

CURRICULUM VITAE LUKAS H. MARGARITIS



SURNAME : MARGARITIS

FIRST NAME : LUKAS

TITLE : Professor of Cell Biology, Radiobiology and Electron Microscopy

PLACE OF BIRTH : Nea Erythraia, Athens, Greece.

COMMUNICATING ADDRESS : Dept.of Cell Biology & Biophysics

Faculty of Biology, Athens University, 15784 Athens, Greece

e-mail: lmargar@biol.uoa.gr ,

home pages, <http://kyttariki.biol.uoa.gr> , <http://multimedia.biol.uoa.gr>

TELEPHONE NR : 0030-210-, 7274542

FAX NR: 0030-210-7274742

Mobile: 0030-6972051345

PRESENT POSITION: Head, Electromagnetic Biology Lab, Faculty of Biology , Athens University. http://kyttariki2.biol.uoa.gr/emr_group.htm

EDUCATION - ACADEMIC ACTIVITIES

1964 - 1972: Undergraduate studies in Physics and Biology, Athens University, School of Sciences.

1966: Training in the Biological applications of the transmission electron microscope (Netherlands, Eindhoven-Philips Laboratories and Rijksuniversiteit Leiden- Laboratorium voor elektronenmicroscopie under the supervision of Professor Th. Daems and Dr. E. Wisse).

1964-1968: Research assistant in the Laboratory of Biology, Athens University.

1969: Training on freeze-fracturing (Balzers, Liechtenstein) and on Zeiss photomicroscope (Oberkochen, Germany)

1973: Training on biochemical techniques in Johns Hopkins University (Baltimore, with Professor E.N. Moudrianakis) and on Scanning Electron microscopy in the Biological Laboratories, Harvard University (Cambridge, Mass, USA).

1974: Ph.D.Thesis (Athens University, Dept. of Biology, under the supervision of Prof. F.C. Kafatos). Title: "Programmed protein synthesis of specific proteins in cellular differentiation. A contribution to the study of chorion formation in the follicles of *Drosophila melanogaster*".

1974-1976: Post-doctoral researcher and teaching assistant of Cell Biology in the Biological Laboratories, Harvard University (Prof. Daniel Branton).

1975: Lecturer in the Laboratory of Biology, Athens University.

1977: Scholarship from the National Institutes of Health (NIH-USA) for training on the high voltage E.M. at the University of Colorado (Prof. Keith Porter).

1977-present: Secretary, Chairman or Vice-Chairman of the "Hellenic Society for Biological Sciences"

1980: EMBO Fellowship to participate in the workshop "Three - dimensional structure analysis by Electron microscopy" (MRC Laboratory, Cambridge, U.K.)

1980: Invitation for a lecture in the Annual Congress of developmental Biologists in France at Gif-Sur-Yvette.

1982: Priv. Doz., Athens University. Title "Choriogenesis in *Drosophila melanogaster*: A model system for the study of cellular differentiation"

1982: European Molecular Biology Laboratory, Heidelberg, research project on "low dose electron microscopy and 3-D analysis"

1983: Assistant Professor of Cell Biology and Electron Microscopy at the Dept. of Biology, Athens University.

1984: Publication of the textbook "Cell Biology, 1st edition" in Greek for the students of the Biological Sciences.

1984: Invitation for a plenary lecture "Structure and Physiology of the egg-shell" at the XVII "International Congress of Entomology", Hamburg, Germany, August 20-26.

1985: Invitation and publication of the review article entitled "Structure and Physiology of the Eggshell". In, *Comprehensive Insect Biochemistry, Physiology and Pharmacology*, vol. 1, pp. 153-230, (G.A. Kerkut & L.I. Gilbert, eds), Pergamon Press Ltd, Oxford.

1985: 2nd edition of the Textbook "Cell Biology".

1986-1988: Senate of Athens University council

1987: Publication of the Textbook "Radiobiology: Radiation and Life" in Greek for the course "Biophysics".

1987: Elected Associate Professor of Cell Biology, Faculty of Biology Athens University.

1987-1988: Chairman, Dept. of Biochemistry, Cell-Molecular Biology and Genetics, Athens University.

1989-1991: Chairman, Faculty of Biology, Athens University.

1989: 3rd Edition and updating of the Textbook "Cell Biology" (21 chapters in 654 pages).

1991: Nomination as Greek representative of the E.E.C. programs in Biotechnology (Brussels).

1991: Invitation to organize a symposium on "Ultrastructure and Molecular architecture of egg chorion" in the XIX International Congress of Entomology", Peking, China, June 28-July 4, 1992.

1991: Full Professor of Cell Biology and Electron Microscopy, Faculty of Biology, Athens University

1992-1993: Chairman, Dept. of Biochemistry, Cell-Molecular Biology and Genetics, Athens University.

1993: Invitation for a review article on "The structure of the egg" by Willey-Liss Publishers.

1994: Member of the editorial board of the "Int. J. Insect Morph. & Embryology"

1995-1997: Chairman, Dept. of Biology, University of Athens

1996: Invitation to organize a symposium on "Egg structure and oogenesis" in the XX International Congress of Entomology", Florence, Italy, August 25-31, 1996

1989-2001: Coordinator ERASMUS program with 33 European Universities

1998-2010: Director, Master's programme "MEDICAL BIOLOGY", by the Dept. of Biology and the Medical School.

1998-2010: Chairman, Dept. of Cell Biology and Biophysics (annual re-election).

2000-present: Annual research grants by the "Research Account" of Athens University on "EMF effects on insects and mice"

2003 - 2006: HRAKLEITOS postgraduate research program (Ph.D. student A. Velentzas) on "apoptotic mechanisms during oogenesis in the medfly *Ceratitis capitata*."

2004 - 2006: PYTHAGORAS I postdoctoral research program (postoc Dr. Ourania Konstandi) on "environmental factors affecting aging"

2004: 4rth Edition and updating of the Textbook "Cell Biology" (996 pages, including 150 stereo images). co-authors, V. Galanopoulos, C. Keramaris, E. Marinos, I. Papasideri, I.P. Trougakos, D. Stravopodis.

2005 - 2006: PYTHAGORAS II postdoctoral research program (postoc Dr. Ioannis Nezis) on "cell biological studies of apoptosis during oogenesis in Diptera"

2008: ORGANIZATION OF 1st HELLENIC CONGRESS ON THE EFFECTS OF ELECTROMAGNETIC RADIATION WITH INTERNATIONAL PARTICIPATION, Thessaloniki, Greece

2009: Invited speaker, Electromagnetic fields and health Stavanger Burgen, Norway, 14-21 Nov. "Effects of EMF on Memory Function"

FOREIGN LANGUAGES: English, French, Italian.

TEACHING ACTIVITIES: Cell Biology, Electron Microscopy, Topics in Cell Biology, Biophysics/ Radiobiology, Image analysis and processing, Computers in Biology. Electromagnetic Biology and Health (MSc Program)

MEDIA ACTIVITIES: Frequent TV/Radio/Newspapers interviews related to EMF effects on health (http://kyttariki.biol.uoa.gr/emr_group.htm)

RESEARCH INTERESTS:

- Cellular / Molecular Biology and Biochemistry during gene expression in a model cell system: Insect Choriogenesis.
- Erythrocyte membrane disorders. Radioactive tracers for pharmaceutical applications.
- Effects of irradiation (lasers, UV) on the structure and function of the cornea.
- Effects of electromagnetic fields deriving from mobile phones, wireless DECT telephones, wi-fi routers, baby monitors, microwave ovens and ELF from power lines on model biological systems including *Drosophila melanogaster* and the mouse *Mus musculus*.

- Health risk assessment of the various EMF frequencies (ELF and RF) following precise field measurements in houses and schools.

The on going research of our Electromagnetic Biology Research Group is focused on the effects of various kinds and sources of electromagnetic radiation (mobile phones, blue tooth, wireless DECT, baby monitor, microwave oven, wi-fi, magnetic field, e.t.c.) on the reproduction and oogenesis of the fruit fly *Drosophila melanogaster*. Our recent activities are also focused on the irradiation of the model Rodent *Mus musculus* mouse in order to reveal defects on memory, behaviour, reproduction, apoptosis and other lesions induced by the non ionizing radiation. Our recent work involves multidisciplinary approaches engaging the most sophisticated techniques, such as the Morris water Maze behavioural task, object recognition task, proteomics analysis, immunocytochemistry, confocal laser microscopy and electron microscopy.

Our recent results have been published in peer review journals (see publication list) and have been also presented in the Hellenic Society for Biological Sciences annual meetings and also during a special Conference held in Thessaloniki on May 24, 25, 2008 - see the following site.

http://multimedia.biol.uoa.gr/Synedrio_Thess/progrENG.htm .

Special attention has been given throughout our research protocols to the biological effects of mobile phone radiation (for the first time worldwide using real communication conditions) on model cell systems including oogenesis in Diptera, behaviour and reproduction in rodents. The results have shown a decrease in the reproductive capacity of *Drosophila* and deficits in osteogenesis of newborn mice, as well as memory impairment following mobile phone and wireless DECT radiation and have been published (see publication list).

Current research is focused on the changes of cellular and molecular parameters caused by EMFs on insects of the genus *Drosophila* and on mice *Mus musculus* under a variety of exposure conditions. For this purpose a large number of commercially available EMF - producing devices are being used for the experiments.

The approaches used include:

Behavioural - memory tasks in mice

Immunocytochemistry - histology

Proteomics

Oxidative stress analysis

Confocal microscopy

Electron microscopy

Western blotting

Another issue that concerns us is the electromagnetic radiation emitted by cell phone masts. For this purpose we are performing measurements inside houses and schools in order to inform the citizens about any excessive radiation levels even if those are within the Greek "safety levels". We strongly believe that a further reduction (below the 30% of the current law) should be decided by the government and on that direction we provide interviews in the media and well documented advice whenever needed.

HANDBOOKS

RADIOBIOLOGY

CELL BIOLOGY

CHAPTERS IN BOOKS

Structure and Function of the Insect Egg-shell

The structure of the egg (Margaritis and Mazzini)

Novel Morphological and Physiological Aspects of Insect Eggs, In,

Chemoecology of Insect Eggs and Egg Deposition (Trougakos and Margaritis)

Is cognitive function affected by mobile phone radiation? (Fragopoulou and Margaritis, 2010)

PUBLICATIONS ([see publication list](#))