

CURRICULUM VITAE

KYRIACOS AGATHANGELOU

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Personal

- Citizenship: Cypriot
 - Date of Birth: 30 July 1984
 - Place of Birth: Nicosia, Cyprus
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Education

- 2013 : King's College London [London, UK]
Trainee, Centre of Human and Aerospace Physiological Sciences
- 2011-2012: The Cyprus Institute of Neurology & Genetics [Nicosia, Cyprus]
Research assistant, Electron Microscopy and Molecular Pathology Department
- 2009-2011: University of Cyprus [Nicosia, Cyprus]
Department of Biological Sciences
MAGISTER SCIENTIAE in Molecular Biology (GPA out of 10: 7.33 – ‘Upper Second Class Honours’)
Master's Research dissertation: Gene transfer systems for the induction of pluripotent stem cells
- 2004-2009: University of Thessaly [Larissa, Thessaly, Greece]
Faculty of Sciences of Health, Department of Biochemistry and Biotechnology
Degree of Biochemistry and Biotechnology (GPA out of 10: 6.68 – ‘Upper Second Class Honours’)
Thesis: Effect of aerobic exercise in the constitution of the muscular proteome of rat soleus muscle (grade: 10/10)

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- 1999-2002: Senior High School (positive sciences), Pancyprian Gymnasium [Nicosia, Cyprus]
School-leaving Certificate - Apolyterion (GPA out of 20: 19 1/11 - 'Excellent')
 - 1996-1999: Junior High School, Aglantzia Gymnasium [Nicosia, Cyprus]
(General grade: A - 'Excellent')
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Languages

- Greek: Native speaker
 - English: Fluent (oral/written)
2009: TOEFL (98 internet based, Test Date: 20 Jun 2009)
2001: GCE O' Level (grade: B)
 - French: Basic
1999-2002: "French" (grade: 20/20), Pancyprian Gymnasium, Nicosia, Cyprus
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Computer skills

- Microsoft Office (Word, Excel, PowerPoint, Access)
 - SPSS
 - BLAST
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Work Experience

- September 2012 – December 2012: Academic Affairs and Student Welfare employee, University of Cyprus, Nicosia, Cyprus
- September 2011 – June 2012: Research Assistant, The Cyprus Institute of Neurology and Genetics, Electron Microscopy and Molecular Pathology Department, Nicosia, Cyprus
- July – August 2006: Practical training, The Cyprus Institute of Neurology and Genetics, Biochemical Department (Requirement for the fulfilment of my Degree of Biochemistry and Biotechnology), Nicosia, Cyprus

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Responsibilities:

Attendance of and participation in the work of the department for the diagnosis of hereditary metabolic diseases, which included:

- Calculation of ferments concentration (lysosomal and mitochondrian) and metabolites using spectrometer and fluorescence
- Protein analysis using western blot technique
- Measurement of medicines and metabolites levels using automatic analysts
- Practise in the quantitative determination of amino-acids in blood using inversion of phase HPLC and practising in the analysis of organic acids in the urine using gases chromatography (GC) and mass spectrometry (MS).

Participation in the work of the department of molecular genetics for the diagnosis of thalassaemia and learning the technique of genetic material isolation from white corpuscles

Research Experience

- *Thesis:* Effect of endurance exercise on the constitution of the muscular proteome of rat soleus muscle

SUMMARY of Thesis:

Previous studies have indicated that exhaustive endurance exercise increases oxidative stress in skeletal muscle. Free radicals oxidize proteins and thus cause changes in their structure and function. Therefore, qualitative and quantitative proteomic differences could be observed in skeletal muscle after exposure to exercise. However, this experimental approach has not been used at a great extend for the study of the skeletal muscle proteome response to exercise. It is generally accepted that during endurance exercise the rate of muscular proteins' composition is decreased slightly, but not considerably. On the contrary, four hours after muscular exercise, the protein composition is increased considerably in rats after exhaustive endurance exercise.

The aim of this thesis was to examine the effect of exhaustive endurance exercise in the expression of proteins in rats soleus muscle. For this reason, two dimensional electrophoresis (2-DE) of homogenised muscular tissue was applied to two groups of rats, one exposed to exercise (exercised rats) and one non-exposed to exercise (non- exercised rats), the results of

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which were compared to locate differences. Eight 2-DE gels (four of exercised and four of non-exercised rats) were examined.

Certain qualitative differences were observed in the expression of proteins between exercised and non-exercised rats with the appearance of proteins mainly in the region of pI \approx 5 and MW 30-75 in the gel. However, no proteins were found with different expression pattern in a repetitive way for the majority of gels. For this reason, no protein spot was extracted from the gels for identification using mass spectrometry. In conclusion, with the use of this method, proteins that were expressed only after exhaustive endurance exercise were identified. However, their expression was not repeated in the majority of the eight gels and so the alteration in their expression was not confirmed. Having examined a small sample of muscular proteins, which is a limitation of this research, the evaluation of these results depends on the study of a larger number of muscular proteins as a result of exhaustive endurance exercise.

- *Master's Research dissertation: Gene delivery systems for the induction of pluripotent stem cells*

SUMMARY of the Master's Research dissertation:

Induced pluripotent stem cells (iPS) occupy the scientific community since 2006 when their production was primarily achieved from rat cells (Takahashi & Yamanaka, 2006) and from human cells, soon later in 2007, by Shinya Yamanaka's group at the University of Kyoto in Japan (Takahashi et al., 2007). The originality of the specific discovery lies in the demolition of the moral concerns underlying the usage of embryonic stem cells. Moreover, their usage predisposes an ultimate compatibility regarding modern means of regenerative medicine. The wide spectrum of gene delivery systems is an essential precondition in research for the modification of iPS and a challenge for the decrement of oncogenesis risks that diminish their use for humans.

In nature, the inseting of genetic material in the chromosomes is achieved either by homologous recombination, or viruses, or transposition events. The exploitation of these mechanisms is a key factor for the construction of iPS and gene therapy. The present study reviews the existent viral and non viral gene delivery systems, emphasising the efficiency and the consequences of their usage. Furthermore, the design of transposon delivery systems with the use of viral vectors is proposed. Systems of this kind are expected to be advanced regarding infection efficiency and expression stability without the oncogenic influence of viruses.

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Considering the ability of transposons to remote after inseting, combinational systems such as these could be ideal for the induction of pluripotent stem cells and gene therapy in general.

Conferences and Seminars

- Genomics and Nanotechnology in Biomedicine International Conference, University of Thessaly, 30 November 2007
 - Natural Education and Sports Conference, Dimokriteio University of Thraki, 18 May 2007
 - Honorary Diploma for participation in the International Conference “THE HAGUE INTERNATIONAL MODEL UNITED NATIONS” (THIMUN) as representative of Cyprus, International Court of Justice, The Hague, Netherlands, January 2001
 - Certificate of successful attendance of the courses “Introduction to Entrepreneurship” and “Development of enterprising plans”, University of Thessaly, academic year 2007 -2008
 - Tenth Anti-narcotic Seminar, Agia Napa, Cyprus, 6th-8th November 1997
 - ‘CHRISOPRASINO FYLLO’ Environmental Programme, Athens, Greece, 1998
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Scholarships (for the fulfilment of my studies)

2009:

Scholarship of the A.G. Leventis Foundation for postgraduate studies at the University of Cyprus

2004:

- Scholarship of the Cyprus Scholarship State Foundation for undergraduate studies in abroad, based on students’ achievement and financial situation (2004/2005 – 2007-2008)
 - Scholarship of the Pancyprian Gymnasium for undergraduate studies in abroad, based on students’ achievement and financial situation (2004/2005 – 2007-2008)
 - Scholarship of SPE Aglantzias for undergraduate studies
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Prizes and Awards

2002:

- Honorary Diploma awarded by the Teaching Faculty of the Pancyprian Gymnasium for achieving excellent graduation grade (Nicosia, Cyprus)
- Honorary Diploma awarded by Kythrea's School Committee for achieving excellent graduation grade in Senior High School (Nicosia, Cyprus)

1999 - 2002:

- Vasos Papafilippou Prize for achieving the highest graduation grade in History, Pancyprian Gymnasium (Nicosia, Cyprus)

Non-academic interests

- Athlete of Cyprus Archery Federation - Prizes awarded:
 - Gold Medal in CARLSBERG's INDOOR Archery Championship, Adolescents' Academy, November 2000, Cyprus
 - Silver Medal in Pancyprian Archery Championship, 2001
- Member of the Youth Department of the "XITRI KITHREAS" Cultural Association
Activities organized: Seminars, blood donations, excursions
- Member of the "XITRI KITHREAS" Dance Group
Activities organized: Participation in international cultural festivals, teaching traditional Cypriot dances to dancers from other cultures

References

Name:	Dr Philippos Patsalis	Professor Dimitris Kouretas	Dr Pantelis Georgiades
Institution:	Cyprus Institute of Neurology and Genetics	Department of Biochemistry and Biotechnology, University of Thessaly, Greece	Department of Biological Sciences, University of Cyprus
Position:	Head of the Department of Cytogenetics and Genomics	Head of Animal Physiology Lab	Head of Embryology/Developmental Genetics and Stem Cell Lab
Email:	patsalis@cing.ac.cy	dkouret@uth.gr	pgeor@ucy.ac.cy
