

## CURRICULUM VITAE

**Name:** NIHAL CHANDRA DE LANEROLLE

**Education:**

B.Sc. Honors, Zoology, University of Ceylon (1967)

D.Phil., Neuroethology, University of Sussex, England (1972)

B.A. Honors, Theology & Rel. Studies, University of Cambridge, England (1974)

M.A. University of Cambridge, England (1981)

D.Sc. (Higher doctoral degree), University of Sussex, England (1995)

**Career:**

1967 - 1969 Assistant Lecturer, Department of Zoology, University of Ceylon

1969 - 1972 Doctoral student, University of Sussex, England.

1972 - 1974 Affiliated student in Philosophy & Theology, University of Cambridge.  
Research Fellow, Sub Department of Animal Behavior, University of  
Cambridge (Part-time)

1974 - 1978 Postdoctoral Fellow, Dept's of Animal Science & Pharmacology,  
University of Minnesota

1978 - 1979 Postdoctoral Fellow, Dept. Psychiatry, Yale University

1979 - 1982 Associate Research Scientist, Section of Neurological Surgery, Yale  
University.

1982 - 1986 Assistant Professor of Surgery (Neurosurgery) and Neuroanatomy, Yale  
University.

1986 - 1992 Associate Professor of Surgery (Neurosurgery) and Neurobiology, Yale  
University.

- 1992 - 2005 Associate Professor with Tenure, Neurosurgery and Neurobiology, Yale University
- 2001-2002 (On leave from Yale). College Chaplain and Professor (Adjunct) in Neuroscience, Trinity College, Hartford, Connecticut.
- 2005 July Professor of Neurosurgery & Neurobiology, Yale School of Medicine

**Professional Honors or Recognition:**

- Elected Corresponding Member of the German League Against Epilepsy (1992).  
Fulbright Senior Scholar to Sri Lanka (1998-99)

**Lectures, Courses:**

Visiting Scientist, Max-Planck Institute for Psychiatry, Munich, W. Germany, June-August, 1987. Research: Brain mechanisms of vocalization in the Squirrel Monkey.

Invited speaker, NIH Symposium on 'Physiological Control of Mammalian Vocalization", Nov. 1986. Title: Functional Neural Pathways for Vocalization in the Domestic Cat.

Panel discussant at 2nd Annual Hippocampal Conference, Cayman Island, 1989. Title: Reorganization of the Human Epileptogenic Hippocampus.

Invited speaker at Workshop on "Functional Consequences of Axonal Sprouting in the Hippocampus" at Winter Conference on Brain Research, 1991. Title: Axonal Sprouting in Human Hippocampal Seizure Focus.

Invited speaker at International Symposium on "The Dentate Gyrus and Its Role in Seizures". Beckman Conference Center for the National Academy of Sciences, Irvine, California, Feb. 1991. Title: Neurotransmitter and their Receptors in Human Epilepsy.

Invited speaker at International League Against Epilepsy Workshop on Neurobiology of Epilepsy: Molecular Neurobiology 1991 Salvador (Bahia), Brazil. Title: Neurochemical Reorganization of the Hippocampus in Human Temporal Lobe Epilepsy.

Invited speaker at plenary session on Properties of Human Epileptogenic Tissue at the International Epilepsy Congress, Oct. 1991, Rio de Janeiro, Brazil. Title: Receptors and Transmitters in Human Temporal Lobe Epilepsy.

Invited Speaker at The Second International Palm Desert Conference on the Surgical Treatment of the Epilepsies, California 1992. Title: Anatomical Reorganization of Surgically Removed Hippocampal Seizure Foci.

Invited speaker at Fourth Bethel - Cleveland International Epilepsy Conference, Bielefeld, Germany, March 1993. Title: Adaptive Changes in the Brain in Human Temporal Lobe Epilepsy.

Guest Lecture at Department of Neurology, Institute of Psychiatry, London 1995.

Guest Lecture at MRC Brain Repair Unit, University of Cambridge, England 1995.

Invited speaker at International League Against Epilepsy Workshop on the Neurobiology of Epilepsy IV, 1997, Dublin, Ireland. Title: RNA transcript of *Mariner* transposon detected in human hippocampal tissue: A potential role in Temporal Lobe Epilepsy.

Organizer and Chairman for the symposium, “Diagnosis and Treatment of Epilepsy: Into the 21st Century”, at the SLMANA Millenium Conference on Progress in Medicine, Sri Lanka, December 1999.

Invited participant in Consensus Conference on Mesial Temporal Lobe Epilepsy with Sclerosis, Istanbul, Turkey, 2002.

NIH Brain Banking Conference, Session leader on Brain Banking for Epilepsy research, 2002.

Invited participant in “Finding a Cure for Epilepsy Conference”, Chicago. [One of only 12 selected researchers invited.] 2003

Invited participant in Tuberosus Sclerosis Association, Special meeting on “The Use of Surgical Tissue in Research”. [One of 20 persons invited.] 2004

Speaker, Neurology Grand Rounds at the university of Medicine and Dentistry New Jersey. Title: rethinking the neuropathology of temporal lobe epilepsy. Nov. 2006

**Professional Service:**

Ad Hoc member of the Neurological Sciences Study Section of the National Institutes of Health, Executive Secretary, (1985)

Member National Institute of Mental Health Study Section on "Cognitive Functional Neuroscience," (1992 - 1994)

Member, Genetics Task Force, American Epilepsy Society (2000 – 2002)

External Examiner, Higher Doctoral Degrees in Science, Univ. of Peradeniya, Sri Lanka (Since 2000).

Member, Sensory, Motor and Cognitive Neuroscience Fellowships Study Section (2007 - )

**Bibliography:****Peer-reviewed original research**

1] de Lanerolle, N. and Andrew, R.J. (1974) Midbrain structures controlling vocalizations in the domestic chick. *Brain Behavior and Evolution*, 10: 354 - 376.

2] Andrew, R.J. and de Lanerolle, N. (1974) Effects of muting lesions on the emotional behavior and behavior normally associated with calling. *Brain, Behavior and Evolution*, 10: 377 - 399.

3] de Lanerolle, N.C. (1977) Amphetamine and chick behavior: A role for the monoamines in the causation of vocalizations and emotion. *Brain Behavior and Evolution*, 14: 418 - 439.

4] de Lanerolle, N.C. (1978) The effects of amphetamine on the behavior of decerebrate domestic chicks. *Comparative Biochemistry and Physiology*, 60C: 75 - 77.

5] de Lanerolle, N.C. and Youngren, O.M. (1978) Chick vocalizations and emotional behavior influenced by apomorphine. *Journal of Comparative and Physiological Psychology*, 92: 416 - 430.

6] de Lanerolle, N.C. and Millam, J.R. (1980) Dopamine, chick behavior and states of attention. *Journal of Comparative and Physiological Psychology*, 94: 346 - 352.

7] Martin, J.T., de Lanerolle, N.C. and Phillips, R.E. (1979) Avian archistriatal influences on fear motivated behavior and adrenocorticoid function. *Behavioral Processes*, 4: 284 - 293.

8] Elde, R.P., Haber, S., Ho, R., Holets, V., de Lanerolle, N., Maley, B., Micevych, P., Seybold, V. (1980) Interspecies conservation and variation in peptidergic neurons. *Peptides*, 1: Supplement 1, 21 - 26.

9] de Lanerolle, N.C., Elde, R.P., Sparber, S.B. and Frick, M.L. (1981) Distribution of methionine-enkephalin immunoreactivity in the chick brain: An immunohistochemical study. *Journal of Comparative Neurology*, 199: 513 - 533.

10] LaMotte, C.C. and de Lanerolle, N.C. (1981) Human spinal neurons: Innervation by both substance P and enkephalin. *Neurosciences*, 6: 713 - 723.

11] LaMotte, C.C., Johns, D.R. and de Lanerolle, N.C. (1982) Immunohistochemical evidence of indoleamine neurons in monkey spinal cord. *Journal of Comparative Neurology*, 206: 359 - 370.

12] de Lanerolle, N.C. and LaMotte, C.C. (1982) The morphological relationships between substance P immunoreactive processes and ventral horn neurons in the human and monkey spinal cord. *Journal of Comparative Neurology*, 207: 305 - 313.

13] de Lanerolle, N.C. and LaMotte, C.C. (1982) The human spinal cord: Substance P and methionine-enkephalin like immunoreactivity. *Journal of Neuroscience*, 2: 1369 - 1386.

14] de Lanerolle, N.C. and LaMotte, C.C. (1983) Ultrastructure of chemically defined neuron systems in the dorsal horn of the monkey. I. Substance P immunoreactivity. *Brain Research*, 274: 31 - 49.

15] LaMotte, C.C. and de Lanerolle, N.C. (1983) Ultrastructure of chemically defined neuron systems in the dorsal horn of the monkey. II. Methionine-enkephalin immunoreactivity. *Brain Research* 274: 51 - 63.

16] LaMotte, C.C. and de Lanerolle, N.C. (1983) Ultrastructure of chemically defined neuron systems in the dorsal horn of the monkey. III. Serotonin immunoreactivity. *Brain Research*, 274: 65 - 77.

- 17] Kapadia, S.E. and de Lanerolle, N.C. (1984) Immunohistochemical and electronmicroscopic demonstration of vascular innervation in the mammalian brain stem. *Brain Research*, 292: 33 - 39.
- 18] Kapadia, S.E. and de Lanerolle, N.C. (1984) Populations of substance P, met-enkephalin and serotonin neurons in the interpeduncular nucleus of the cat: Cytoarchitectonics. *Brain Research*, 302: 33 - 43.
- 19] Kapadia, S.E. and de Lanerolle, N.C. (1984) Substance P neuronal organization in the median region of the interpeduncular nucleus of the cat: An electron microscopic analysis. *Neuroscience*, 12: 1229 - 1242.
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- 22] LaMotte, C.C. and de Lanerolle, N.C. (1986) VIP terminals, axons and neurons: Distribution throughout the length of the spinal cord. *Journal of Comparative Neurology*, 249: 133 - 145.
- 23] Akesson, T.R., de Lanerolle, N.C. and Cheng, M-F. (1987) Ascending vocalization pathways in the female Ring Dove: Projections of the nucleus Intercollicularis. *Experimental Neurology*, 95: 34 - 43.

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- 28] de Lanerolle, N.C. (1990) A pontine call site in the domestic cat: Behavior and neural pathways. *Neuroscience*, 37: 201 - 214.
- 29] Robbins, R.J., Brines, M.L., Kim, J.H., de Lanerolle, N.C., Welsh, S. and Spencer, D.D. (1991) A selective loss of somatostatin in the hippocampus of patients with temporal lobe epilepsy. *Annals of Neurology*, 29: 325 - 332.
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- 33] Brines, M.L., Dare, A.O. and de Lanerolle, N.C. (1995) The cardiac glycoside ouabain potentiates excitotoxic injury of adult neurons in rat hippocampus, *Neuroscience Letters*, 191: 145 - 148.
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- [<sup>3</sup>H]U69,539 binding in the human epileptogenic hippocampus. *Epilepsy Research* 28: 189 - 205.
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- 51] Eid, T., Brines, M.L, Cerami, A., Spencer, D.D., Kim, J.H., Schweitzer, J.S., Otterson, O.P., and de Lanerolle, N.C. (2004) Increased expression of erythropoietin receptor on blood vessels in the human epileptogenic hippocampus. *J. Neuropathology and Experimental Neurology* 63: 73 – 83.
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- 54] de Lanerolle, N.C. and Lee, T-S. (2005) New facets of the neuropathology and molecular profile of human temporal lobe epilepsy. *Epilepsy & Behav.* 7:190-203.
- 55] Lee, TS, Bjørnsen, LP, Paz, C, Kim, JH, Spencer, SS, Spencer, DD, Eid, T, de Lanerolle, NC. (2006) GAT1 and GAT3 expression are differently localized in the human epileptogenic hippocampus. *Acta Neuropathol.* DOI 10.1007/s00401-005-0017-9

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Lanerolle, N.C. (2007) Gene expression in temporal lobe epilepsy is consistent with increased release of glutamate by astrocytes. *Mol. Med.* 13: 1-13

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### **Book chapters**

Elde, R.P., Hokfelt, T., Ho, R., Seybold, V., Coulter, H.D., Micevych, P. and de Lanerolle, N.C. (1980) Immunohistochemical studies of central and peripheral peptidergic neurons, In: M. Cuenod, G.W. Kreutzberg and F.E. Bloom (Eds.), "Development and Chemical Specificity of Neurons". *Progress in Brain Research*, 51: 221 - 237.

LaMotte, C.C. and de Lanerolle, N.C. (1983) Substance P, enkephalin and serotonin: Ultrastructural basis of pain transmission in the primate spinal cord, In: J.J. Bonica, U. Lindblom, A. Iggo (Eds.), "Advances in Pain Research and Therapy", Volume 5, pg. 247 - 256, Raven Press, New York.

de Lanerolle, N.C. and Lang, F.F. (1988) Functional neural pathways for vocalization in the domestic cat, In: J.D. Newman (Ed.) "Physiological Control of Mammalian Vocalization", pg. 21 - 42, Plenum Press, New York.

de Lanerolle, N.C. and Spencer, D.D. (1991) Neurotransmitter markers in human seizure foci, In: R.S. Fisher and J.T. Coyle (Eds.), "Neurotransmitters and Epilepsy", Frontiers of Clinical Neuroscience Series, pg. 201 - 217, Alan R. Liss, New York.

de Lanerolle, N.C., Brines, M.L., Williamson, A., Kim, J.H. and Spencer, D.D. (1992) Neurotransmitters and their receptors in human temporal lobe epilepsy, In: C.E. Ribak, C.M. Gall and I. Mody (Eds), "The Dentate Gyrus and its Role in Seizures", Epilepsy Research Suppl. 7, Chapter 17, p. 235 - 250, Elsevier, The Netherlands.

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de Lanerolle, N.C., Magge, S.N., Philips, M.F., Trombley, P., Spencer, D.D. and Brines, M.L. (1994) Adaptive changes of epileptic human temporal lobe tissue: Properties of neurons and glia. In Wolf, P (Ed) Epileptic Seizures and Syndromes, John Libby & Company, pp. 437 - 454.

de Lanerolle, N.C., (2001) The pathology of the epilepsies: Insights into the causes and consequences of epileptic syndromes. In: Pellock, J.M., Dodson, W.E. and Bourgeois, B. "Pediatric Epilepsy: Diagnosis and Therapy", pg. 45 - 60, Second Edition, Demos, New York.

Spencer, S.S., Novotny, E., de Lanerolle, N., Kim, J.H. (2001) Mesial temporal sclerosis: electroclinical and pathological correlations and applications to limbic

epilepsy in childhood. In G. Avenzini,, A. Beaumanoir and L. Mira (eds) 'Limbic Seizures in Children', pg. 41 - 54, John Libby & Co., New York.

Steinhauser, C., Haydon, P.G., de Lanerolle, N.C. Astroglial Mechanisms in Epilepsy, In: T.A. Pedley and J. Engel Jr. (Eds) Epilepsy: A Comprehensive Textbook, Chapter 26 (In press).