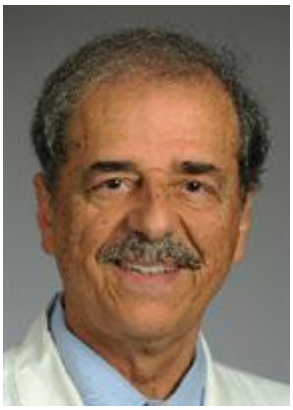
**Nicholas J. Patronas, MD**



**Academic Degrees**
MD, Salonica University, Greece
Residency, University of Illinois
Fellowship, Northwestern University

**Biosketch**

Dr. Patronas earned his medical degree at the University of Salonica, Greece. He completed a residency in Diagnostic Radiology at the University of Illinois Hospital and a fellowship in neuroradiology at Northwestern University. Dr. Patronas has been Board Certified in Diagnostic Radiology since 1973 and held a subspecialty certification in Neuroradiology (CAQ) since 1995.

Dr. Patronas served as an assistant and associate professor in the department of Radiology at the University of Chicago (1974-1981) and later as a professor of radiology at Georgetown University (1985-1992).

Since 1992 Dr. Patronas has been working at the Clinical Center of the National Institutes of Health. At that time he established Neuroradiology as a separate section of Radiology and has been its chief since.

Early in his career, Dr. Patronas was involved in interventional neuroradiology and described techniques for embolization of cerebral arteriovenous malformations and for occlusion of carotid cavernous fistulae. Later his attention was turned towards Positron Emission Tomography (PET) scanning and was one among several other physicians of the NIH who recognized the usefulness of this method in the detection and characterization of brain tumors. Among the most important contributions in this field was the observation that PET was able to correlate the rate of glucose utilization of the brain tumor with survival. Furthermore, Dr. Patronas was the first to recognize the usefulness of PET in separating enhancing lesions of the brain due to radiation necrosis from recurrent high grade gliomas. He also participated in the first publications of the abnormalities of FDG-PET scans found in patients with epilepsy and Alzheimer's disease.

In the 1990's Dr. Patronas published one of the first studies in brain perfusion using dynamic MRI scanning and observed the differences in blood perfusion between

gray and white matter and between low and high grade gliomas. He was also involved in early publications describing diffusion weighted imaging.

Among other important contributions are publications that described the pathophysiologic mechanism of Syringomyelia. More recently Dr. Patronas explored a gradient echo technique in the diagnosis of microadenomas of the pituitary.

Dr. Patronas is an author or a co-author of over 200 publications in peer review journals that have been cited thousands of times. He has been an invited speaker by various Universities and professional societies and presented hundreds of abstracts in medical meetings.

He is in charge of a joint neuroradiology fellowship programs with Georgetown, George Washington University and NIH.

**Selected Publications**

Mullan S, Kawanaga H, Patronas NJ. Microvascular embolization of cerebral arterio-venous malformation. J Neurosurg 1979;51:621-627.

Mullan JS, Duda EE, Patronas NJ. Some examples of balloon technology in neurosurgery. J Neurosurg 1980;52:321-329.

Di Chiro G, DeLaPaz RL, Brooks RA, Sokoloff L, Kornblith PL, Smith BH, Patronas NJ et al. Glucose utilization of cerebral gliomas measured by [18F]fluorodeoxyglucose and positron emission tomography. Neurology 1982;32:1323-1329.

Patronas NJ, Di Chiro G, Brooks RA, DeLaPaz RL, Kornblith PL, Smith BH, Sokoloff L, Rizzoli HV, Kessler RM, Manning Channing M, Wolf AP, O'Connor CM. [18F]Fluorodeoxyglucose and positron emission tomography in the evaluation of radiation necrosis of the brain. Radiology 1982;144:885-889.

Patronas NJ, Brooks RA, DeLaPaz RL, Smith BH, Kornblith PL, Di Chiro G. Glycolytic rate (PET) and contrast enhancement (CT) in human cerebral gliomas. AJNR 1983;4:533-535.

Foster NL, Chase TN, Fedio P, Patronas NJ, Brooks RA, Di Chiro G. Alzheimer's disease: Focal cortical changes shown by positron emission tomography. Neurology 1983;33:961-965.

Theodore WH, Newmark ME, Sato S, Brooks R, Patronas NJ, DeLaPaz R, Di Chiro G, Kessler RM, Margolin R, Manning RG, Channing M, Porter RJ: Positron

emission tomography in refractory complex partial seizures. Ann Neurol 1983;14:429-437.

Le Bihan D, Turner R, Douek P, Patronas N. Diffusion MR Imaging: Clinical Applications. AJR 1992;159:591-599.

Patronas NJ, Turner R, Le Bihan D, Fulham M, Schellinger D, Di Chiro G. Echo Planar Imaging with Contrast Agent in Studying Brain Perfusion. Neuroradiology 1991;33:267-268.

Oldfield EH, Muraszko K, Shawker TH, Patronas N; Pathophysiology of Syringomyelia Associated with Chiari I Malformation of the Cerebral Tonsils: Implications for Diagnosis and Treatment. J Neurosurgery 1994;80:3-15.

Patronas N, Bulakbasi N, Stratakis CA, Lafferty A, Oldfield EH, Doppman J, Nieman LK. Spoiled gradient recalled acquisition in the steady state technique is superior to conventional post contrast spin echo technique for magnetic resonance imagining detection of adrenocortictropin-secreting pituitary tumors. J Clin Endocrinol Metab. 2003 Apr;88(4):1565-9.