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Research Neural Stem Cells biology, direct astrocytic reprogramming mechanisms, neuroimaging, neuroinflammation

Keywords astrocytes; induced neurons, miRNAs; AD risk factors; microglia; neuro-inflammation; transgenic animal models

Links Webpage:
<https://physiology-lab.med.uoi.gr/wp-content/uploads/2021/12/K.-Tsamis-772x1024-1-1-e1684398488354.jpg>

Biography

Dimitra Thomaidou has 25 years of experience in Neuroscience and Neuroimaging with her research interests focusing on adult neurogenesis and Neural Stem Cell (NSC) biology. She received her BSc degree in Biology from the University of Athens and her PhD in Neuroscience from the University of Patras. She continued to post-doctoral studies in University College London and Rockefeller University New York, with scientific focus on cell cycle regulation and neurogenesis during nervous system development. She returned back to Greece awarded with "Career Award" Program and in 2002 and was elected Associate Researcher in HPI. In 2012, after being awarded a Greek Ministry of Education "Aristeia" Grant, DT formed Neural Stem Cells and Neuro-Imaging group. During her tenure in HPI she has developed cutting-edge scientific approaches including sophisticated cell cycle analysis, primary NSC cultures from embryonic and adult brain, direct reprogramming of astrocytes and fibroblasts to induced-neurons, construction and stereotaxic injection of recombinant viral vectors expressing or silencing neuronal proteins into the neurodegenerated brain and live cell imaging. The current research interests of her group are focusing on the elucidation of the proliferation, differentiation and reprogramming properties of adult-derived NSCs and parenchymal macroglia (astrocytes and microglia) in vitro and in vivo in animal models of brain lesion, neuroinflammation and Alzheimer's Disease. To this end, her group has introduced live cell imaging approaches to follow the route of reprogrammed cells towards subtype-specific functional induced-neurons in vitro and 2-photon intravital imaging into the cortex to in vivo explore the properties of activated glial cells following neuroinflammation. Her publication record consists of 80 articles, 43 of them in peer-reviewed high impact factor journals, among which J. Neuroscience, JBC, Cell Reports, Stem Cell Reports, PNAS GLIA and Brain. INCLUDEPICTURE "https://physiology-lab.med.uoi.gr/wp-content/uploads/2021/12/K.-Tsamis-772x1024-1-1-e1684398488354.jpg" * MERGEFORMATINET