

Curriculum Vitae of ILIAS KAZANIS, PhD

February 2018

Position: Lecturer in Developmental Biology, Department of Biology, Univ. of Patras

e-mail: ikazanis@upatras.gr
Year of birth: 1974
Nationality: Greek
Languages: Greek, English, French

Studies:

Oct 2002- Dec 2003: **Post-doctoral training**, Mammalian Neurogenesis group, Clinical Sciences Centre, Medical Research Council & Imperial College, London.
2002: **PhD thesis**, Internal Pathology– Medical School and School of Nursing, National Kapodistrian University of Athens.
“Study of tissue alterations in site of injury in the Central Nervous System of rats”
2000: Visiting researcher, Université 7, Laboratoire de Physiopathologie de la Nutrition, Paris.
1997: **Degree**, Department of Biology, University of Patras.

Professional development:

2014- present: **Lecturer in Developmental Biology**, Department of Biology, University of Patras

2011-2014, 2017: **Senior Research Associate**, Wellcome Trust- Medical Research Council Cambridge Stem Cell Institute, University of Cambridge.

2011: Wellcome Trust Value in People fellow, Wellcome Trust- Medical Research Council Cambridge Stem Cell Institute, University of Cambridge.

2005-2010: **Research Associate**, Department of Pathology, University of Cambridge.

[2004: Compulsory army service]

2001- 2002: Researcher, Lab of Biology-school of Nursing, Kapodistrian University of Athens.

Collarobators:

- George Mitsainas (Lecturer, Dep. Biology, University of Patras): Neurogenesis in wild populations of mammals.
- Stavros Taraviras (Professor, School of Medicine, University of Patras): Biology of Neural Stem Cells.
- Roni Angelatou (Professor, School of Medicine, University of Patras): Neuroprotection, neuro-regeneration, Parkinson's.

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- Prof. Robin Franklin (Cambridge Stem Cell Institute, University of Cambridge): The role of cytogetic niches of the adult brain to myelination/ remyelination.
 - Prof. Andreas Faissner (University of Bochum, Γερμανία): The role of extracellular matrix in the biology of neural stem cells.

Funding:

- Co-PI (PI: Prof. Robin Franklin): “Demyelinating disorders – neural stem cell therapy for leukodystrophies”, Action Medical Research (Dec. 2014- May 2018) [£199751]

http://www.action.org.uk/our_research/demyelinating_disorders_%E2%80%93_neural_stem_cell_therapy_leukodystrophies

Previous grants

- Named researcher (PI: Prof. Robin Franklin): “Do all brain neural stem cells age at the same rate?” from BBSRC (Aug. 2011- July 2014) [£355.220].

<http://www.bbsrc.ac.uk/pa/grants/AwardDetails.aspx?FundingReference=BB/I013210/1>

- Collaborator (PI: Prof. T. Fotsis): “The role and mechanisms of asymmetric cell divisions in the differentiation of stem cells” (ADiSC). Θαλής, (2012- 2015) [€600000].

<http://excellence.minedu.gov.gr/thales/en/thalesprojects/380249>

Member:

Society for Neuroscience (SfN), International Society for Stem Cell Research (ISSCR), Cambridge Neuroscience, Federation of European Neuroscience Societies (FENS), Hellenic Society for Neuroscience (HSN), Hellenic Society of Molecular Biology and Biochemistry (HSMBB)

Reviewer:

eCOST actions (European Cooperation in Science and Technology): 2014, 2015, 2017.

Journals:

Cell Stem Cell, Cell Reports, J Neuroscience, Brain, Neurobiology of Disease, Neurobiology of Ageing, Aging and Disease, Stem Cells and Development, FASEB J, FEBS Letters, PLoS ONE, BMC Neuroscience, Experimental Neurology, Int J of Neuroscience, JOVE, Neural Regeneration Research, Critical Care, Int J Nanomedicine, Brain Research, Stem Cell Research and Therapy, Neuroscience Letters.

Funding bodies:

MRC UK, BBSRC UK, Greek State Studentships (IKY), Alzheimer's Netherlands, AMF-Telethon France, National Institutes of Science Poland.

Editorial board ISRN Neuroscience

Awards:

---2nd Papastamatis award for original biomedical research (27th Panhellenic Conference, Athens 2001).

---Stipend to attend Euroconference: Cellular and molecular basis of regeneration, Castelvecchio Pascoli, Italy, 2002)

---Contribution (after peer review) to celebrating 1000th volume of Brain Research (2004).

Publications

Statistics (2000 – 2016)

h-index: 13 (i10 index 19) (Google scholar)

12 (Research Gate & Scopus)

Research

1. Kazanis I, Evans K, Andreopoulou E, Dimitriou D, Koutsakis C, Karadottir T, Franklin RJ. (2017) Subependymal Zone-Derived Oligodendroblasts Respond to Focal Demyelination but Fail to Generate Myelin in Young and Aged Mice. *Stem Cell Reports*, e-pub 9 Feb. 2017, 10.1016/j.stemcr.2017.01.007.
2. Koutsakis C, Kazanis I. (2016). How necessary is the vasculature in the life of neural stem and progenitor cells? Evidence from evolution, development and the adult nervous system. *Front Cell Neurosci*, 16, 10:35. doi: 10.3389/fncel.2016.00035.
3. Kazanis I, Feichtner M, Lange S, Rotheneichner P, Hainzl S, Öller M, Schallmoser K, Rohde E, Reitsamer HA, Couillard-Despres S, Bauer HC, Franklin RJ, Aigner L, Rivera FJ. (2015) Lesion-induced accumulation of platelets promotes survival of adult neural stem / progenitor cells. *Exp Neurol*, 269, 75-89. doi: 10.1016/j.expneurol.2015.03.018.
4. Chandran, J. S., Kazanis, I., Clapcote, S. J., Ogawa, F., Millar, J. K., Porteous, D. J., & ffrench-Constant, C. (2014). *Disc1* variation leads to specific alterations in adult neurogenesis. *PLoS One*, 9(10):e108088. doi: 10.1371/journal.pone.0108088
5. Kazanis, I., Gorenkova, N., Zhao, J-W., Franklin, R. J., Modo, M., & ffrench-Constant, C. (2013). The late response of rat subependymal zone stem and progenitor cells to stroke is restricted to directly affected areas of their niche. *Exp Neurol*, 248, 387- 397. doi: 10.1016/j.expneurol.2013.06.025

6. Kazanis, I., & French-Constant, C. (2012). The number of stem cells in the subependymal zone of the adult rodent brain is correlated with the number of ependymal cells and not with the volume of the niche. *Stem Cells Dev*, 21(7), 1090- 1096. doi:10.1089/scd.2011.0130
7. Kazanis, I., Lathia, J. D., Vadakkan, T. J., Raborn, E., Wan, R., Mughal, M. R., et al., & French-Constant, C. (2010). Quiescence and activation of stem and precursor cell populations in the subependymal zone of the mammalian brain are associated with distinct cellular and extracellular matrix signals. *J Neurosci*, 30(29), 9771-9781. doi:10.1523/JNEUROSCI.0700-10.2010
8. Kazanis, I., Belhadi, A., Faissner, A., & French-Constant, C. (2007). The adult mouse subependymal zone regenerates efficiently in the absence of tenascin-C. *J Neurosci*, 27(51), 13991-13996. doi:10.1523/JNEUROSCI.3279-07.2007
9. Kan, L., Jalali, A., Zhao, L. R., Zhou, X., McGuire, T., Kazanis, I., et al., & Kessler, J. A. (2007). Dual function of Sox1 in telencephalic progenitor cells. *Dev Biol*, 310(1), 85-98. doi:10.1016/j.ydbio.2007.07.026
10. Ekonomou, A.*, Kazanis, I.*, Malas, S., Wood, H., Alifragis, P., Denaxa, M., et al., & Episkopou, V. (2005). Neuronal migration and ventral subtype identity in the telencephalon depend on SOX1. *PLoS Biol*, 3(6), e186. doi:10.1371/journal.pbio.0030186 (*authors equally contributing)
11. Kazanis, I., Giannakopoulou, M., Philippidis, H., & Stylianopoulou, F. (2004). Alterations in IGF-I, BDNF and NT-3 levels following experimental brain trauma and the effect of IGF-I administration. *Exp Neurol*, 186(2), 221-234. doi:10.1016/j.expneurol.2003.12.004
12. Kazanis, I., Bozas, E., Philippidis, H., & Stylianopoulou, F. (2003). Neuroprotective effects of insulin-like growth factor-I (IGF-I) following a penetrating brain injury in rats. *Brain Res*, 991, 34-45.
13. Mantelas, A., Stamatakis, A., Kazanis, I., Philippidis, H., & Stylianopoulou, F. (2003). Control of neuronal nitric oxide synthase and brain-derived neurotrophic factor levels by GABA-A receptors in the developing rat cortex. *Brain Res Dev Brain Res*, 145(2), 185-195.
14. Benekou, A., Bolaris, S., Kazanis, E., Bozas, E., Philippidis, H., & Stylianopoulou, F. (2001). In utero radiation-induced changes in growth factor levels in the developing rat brain. *Int J Rad Biol*, 77, 83-93.
15. Kazanis, E., Philippidou, H., & Stylianopoulou, F. (2001). Molecular mechanisms involved in the response of brain tissue to trauma. *Archives of Hellenic Medicine*, 18(4), 363-374.
16. Giannakopoulou, M., Mansour, M., Kazanis, E., Bozas, E., Philippidis, H., & Stylianopoulou, F. (2000). NMDA receptor mediated changes in IGF-II gene expression in the rat brain after injury and the possible role of nitric oxide. *NeuroPathol Appl Neurobiol*, 26(6), 513-521.

Invited Reviews

17. Andreopoulou E, Arampatzis A, Patsoni M, Kazanis I. (2017) Being a Neural Stem Cell: a matter of character but defined by the microenvironment. *Adv Exp Med Biol*, Vol. 1041, Alexander Birbrair (Eds): *Stem Cell Microenvironments and Beyond*.
18. Rivera FJ, Kazanis I, Ghevaert C, Aigner L. (2016). Beyond clotting: a role of platelets in CNS repair? *Front Cell Neurosci*, 9, 511. doi: 10.3389/fncel.2015.00511.
19. Neumann B, Kazanis I. (2016). Oligodendrocyte progenitor cells: the ever mitotic cells of the CNS. *Front Biosci (Schol Ed)*, 8, 29-43. PMID: 26709894
20. Kazanis, I. Neurogenesis in the adult mammalian brain: how much do we need, how much do we have? (2012). *Curr Top Behav Neurosci*, 15, 3-29. doi: 10.1007/7854_2012_227
21. Kazanis, I. Can adult neural stem cells create new brains? Plasticity in the adult mammalian neurogenic niches: realities and expectations in the era of regenerative biology. (2012). *Neuroscientist*, 18(1), 15-27. doi:10.1177/1073858410390379

Other reviews in Neural Stem Cells and their niches

22. Agathou, S., Káradóttir, R. T., & Kazanis, I. (2014). Niche derived oligodendrocyte progenitors: a source of rejuvenation or complementation for local oligodendrogenesis? *Front Cell Neurosci*, 7, 188. doi: 10.3389/fncel.2013.00188
23. Kazanis, I., & French-Constant, C. (2011). Extracellular matrix and the neural stem cell niche. *Developmental Neurobiology*, 71(11), 1006-1017.
24. Marthiens, V., Kazanis, I., Moss, L., Long, K., & French-Constant, C. (2010). Adhesion molecules in the stem cell niche--more than just staying in shape? *J Cell Sci*, 123(Pt 10), 1613-1622. doi:10.1242/jcs.054312
25. Kazanis, I. (2009). The subependymal zone neurogenic niche: a beating heart in the centre of the brain: how plastic is adult neurogenesis? Opportunities for therapy and questions to be addressed. *Brain*, 132(Pt 11), 2909-2921. doi:10.1093/brain/awp237

Other publications

26. Kazanis, I. (2012). Reforming the Greek health system: A role for non-medical, clinical bioscientists. *Health Policy*. doi:10.1016/j.healthpol.2012.03.020
27. Kazanis, I. (2011). The chaos with stem cells. *Kathimerini* (daily morning newspaper), 18 Jan, <http://www.kathimerini.gr/723554/opinion/epikairothta/arxeio-monimes-sthles/to-xaos-me-ta-vlastokyttara>
28. Kazanis, I. (2005). CNS injury research; reviewing the last decade: methodological errors and a proposal for a new strategy. *Brain Res Brain Res Rev*, 50(2), 377-386. doi:10.1016/j.brainresrev.2005.09.003

... Preface of the Greek translation of M. Ruse's "Darwinism and its discontents", Ropi publications, March 2017, <http://www.ropipublications.com/darwinismos-kai-oi-epikrites-tou/>

Talks

1. "A new method for the isolation of postnatal brain neural stem cells for use in autologous therapies in leukodystrophies" 4th meeting of the Hellenic Academy of Neuroimmunology on Multiple Sclerosis, Thessaloniki, 14-17 December 2017.

2. "Creating a brain; evidence form embryogenesis and evolution" Autumn seminar of Neuropsychiatry in Primary Health Care, 14- 16 October **2016**, Ag. Athanasios, Pella, Greece.
<https://www.youtube.com/watch?v=Lg4iEEpqAko&t=478s>
3. "Where does size matter? Common and different aspects in the life of adult Neural Stem Cells in the mouse and the rat brain." Rodens et Spatium, Olomouc, 25-29 July **2016**, Czech Republic.
4. "investigating potential therapeutic applications of endogenous adult neural stem cells of the brain" GlowBrain Final Conference, "Stem cell and biomaterial applications for brain repair", 27- 30 may **2015**, Zagreb, Croatia.
5. "Cell generation from the Subependymal Zone stem cell niche in stroke and demyelination: identifying the limitations of the system" New trends in CNS regeneration and treatment, Prague, 15-16 September **2014**, Czech Republic.
<http://uem.avcr.cz/miranda2/export/sitesavcr/data.avcr.cz/lifesci/uem/sys/galerie-download/140605-newtrends-in-cns-regeneration-and-treatment.pdf>
6. "Oligodendrocyte regeneration and axonal remyelination" White Matter Meeting; everything you need and want to know about white matter, Trondheim, 6-7 February **2014**, Norway
<http://folk.ntnu.no/jian/brainlab/index.php/nyheter/46-white-matter-meeting-in-trondheim>
7. "The logistics of adult neurogenesis – identifying targets to enhance endogenous neurogenic processes" 4th international conference on stem cells and tissue formation, Dresden, 18-20 July **2012** (after reviewing process).
8. "The logistics of adult neurogenesis" Seminar of the Cancernet network, Medical School, University of Patras, Greece, 19 June **2012**.
9. "Neurogenesis in the adult brain and oxidative stress" Meeting of the Neurotox network, Patras, 8 October **2010**.
10. "Neurogenesis in the adult brain: the social life of a neural stem cell; builder or sleeper?" 24th Annual meeting of the Hellenic Society for Neuroscience, Athens 1-2 October **2010**.
11. "The social life of a neural stem cell" Neurobiology, Behaviour and Cognition Seminar Series, Queen Mary University, London; 23 February **2010**.
12. "Endogenous neurogenesis in the adult mammalian brain; the microenvironment of neural stem cells" Seminars of the Department of Animal and Human Physiology, Faculty of Biology, University of Athens; 1 February **2010**.
13. "The social life of the neural stem cell" Max Planck Institute for Experimental Medicine, Gottingen, Germany; 1 April **2009**.
14. "Progenitor dependent inactivation of neural stem cells". 22nd Annual meeting of the Hellenic Society for Neuroscience, Athens 16-19 October **2008**.
15. "The role of the extracellular matrix in the structure and properties of the subventricular zone neurogenic niche of the adult mouse brain. The example of tenascin-C". Young investigator presentation; 21st Annual meeting of the Hellenic Society for Neuroscience; Thessaloniki 1-2 December **2007**.
16. "Normal Regeneration in the Adult Subventricular Zone of TenascinC Deficient Mice" Harnessing Stem Cells for Therapeutic Recruitment in the Central Nervous System minisymposium, LIFE & BRAIN Center, Bonn, June 4 - 6, **2007**.

Research activity of the lab of Developmental Biology



MSc theses

2016

Christos Koutsakis

Investigation of the effects of ageing on proliferation and cellular senescence of neural stem cells in the postnatal brain.

Danai- Cassandra Meri

The role of the transcriptional factor Coup-TF in the differentiation of neural stem cells.

Undergraduate theses

2016

Evangelia Andreopoulou

Comparison of Neural Stem Cell activity in the adult brain of lab and wild mice.

Christina Dimitriou

Investigation of the role of the RNF113a protein in the development of neural stem cells.

Anastasia Kanellou

Study of the morphology of neurons generated by adult neural stem cells in vitro.

Nicholaos Karapanos

Differences of oligodendrocyte progenitor cells according to their position in the corpus callosum

Melina Patsoni

The extracellular matrix glycoprotein Tenascin-C controls proliferation and differentiation of embryonic neural stem cells.

Presentations in conferences

2017

The extracellular matrix glycoprotein Tenascin-C regulates the behavior of cortical neural stem cells during the neuroepithelial to radial glial transition. Melina Patsoni, Marcus May, Charles French-Constant, Andreas Faissner, Ilias Kazanis. *XIII European Meeting on Glial Cells in Health and Disease*, 8- 11 July 2017, Edinburgh, UK.

2016

Investigation of the role of Ring Finger Protein 113A (RNF113A) in the development of neural stem cells. Christina Dimitriou, Danai K. Meri, Konstantinos Botsakis, Fevronia Angelatou, Marigoula Margarity, Panagiotis K Politis, Ilias Kazanis. *67th Panhellenic Congress of the Hellenic Society for Biochemistry and Molecular Biology*, 25- 27 November 2016, Ioannina, Greece.

Comparison of Neural Stem Cell activity in the adult brain of “lab” and “wild” mice. Evangelia Andreopoulou, George Mitsainas, Ilias Kazanis. *67th Panhellenic Congress of the Hellenic Society for Biochemistry and Molecular Biology*, 25- 27 November 2016, Ioannina, Greece.

and at

Rodens et Spatium, July 25-29, 2016, Olomouc, Czech Republic

Neural Stem Cells and Oligodendrocyte Progenitor Cells exhibit distinct levels of senescence in homeostasis and in response to cellular stress. Christos Koutsakis, Robin JM Franklin, Ilias Kazanis. *Senescence UK 2016*, 1 December 2016, Cambridge, UK.

BNN-20, a synthetic microneurotrophin, induces adult dopaminergic neurogenesis in the Substantia Nigra of “weaver” mice, a model of Parkinson’s disease, without affecting adult hippocampal neurogenesis. Theodora Mourtzi, Konstantinos Botsakis, Danai K. Meri, Ilias Kazanis, Ioannis Charalampopoulos, Achilleas Gravanis, Nikolaos Matsokis, Fevronia Angelatou. *67th Panhellenic Congress of the Hellenic Society for Biochemistry and Molecular Biology*, 25- 27 November 2016, Ioannina, Greece.