

## APPLICATION FOR FELLOWSHIPS

**Name of Institution:** Douglas Mental Health University Institute

**Type of Fellowship:** Clinical/Research

**Fellowship Program Director:** Dr. Rene Desautels

**Number of Positions:** 2

**Length:** 1 year

Name of Institution : Douglas Mental Health University Institute

Location: 6875 Lasalle Blvd., Verdun, Quebec H4H 1R3

Program Information:

- *Number of fellowship positions requested:* 2 positions
- *Academic affiliation:* McGill University
- *Name of hospitals involved in training:* Douglas Mental Health University Institute
- *Background:* The Douglas Institute has a large program in Geriatric Psychiatry comprising 72 beds of in-patients treatment as well as a Memory Clinic, a Geriatric Psychiatry Outpatient Clinic, a Day center and a possibility of doing consultation work in nursing homes. The Geriatric Psychiatry comprising of 24 beds of acute admission, 30 beds of rehabilitation and a special National Program of 18 beds specialized in the care of dementia with neuropsychiatric symptoms. This special unit is part of the Moe Levin Centre which comprises the Memory Clinic headed by Dr. NVP Nair, the Day Center for the Memory Clinic and The Moe Levin Dementia specialized unit headed by Dr. R. Desautels. We also have access to consultation with Dr. S. Gauthier, neurologist, specialized in the field of dementia. The Geriatric Psychiatry Program is also working jointly with the large department of basic science in the Aging and Alzheimer Disease Research Axis of the Douglas Institute.
- The mission of the Douglas Institute is to provide state-of-the-art clinical care as well as teaching and research in an integrated and multidisciplinary fashion. The Institute aims to give treatment to patients following up-to-date guidelines as well as being at the cutting edge by gleaming clinical tips brought back by our researchers and clinicians attending the national conferences (such as ICAD, VAS-COG, AAGP, CAGP). Also, the Moe Levin Centre is fortunate in having a researcher in residence in the person of Dr. M. Natasha Rajah, specialist in fMRI, who is doing research with people from our Program and also with the Aging and Alzheimer Disease Axis in the Douglas Institute Research Centre. Many post-doctoral students are actively involved in helping our Memory Clinic establish a cognitive remediation program with a researcher-oriented focus. Dr. Rajah also participates and helps our Fellows and post-doctoral students in writing up and preparing research protocols for funding agencies, etc. Dr. Nair, in a long standing and on-going effort in human clinical researches makes it easy to integrate Fellows within a research framework. There are always two to five research protocols going on at the same time in our Memory Clinic. Those protocols always include staff of the Memory Clinic as well as research assistants hired by Dr. Nair to help gather data and patients. A statistician is also part of the team, although being based at the Research Centre. In short, whatever the research experience needed, it is possible to provide here, at the Douglas Institute. We also draw on the expertise of Dr. Judes Poirier, in Biochemistry and Lipid Metabolism and Dr. Serge Gauthier in Imaging and Clinical Neurology.

Also, research involving other hospitals is encouraged. We are presently doing a vaccine protocol for Alzheimer Disease where the actual infusion is done at the Royal Victoria Hospital instead of the Douglas. The patient data analysis and overall management is done at the Douglas and the infusion is done under the supervision of a neurologist and anaesthesiologist at the Royal Victoria Hospital.

- Also, most of our clinicians are at the forefront of their fields. Most of them give invited talks and attend national conferences to make sure that their skills are always up to date. An example of multidisciplinary research is our Cognitive Remediation research protocol with a neuropsychologist and a clinician nurse are establishing a protocol and carrying it through. They work conjointly with Dr. Rajah and Dr. Nair. More precise information, whether clinical or research can be easily obtained through contacting the Medical Director of Geriatric Psychiatry Program at the Douglas Institute.
- *Research activity:* The Memory Clinic of Douglas Institute is member of the Consortium of Canadian Centres for Clinical Cognitive Research (C5R) and as such participates in a number of drug trials and also does its own protocol for our basic science research as well as some epidemiological research (fMRI and protocols, Dr. Maria Natasha Rajah).
- *Publications:* Dr. NPV Nair and Dr. Maria Natasha Rajah list of publications are attached.
- *Outline how intended fellowship will enhance residency training:* The Fellow would choose any of our fellowship program or streams, for example: **1)** Memory Clinic/Dementia/Imaging (mostly with Dr. Nair/Dr. Desautels); **2)** In-patient/out-patient/treatment of geriatric psychiatry patients (mostly with Dr. Di Tomasso/Dr. Desautels); **3)** A mix of the two afore mentioned streams with the possibility of doing basic science research with Dr. Nair and/or any of the researchers from the Aging and Alzheimer Disease Research Axis. He/she would be involved in integrative clinical care and exposed to research, clinical and basic, on an almost daily basis. He/She will be able to become very proficient in the clinical care of acutely sick, non-demented and psychiatric diseased individuals on their admission to the unit while also being able to care for those special patients presenting with dementia and very severe psychiatric problems. Those patients are treated mostly on our Moe Levin Centre Unit, where most of the patients come from other hospitals and nursing homes. Those patients are 3<sup>rd</sup> and 4<sup>th</sup> line and treatment, although integrative in terms of behavioural control, is also state-of-the-art pharmacological control of agitation, etc. The Fellow will also be able to conduct in-depth interviews and be able to recognize different types of dementia from a clinical investigative standpoint (use of FMRI and PET and advanced neuropsychological testing), such as making the difference between frontotemporal dementia, Lewy Body dementia, Parkinson dementia, Alzheimer Disease, Cortical Basal, degeneration, etc. He/She will also be exposed to the ways of the geriatric psychiatry work within nursing homes by going with some of our psychiatrists to nursing homes or participating in our out-patient consultation clinics for nursing homes in other hospitals. The Douglas Institute receives geriatric psychiatry patients from Verdun Hospital, LaSalle Hospital, Lachine Hospital and also provides expertise for the Lakeshore General. In addition, 3<sup>rd</sup> line and 4<sup>th</sup> line services are offered to all hospitals in Quebec. The particularity of our program is also the presence of a geriatrist within our Memory Clinic who is able to explain the finer points of the co-morbidities and suggest better physical approaches with patients.
- *Name of Fellowship Director:* Dr. R. Desautels, geriatric psychiatrist involved specially in the care of patients with dementia with neuropsychiatry symptoms on the Moe Levin Centre Unit, at the Memory Clinic as well as the Geriatric Psychiatry Outpatient Clinic.

- *Names of the Teaching Faculty:*
  - *Summary of clinical practice:* Dr. Nair mostly works in the Memory Clinic and also helps with difficult cases through consultation with other members of the Department. He also leads interview techniques for all residents on Friday mornings and he is a font of knowledge for all things psychiatric and mostly for the biological psychiatry spectrum. Dr. Desautels works mostly on the Moe Levin Centre Unit, at the Memory Clinic and as a consultant in the OPD Geriatric Clinic for CHSLDs. He also conducts legal expertises for competency etc. Dr. Di Tomasso is highly trained and carries always at least 12 patients on the acute in-patient ward caring for very sick psychiatric patients. In addition, part of her practice involves helping her colleagues in teasing out the beginning of organicity in psychiatric patients. As such, she is skilled in identifying cognitive and personality changes often seen in beginning of organic diseases.
  - *Major Strengths:* The psychiatric staff is very cohesive and works well together. In addition, Fellows and Residents can attend bi-weekly rounds in geriatric psychiatry and also participate in the Journal Club conferences from the Research Department (Aging and Alzheimer Disease Axis). The Fellow would be part of an extensive network of professionals that are well integrated and complete clinical teams. For example, our Memory Clinic has trainers, one full-time social worker and a full-time neuropsychologist, as well as a full-time secretary. The number of new cases is over 400 per year and research is going on by the Memory Clinic team in the field of Cognitive Remediation. As well, Dr. Nair in that clinic carries on clinical research with a team of research assistants and project leaders.
- *Academic Facilities:*
  - *Outline facilities for clinical and academic pursuit:* The Douglas is a very large and well appointed site where both basic science and clinical research are going on in its facilities.
  - *Library access, materials relevant to Fellowship training / Multimedia learning materials available / Availability of a skills lab if applicable:* The library is linked with all the other libraries at McGill U. and the staff is very helpful. Also, the many rounds occurring weekly at the Douglas Hospital contribute greatly to the academic atmosphere. There are Grand Rounds, J. Club lectures for residents, J. Club conferences for the Geriatric Psychiatry Program, J. Club conferences in Child Psychiatry and also a specialized J. Club for Research in Aging. We also have access to on-line psychiatric consultations for remote areas of Quebec and audio-visual technicians are available on the premises for the set-up of tele-medicine sessions. Since the Douglas Institute has such a large Brain Bank, Animal Facilities and Basic Science Research Laboratories, there is no end to the possibility of putting one's skills as a researcher to test by joining one of our researcher and trying hands on experiments if one so wishes.
- *Fellow Duties and Responsibilities:*
  - The Fellow is fully expected to give at least one J. Club lecture per six-month period and to participate in all academic activities pertaining to geriatric psychiatry during his stay with us. In addition, he will participate and be helped by a supervisor for critical reviews of articles, attending specialized conferences and hopefully write an article on his own. His clinical duties will be specified by his supervisor and may depend on which supervisor and stream speciality he/she chooses. The Douglas Institute is well appointed with a special

department for education (Teaching & Training Directorate -TTD), is media savvy and offers full clinical teams in all services. Secretaries are available to help residents with articles or electronic searches, etc. Also the Douglas has an expertise in statistics, statisticians are available to help in the design of analysis of data.

#### Published Refereed Papers

1. **Rajah, M. N.**, Bastianetto, S., Cools, R., D'Esposito, M., Grady, C. L., Poirier, J., Quirion, R., Raz, N., Rogava, E., Song, W., and Pruessner, J. (2009). Biological changes associated with healthy versus pathological aging: A symposium review. Ageing Research Reviews, 8, 140-146.
2. **Rajah, M. N.** and McIntosh, A. R. (2008). Age-related differences in brain activity during recency memory. Brain Research. 1199, 111-125.
3. **Rajah, M. N.**, Ames, B. and D'Esposito, M. (2008). Prefrontal contributions to domain-general executive control processes during temporal context retrieval. Neuropsychologia, 46, 1088-1103.
4. **Rajah, M.N.** and McIntosh, A. R. (2006). Dissociating prefrontal contributions during a recency memory task. Neuropsychologia, 44(3):350-64.
5. **Rajah, M. N.**, and D'Esposito, M. (2005). Region specific changes in prefrontal function with age: a review of PET and fMRI aging studies on working memory and episodic memory. Brain, 128:1964-83.
6. **Rajah, M. N.** and McIntosh, A. R. (2005). Overlap in the functional neural systems involved in semantic and episodic memory retrieval. Journal of Cognitive Neuroscience, 17 (3), 470-483.
7. McIntosh, A.R., **Rajah, M. N.**, and Lobaugh, N. J. (2003). Functional Connectivity of Medial Temporal Lobe Relates to Learning and Awareness. Journal of Neuroscience, 23(26), 6520-6528.
8. Grady, C. L., McIntosh, A. R., **Rajah, M. N.**, Beig, S. and Craik F. I. M. (1999). The effects of age on the neural correlates of episodic encoding. Cerebral Cortex, 9, 805-814.
9. McIntosh, A. R., **Rajah, M. N.**, and Lobaugh, N. J. (1999). Interactions of prefrontal cortex in relation to awareness in sensory learning. Science, 284, 1531-1533.
10. McIntosh, A. R., Sekuler, A. B., Penpeci, C., **Rajah, M. N.**, Grady, C. L., Sekuler, R., and Bennett, P. J. (1999). Recruitment of unique neural systems to support visual memory in normal aging. Current Biology, 9, 1275-1278.
11. **Rajah, M. N.**, McIntosh, A. R., and C. L. Grady (1999). Frontotemporal interactions in face encoding and recognition. Cognitive Brain Research, 8, 259-269.
12. **Rajah, M. N.**, Hussey, D., McIntosh, A. R., Kapur, S., and Houle, S. (1998). Task-independent effect of time on rCBF. Neuroimage, 7, 314-325.
13. Grady, C. L., McIntosh, A. R., **Rajah, M. N.**, and Craik, F. I. M. (1998). Neural correlates of the picture superiority effect in memory. Proceedings of the National Academy of Sciences USA, 95, 2703-2708.

### Published contributions to a collective work and book chapters

1. Stuss, D. T., Alexander, M.P., Floden, D., Binns, M.A., Levine, B., McIntosh, A. R., **Rajah, M.N.** and Hevenor, S.J (2002). Fractionation and localization of distinct frontal lobe processes: Evidence from focal lesions in humans. In Principles of Frontal Lobe Function, D. T. Stuss and R. T. Knight (Eds.). Oxford: Oxford University Press, 392-407.

### **PUBLICATIONS – Dr. Neekelanta Vasavan NAIR**

1. Fleminger, J.J., Dehorne, J., Nair, N.P.V., Nott, P.N. (1970). Memory and unilateral ECT. *Amer. J. Psychiat.* 127(4), 430-436.
2. Nair, N.P.V. (1971). Clinical pharmacological study of MAO inhibitors in chronic anergic schizophrenics. Proc. Psychiat. Res. Conf., Univ. Saskatchewan, A.A. Boulton (ed), 1-10.
3. Marjerrison, G., Keogh, R.P., Nair, N.P.V. (1971). Pimozide: EEG effects related to clinical response. *Can. Psychiat. Ass. J.* 16, 437-439,.
4. Fakruddin, A.K.M., Manjooran, A., Nair, N.P.V., Neufeldt, A. (1972): A five year outcome of discharged chronic psychiatric patients. *Can. Psychiat. Ass. J.* 17, 433-435,.
5. Nair, N.P.V., Hontela, S., Ban, T.A. (1973). Trazodone in the treatment of organic brain syndrome in geriatric patients. *Curr. Ther. Res.* 15, 10S, 769-775, Suppl.
6. Galvan, L., Nair, N.P.V., Kussin, D. (1973). Trazodone in the treatment of schizophrenias. *Curr. Therap. Res.* 15, 10S, 776-780, Suppl.
7. Ananth, J.V., Nair, N.P.V. (1973). Megavitamin therapy in schizophrenia. A review. *Indian J. Psychiat.* 15, 329-340,
8. Ban, T.A., Lehmann, H.E., Amin, M.M., Galvan, L., Nair, N.P.V., Vergara, L.E. and Zoch, C. (1973). Comprehensive clinical studies with trazodone. *Curr. Therap. Res.* 15, 540-551,
9. Ban, T.A., Amin, M.M., Nair, N.P.V. and Engelsmann, F. (1974). Comprehensive clinical studies with trazodone in Canada, *Modern Problems of Pharmacopsychiatry* 9: S. Karger, 110-126.
10. Ban, T.A., Lehmann, H.E., Amin, M., Bronheim, L.A., Klingner, A., Nair, N.P.V., Galvan, L., Vergara, L. and Zoch, C. (1974). Differential effects of trazodone in depressed, schizophrenic and geriatric patients. *Int. J. Clin. Pharmacol.*, 9, 23-27.
11. Ban, T.A., Lehmann, H.E., Amin, M.M., Galvan, L., Nair, N.P.V., Vergara, L.E. and Zoch, C. (1974). Systematic clinical studies with trazodone. *Psychopharmacol. Bull.*, 10, 18-19.
12. Ananth, J., Nair, N.P.V. (1974). Symposium in Depression, Proceedings of a Symposium held at St-Mary's Hospital, Montreal. Published by Ciba-Geigy Scientific Service.
13. Nair, N.P.V., Deutsch, M., Derkevorkian, K.S., Ucha Udabe, R., Ban, T.A., Lehmann, H.E. (1976). Doxepin and Diazepam in the treatment of hospitalized geriatric patients. *Psychiatric J. of the Univ. of Ottawa*, 1, 35-39.
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## **PUBLISHED ABSTRACTS AND PRESENTATIONS AT SCIENTIFIC MEETINGS**

1. Ban, T.A., Lehmann, H.E., Amin, M., Bronheim, L.A., Klingner, A., Nair, N.P.V., Galvan, L., Vergara, L. and Zoch, C.: Differential effects of trazodone in depressed, schizophrenic and geriatric patients. Presented at the Ninth Annual Meeting of the Canadian Society of Clin. Pharmac. and Chemotherapy. Toronto, Canada, May 3-4, 1973.

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3. Nair, N.P.V., Lehmann, H.E., Ban, T.A., Schwartz, G., Steward, J.: Trazodone in the treatment of schizophrenia - a comprehensive evaluation. Presented at the 24th Annual Meeting of the Canadian Psychiatric Association. Ottawa, Canada, Oct. 1-4, 1974.
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5. Lal, S., Ettigi, P., Nair, N.P.V. and Guyda, H.: Effect of neuroleptic withdrawal, methysergide, and pimozide on apomorphine-induced growth hormone secretion. Presented at the 26th Canadian Psychiatric Association Meeting. Quebec City, Sept. 28 - Oct. 2, 1976.
6. Nair, N.P.V.: Biology of aging. Presented at the 4th Congress of the International College of Psychosomatic Medicine. Kyoto, Japan, Sept. 4-9, 1977.
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8. Nair, N.P.V., Muller, H.F., Gutbrodt, E., Buffet, L. and Schwartz, G.: Neurotropic effects of lithium: Relationship to lithium levels in the serum and red blood cells. Presented at the Canadian Psychiatric Association Annual Meeting. Saskatoon, Sept. 28-30, 1977.
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13. Pulman, J., Nair, N.P.V., Delvin, E.: Lithium and the parathyroids. Presented at the Canadian Psychiatric Association Annual Meeting. Halifax, Oct. 16-21, 1978.
14. Nair, N.P.V., Yassa, R., Ruiz-Navarro, J.F. and Schwartz, G.: Therapeutic approaches to tardive dyskinesia: The role of GABA-ergic drugs, presented at the Canadian Psychiatric Association Annual Meeting. Halifax, Oct. 16-21, 1978.
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