopoietic stem cell transplantation*". 31st Panhellenic Haematological Meeting, 2020
2. Astrinaki M, Kanterakis A, **Latsoudis H**, Potamias G, Kafetzopoulos D. "*Multidimensional data management, exploration and analyses in the era of Precision Medicine*." Hellenic Bioinformatics 2019, 10-13 October 2019
3. Astrinaki M, Kanterakis A, **Latsoudis H**, Potamias G, Kafetzopoulos D. "*Annotation and interactive exploration of WES data"*. Hellenic Bioinformatics 2018, 15-18 November 2018
4. Astrinaki M, **Latsoudis H**, Kanterakis A, Potamias G, Kafetzopoulos D. *An open and interactive pipeline for variant discovery and downstream exome sequencing data analyses.* MATBIO, 2018
5. **Saloustros E.*, Latsoudis H.***, Vassou D., Stratidaki I., Gounalaki N-A., Fadouloglou V., Drositis I., Kontopodis E., Pavlaki A., Mavroudis D., Androulakis N., and Kafetzopoulos D.: *The pursue of genetic mechanisms that underlie elite response to Pazopanib treatment*. *equal contribution, AACR, Proceedings of the AACR, 2017
6. Zaganas I., Vogiatzi E., Evangeliou A., Gouna G., Mastorodemos V., Kotzamani D., Mathioudakis L., Bourbouli M., Spilioti M., Vorgia P., Grafakou O., Niotakis G., Pavlou E., Mavridis M., Tzagournissakis M., Monti K., Zafeiriou D., Amoiridis G., Kafetzopoulos D., Plaitakis A., **Latsoudis H**: *Diagnostic Whole Exome Sequencing to study a cohort of Greek patients with heterogeneous neurological and other disorders*. AAN, 2016; Neurology 2016;86(16): P5.134
7. **Latsoudis H**, Vogiatzi E, Evangeliou A, Mastorodemos V, Kotzamani D, Monti K, Zafeiriou D, Amoiridis G, Plaitakis A, Zaganas I. *Application of whole exome sequencing to study a cohort of Greek patients with heterogeneous neurological disorders.* EFNS-ENS, 2015
8. V. Mastorodemos, E. Vogiatzi, **H. Latsoudis,** P. Vorgia, G. Amoiridis, I. Zaganas. *Limb-girdle muscular dystrophy due to a novel homozygous ISPD gene mutation disclosed by whole exome sequencing.* The World Congress of Neurology, 2015; The Journal of Neurological Sciences 357 (2015): e339
9. **H. Latsoudis**, M.F. Mashreghi, J.R. Grün, H.D. Chang, B. Stuhlmüller, A. Repa, I. Gergiannaki, E. Kabouraki, T. Haüpl, A. Radbruch, P. Sidiropoulos, D. Kardassis, D. T. Boumpas & G. N. Goulielmos. *Selection of 29 miRNAs with High Performance Chip Data Analysis (HPCDA), Genes@Work, Fold Change, HPCDA-Score, and HPCDA-Volcano-Plot*. Experiment Findings 2016: DOI: 10.13140/ RG.2.1.2849.6404

F. Invited Speaker

1. Stem Cell Awareness Week, 16-18 November 2020: "*Recent advancements in the study and analysis of HLA*"
2. Master Classes in Dementia 2016, Athens: *Personalized medicine: application in dementia.*
3. 4th Panhellenic Conference of Psychiatric hospitals, 3-6 December 2015: *"The diagnostic value of incidental findings from NGS analyses".*
4. Round Table: Next generation sequencing technologies (NGS) for whole exome/genome sequencing (WES
   /WGS): impact on daily clinical practice, in dementia and beyond. Oral Presentation: *"The diagnostic*

value of incidental findings from NGS analyses". 9th Pan-Hellenic Conference on Alzheimer's Disease and 1st Mediterranean Conference on Neurodegenerative Diseases, 14-17 May 2015, Thessaloniki, Greece

5. **"***Mitochondrial Haplotypes in Healthy Individuals and Parkinson's disease patients from Crete".* 1997- 2007, 10 years of alpha-synuclein in Parkinson's disease, Athens, Greece June 27, 2007
6. **"***Human Mitochondrial Haplotypes and Neurologic Disorders"*. Second Aegean Meeting on Neurologic Therapeutics, 20-23 May 2006, Heraklion, Crete, Greece

G. References

Dimitrios T Boumpas, MD, FACP, FACR	**Iannis Talianidis, PhD**
Professor of Medicine Medical School, University of Athens, Greece	Director Director, Institute of Molecular Biology and Biotechnology Foundation of Research and Technology (FORTH), Heraklion, Crete, Greece
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