

## BIOGRAPHICAL SKETCH

Name: <b>Dermon Catherine R. Ph.D</b> Personal Webpage: <a href="http://www.biology.upatras.gr/index.php?option=com_content&amp;view=article&amp;id=642:2012-11-01-08-31-24&amp;catid=46&amp;Itemid=362">http://www.biology.upatras.gr/index.php?option=com_content&amp;view=article&amp;id=642:2012-11-01-08-31-24&amp;catid=46&amp;Itemid=362</a>	<b>POSITION TITLE:</b> Professor of Physiology/Neurobiology
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### EDUCATION /TRAINING

INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
University of Patras, Greece	BSc	1977-1981	Biology
University of Patras, Greece	PhD	1981-1987	Physiology, Neurosciences
Boston University, Dept Health Sciences, Boston, MA, USA	Postdoctoral Fulbright Scholar	1989	Neuroanatomy
National Institutes of Mental Health (NIMH), NIH, Bethesda, MD, USA.	Postdoctoral Fogarty Fellow	1990-1992	Cerebral Metabolism

### A. ACADEMIC AND PROFESSIONAL POSITIONS

<b>POSITIONS HELD</b> 1991, Lecturer, Animal Physiology Lab, Dept. of Biology, , University of Crete 1994, Assistant Professor, Animal Physiology, Dept. of Biology, University of Crete 1998, Tenure Assistant Professor, Animal Physiology, Dept. of Biology, University of Crete 2005, Associate Professor, Animal Physiology, Dept. of Biology, University of Crete 2008, Associate Professor, Human and Animal Physiology Lab, Dept. Biology, University of Patras 2016, Professor of Physiology, Neurobiology, Human and Animal Physiology Lab, Dept. Biology, University of Patras	
<b>ADVISORY-ADMINISTRATIVE DUTIES</b> 1985- Founding member of Hellenic Society for Neurosciences 1992- Member of the European Neuroscience Association (FENS) 1992- Invited reviewer in the scientific journals "J Comparative Neurology", "Brain Research", "Behavioural Brain Research", "Brain Behavior and Evolution", "Neurobiology of Aging", "Neuropharmacology", "Eur J Neuroscience", "Gene", "IOVS", "Neuroscience Letters", "Neuroscience", "Progress in Neuro-Psychopharmacology & Biological Psychiatry", "Royal Society Open Science", "Scientific Reports" etc. 2008-2010 Co-ordinator, postgraduate program in "Biological Technology", of Dept. Biology, University of Patras. 2010- Member of the Internal Evaluator Committee (OM.E.A.) for Quality Assurance for Biology Dept., Univ. Patras. 2015- Member of the "CARATHEODORY" committee of University of Patras.	

## B. RESEARCH INTERESTS

Systems and Developmental Neurobiology research group, Human and Animal Physiology lab, Biology Department, University of Patras investigates Brain Plasticity Mechanisms in Adult Neurogenesis and Neurotransmitter Systems using Animal Model Organisms (avian, fish, mammals).

Specifically, we aim to understand how the brain produces behavior, investigating molecular, cellular and integrative mechanisms in the nervous system. The main focus is related to plasticity mechanisms underlying the brain development as well as, epigenetic influences in the adult brain, such as, behavioral influences of acute / chronic stress, social hierarchy, learning and memory, sex plasticity, etc. The methodological approaches involve Immunohistochemical, immunofluorescence, *in vitro* and *in vivo* quantitative autoradiographic techniques, studying in cell cycle, cell migration, apoptosis, survival and characterization of cell types with specific markers, expression of neurotransmitter receptors. Data analyses are performed using image analysis and stereological methods.

### Research Grants

1987-89 Research project titled "Computer automatic analysis of brain autoradiographic images for the study of the pathophysiology of Parkinson and Huntington diseases" granted by Greek Ministry of Education (co-investigator).

1989-91 Research project titled "Anatomical, histochemical and functional relationships of specific and non-specific thalamic nuclei in C.N.S.", granted by the Greek Ministry of Research and Technology.

1990-92 Research project titled "Study of the interhemisphere, interthalamic communication in basal ganglia function" granted by Research Committee of Crete University.

1992-94 Research project titled "Role of Noradrenergic transmission in the development of bird visual system" granted by Research Committee of Crete University.

1994-97 European research project titled "Steroid-induced plasticity in circuits mediating reproductive behaviour", co-ordinator J. Balthazart, University of Liege, Belgium, funded E.C. Human Capital and Mobility, scientific network, 2/ERB4050PI93-2177

1994-96 Greek-German Collaboration research project titled "Immediate and protracted response of nerve cells to lesions: protein synthesis and metabolic activity after axonal regeneration", granted by Greek and German Ministry of research and technology (ΥΠΕΤ, ΓΓΕΤ).

1995 Educational project for "Development of educational material based on new technologies for distance learning in post-graduate studies in Neurosciences" Erasmus grant no. STV-94-G-3016.

1996-98 Research project titled "Brain neurochemistry and plasticity: Role of noradrenergic receptors in mature and developing brain" PENED, Ministry of Dev., GSRT

1997-2000 Greek-German Collaboration research project titled "Immediate and protracted response of nerve cells to lesions", granted by Greek and German Ministry of research and technology (ΥΠΕΤ, ΓΓΕΤ).

1997-2000 Greek-British collaboration research project titled "Cellular mechanisms involved in plasticity and neurodegenerative disorders" granted by Greek GSRT and British council.

2000-04 EU Research grant titled 'Environmental, nutritional and neuroendocrine regulation of skin coloration in the red porphyrio, towards the developmental of natural hue in culture populations', funded by EU, contract no Q5RS-2000-31629.

2004-06 PYTHAGORAS Research grant titled "Environmental control of sex determination in zebrafish (danio rerio): Differentiation of central nervous system" funded by Greek GSRS of Greek Ministry of Development.

2008-2010 Grant titled "Neurobiological basis of behaviour; functional mapping of brain circuits in zebrafish" grant C-170 by Research Committee of Univ. Patras.

2010-2013 HERAKLEITOS, Research grant titled "Epigenetic mechanisms of sexual plasticity of zebrafish brain" funded by Greek GSRS of Greek Ministry of National Education.

2011-2015 EU Research collaborative project titled "A new integrative framework for the study of fish welfare based on the concepts of allostasis, appraisal and coping styles" COPEWELL, FP7, EU.

**C. SELECTED PEER-REVIEWED PUBLICATIONS** (max 10) (in chronological order).

- Dermon CR, Pizarro, P., Georgopoulos P. and Savaki, H. (1990) "Bilateral alterations in local cerebral glucose utilization following intranigral application of the GABAergic agonist muscimol" *J. Neurosci.* **10**: 2861-2878.
- Dermon CR and Barbas H. (1994) Contralateral thalamic projections reach predominantly orbital and medial transitional cortices in the rhesus monkey. *J. Comp. Neurol.* **344**: 508-531.
- Dermon CR, Zikopoulos B., L. Panagis, E. Harrison, C. Lancashire, R. Mileusnic and MG Stewart. (2002) Passive avoidance training enhances neuron proliferation in day old chicks. *Eur J. Neuroscience* **16**: 1-10.
- Potamias G and Dermon CR (2004) «Protein Synthesis Profiling in the Developing Brain: A Graph Theoretic Clustering Approach» *Computer Methods and Programs in Biomedicine* **76**: 115-129.
- Barbas H, Hilgetag CC, Saha S, Dermon CR, Suski JL (2005) Parallel organization of contralateral and ipsilateral prefrontal cortical projections in the rhesus monkey. *BMC Neuroscience* **6**:32
- Zikopoulos B. and Dermon CR. (2005) Comparative anatomy of alpha(2) and beta adrenoceptors in the adult and developing brain of the marine teleost the red porgy (*Pagrus pagrus*, Sparidae): [(3)H]clonidine and [(3)H]dihydroalprenolol quantitative autoradiography and receptor subtypes immunohistochemistry. *J Comp Neurol.* **489**: 217-240.
- Prokosch V, Panagis L, Volk GF, Dermon C, Thanos S. (2010) Alpha2-adrenergic receptors and their core involvement in the process of axonal growth in retinal explants. *Invest Ophthalmol Vis Sci.* **51**:6688-6699.
- Ampatzis K, Makantasi P, Dermon CR (2012) Cell proliferation pattern in adult zebrafish forebrain is sexually dimorphic. *Neuroscience.* **226**:367-381.
- Makantasi P, Dermon CR (2014) Estradiol treatment decreases cell proliferation in the neurogenic zones of adult female zebrafish (*Danio rerio*) brain. *Neuroscience.* **277**:306-320.
- Fokos S, Pavlidis M, Yiotis T, Tsalafouta A, Papandroulakis N, Dermon CR (2017) Early life low intensity stress experience modifies acute stress effects on juvenile brain cell proliferation of European sea bass (*D. Labrax*). *Behav Brain Res.* **317**:109-121