

Ramasamy, Deepa Preeti MD

Buffalo Neuroimaging Analysis Center
100 High Street, Buffalo, NY 14203
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Job Designation: Clinical Trial Neuroimager / Clinical Trial Research Assistant

Education

M.B.B.S. (Bachelor of Medicine and Bachelor of Surgery) Chennai Medical College,
India. 09/1992 - 4/1997
Transitional Year Residency Chennai Medical College,
India. 05/1997 - 11/1999

Certifications

Board certifications (India)

The Tamil Nadu Dr.M.G.R Medical University, Chennai, India

Transitional Year Residency – 1999, The Tamil Nadu Dr.M.G.R Medical University,
Chennai, India

Certifications for International Medical Graduates (USA)

ECFMG (Educational Commission for Foreign Medical Graduates) Certified 2004

USMLE (United States Medical Licensing Examination) Step 1 Certified 2003

USMLE (United States Medical Licensing Examination) Step 2 CK Certified 2003

USMLE (United States Medical Licensing Examination) Step 3 Certified 2004

ECFMG - TOEFL (Test of English as a Foreign Language) Certified 2003

ECFMG - CSA (Clinical Skills Assessment) Certified 2004

American Heart Association for the BLS for health care providers (CPR & AED)

Program certified until June 2010

Programming Experience and Technical skills

Office applications: Microsoft windows XP 2003 / Vista Word, Excel, PowerPoint, Access

Imaging Softwares:

- FreeSurfer : very good knowledge of implementation, troubleshooting images
- Java Imaging Manipulation
- Statistical Parametric Mapping (SPM)
- Voxel Based Morphometry (VBM)
- SIENAX

Linux:

- Good knowledge of Linux
- Matlab development under Linux,
- Voxel-Based Morphometry development in Linux

Data management

- Compiled data in excel and SPSS
- Quality control

Research Experience

Positions held:

Nov 2007 to present Clinical Trial Neuroimager / Clinical Trial Research Assistant
Buffalo Neuroimaging Analysis Center, Buffalo, NY 14203

May 2006 to Oct 2007 Research Assistant / MRI Fellow
Buffalo Neuroimaging Analysis Center, Buffalo, NY 14203

General Description of Duties:

May 2006 to Oct 2007

Designation: Research Assistant / MRI Fellow

Data Analysis

Morphometry analysis:

FreeSurfer software:

- Responsible for initial implementation of FreeSurfer imaging software and led the project in BNAC as to how to use the software for analysis of cortical, subcortical and white-matter segmentation on MRI scans of controls and patients
- Documented and collected segmentation results from MRI scans of sample set of controls and patients using FreeSurfer software, and assessed intra-scanner and inter-scanner reproducibility
- Assessed FreeSurfer software reliability by running the segmentations on same set of MRI scans and calculated reproducibility; the results were forwarded to the steering committee for further assessment and approval for use in BNAC studies
- After approval of FreeSurfer software, assessed Global Gray matter and White matter changes on MRI scans of patients (with focus on Multiple Sclerosis and Parkinson's disease) and controls
- Quantified morphometric changes in deep gray matter structures on series of MRI scans of patients and controls using FreeSurfer imaging software cross-sectionally as well as longitudinally
- Assessed cortical thickness changes on MRI Scans of controls and patients using FreeSurfer imaging software
- Collected data from each experimental procedure; calculated the results of research studies and documented

Voxel-based Morphometry, SIENA and SIENAX

- Assessed regional brain atrophy measurement using **SIENA** (longitudinal), **SIENAX** (cross-sectional)
- Assessed voxel-wise differences in gray matter on MRI scans of patients and controls

T1, T2, lesion load analysis

- Perform a variety of routine and specialized experimental procedures by calculating T2 and T1 lesion load quantification on corresponding MRI scans for the purpose of original research (with focus on Multiple Sclerosis) which will be within a well-defined body of scientific knowledge and contribute to larger research efforts of independent investigators
- Asses T2 lesion load activity by using Semi-Automated Lesion Activity Analysis software (SALA), over series of scans to determine if the T2 lesions are active or stable
- Collect data from each experimental procedure; calculate results of research studies and documentation

Lateral ventricular volume and Third ventricle width analysis

- Calculate Third ventricle width and lateral ventricular volume on MRI scans of patients and controls

Data Management & Statistics:

- Developed and maintained several research databases and spreadsheets using Excel, SPSS
- Quality control
- Perform statistical analysis using SPSS
- General Linear Model Analysis using FreeSurfer software on patient groups and normal controls by defining region of interests

Preparing final reports, writing abstracts and manuscripts

Nov 2007 to present:

Designation: Clinical Trial Neuroimager /Clinical Trial Research Assistant

Multi-center clinical trials

- Regular meetings with project team
- Assist with planning and implementation of specific research procedures
- Verify the scans if the sequences are according to protocol
- Calculate the specific analysis that includes T1 and T2 lesion activity analysis as determined by protocols
- Maintaining close communications with the supervisor regarding the results of all experimental research procedures, so that the Supervisor can disseminate in a timely manner to the concerned funding agencies, MRI protocol development, for presentations and for publications
- Maintaining communications with project coordinators and managers of clinical trials about the participant's MRI results and, response to therapy in clinical trials
- Routine communications with site regarding status/resolution of queries
- Filing and collating trial documentation and reports
- Archiving study documentation and correspondence
- Preparing final reports for data analysis

Training/Educational

- Training of other research assistants and MRI fellows
- Development and maintenance of Standard Operating Procedures
- Journal club presentations of relevant publications
- Manage MS PDF library

MS PDF library

- Reads new articles and sets path for these articles to be added in the BNAC MS PDF library

Presented research findings at international congresses

- International Society for Magnetic Resonance in Medicine (ISMRM) at Toronto, Canada May 2008
- European Neurological Congress (ENS) Rhodes, Greece June 2007
- European Committee for Treatment and Research in Multiple Sclerosis (ECTRIMS) at Prague, Czech Republic Oct' 2007

Publications:

1.) Extent of cerebellum, subcortical and cortical atrophy in patients with MS. A case-control study (Journal of Neurological Sciences, 2009 Feb 5 [Epub ahead of print])

Deepa Preeti Ramasamy, Ralph Benedict, Jennifer L. Cox, David Fritz, Nadir Abdelrahman, Sara Hussein, Alireza Minagar, Michael G. Dwyer, Robert Zivadinov

2.) Memory Impairment in Multiple Sclerosis: Correlation with Deep Gray Matter and Mesial Temporal Atrophy (J Neurol Neurosurg Psychiatry. 2009 Feb; 80(2):201-6. Epub 2008 Oct 1.)

Ralph H B Benedict, **Deepa Ramasamy**, Frederick Munschauer, Bianca Weinstock-Guttman, Robert Zivadinov

3.) The place of conventional MRI and newly emerging MRI techniques in monitoring the different aspects of treatment outcomes. J Neurol (2008)255 [Suppl 1]:61-74

Robert Zivadinov, Milena Stosic, Jennifer L.Cox, Deepa P. Ramasamy, Michael G. Dwyer

4.) Protective Effect of Met66 Allele of the BDNF rs6265 SNP on Regional Gray Matter Volumes in Patients with Multiple Sclerosis: A Voxel Based Morphometry (Submitted)

Deepa P. Ramasamy, Murali Ramanathan, Jennifer L. Cox, Ronald Antulov, Bianca Weinstock-Guttman, Niels Bergsland, Ralph H.B. Benedict, Michael G. Dwyer, Robert Zivadinov

Presentations:

Platform Presentation: Extent of deep grey matter atrophy in patients with multiple sclerosis. A case control study. Mult Scler 2007;13(Suppl 2):P601:S180

D.P. Ramasamy, D. Fritz, J.L. Cox, N. Abdelrahman, S. Hussein, M.G. Dwyer, R. Zivadinov Buffalo Neuroimaging Analysis Center (Buffalo, US)

Platform Presentation: Hippocampal atrophy does not correlate with cognitive decline in patients with multiple sclerosis. J Neurol 2007;254(suppl. 3):O67,14

R. Benedict, **D.P. Ramasamy**, J.L. Cox, M.G. Dwyer, D. Fritz, F.E. Munschauer, B. Weinstock-Guttman, R. Zivadinov Jacobs Neurological Institute (Buffalo, US); Buffalo Neuroimaging Analysis Center (Buffalo, US)

Poster: Subcortical brain atrophy and mild cognitive impairment in early Parkinson disease. A case - control study. American Academy of Neurology, 61st meeting at Seattle, USA 2009. abstract P09.045

Dalaker TO, Zivadinov R, **Ramasamy DP**, Beyer MK, Alves G, Bronnick KS, Tysnes OB, Aarsland D, Larsen JP.

Poster: Use of lesion walker classification in patients with multiple sclerosis. ISMRM 17th conference at Honolulu, USA 2009; abstract 2879

Wack DS , Dwyer MG, Durfee J, Hussein S, **Ramasamy DP**, Bergsland N, Zivadinov R.

Poster: Different patterns of regional subcortical and cortical atrophy in patients with multiple sclerosis. A case control study. ISMRM 16th conference at Toronto, Canada 2008; abstract 2671

Ramasamy DP, Dwyer MG, Cox JL, Stosic M, Fritz D, Zivadinov R.
Buffalo Neuroimaging Analysis Center, Department of Neurology,
University of Buffalo (Buffalo, USA)

Poster: A longitudinal study of deep grey matter atrophy in patients with multiple sclerosis. A case control study. Mult Scler 2007;13(Suppl 2):P606:S182

R. Zivadinov, **D. Ramasamy**, E. Havrdova, N. Bergsland, Z. Seidl, N. Abdelrahman, M. Dwyer, M. Vaneckova, D. Horakova University of Buffalo (Buffalo, USA); Charles University (Prague, CZ)

Poster: Extent of subcortical and cortical atrophy and disease severity in patients with multiple sclerosis. A case-control study. Mult Scler 2007;13(Suppl 2):P601:S180

D.P. Ramasamy, R.H.B. Benedict, M.G. Dwyer, M. Stosic, D. Fritz, R. Zivadinov
University of Buffalo (Buffalo, USA)

Poster: Protective effect of Met66 allele of BDNF polymorphism on grey matter volume in patients with multiple sclerosis: a voxel-based morphometry study. Mult Scler 2007;13(Suppl):P284:S83

D. Ramasamy, M. Ramanathan, J. Cox, B. Weinstock-Guttman, N. Bergsland, R. Benedict, M. Dwyer, R. Zivadinov Buffalo Neuroimaging Analysis Center (Buffalo, USA); Dept. of Pharmaceutical Sciences, SUNY (Buffalo, USA); The Jacobs Neurological Institute (Buffalo, USA)

Poster: Reduced gray matter volume in multiple sclerosis carriers of APOE e4 allele. A voxel based morphometry study. Mult Scler 2007;13(Suppl):P285:S83-84

Jennifer L.Cox, Murali Ramanathan, **Deepa P. Ramasamy**, Bianca Weinstock-Guttman, Niels Bergsland, Ralph HB. Benedict, Michael G. Dwyer, Zivadinov Robert; Buffalo Neuroimaging Analysis Center, Department of Neurology, University at Buffalo, State University of New York, Buffalo, NY, USA; Department of Pharmaceutical Sciences, State University of New York, Buffalo, NY, USA and The Jacobs Neurological Institute, Department of Neurology, University at Buffalo, State, University of New York, Buffalo, NY, USA

Recognitions and Honors

- On behalf of theECTRIMS Scientific Committee at Prague, held in Oct, 2007, I received Young Scientific Talent Travel Grant of 400 EUR and Free Registration to acknowledge the quality of my scientific contribution to this congress
- Oral platform presentation at the European Neurological Congress in Rhodes, Greece, 2007
- Principal's list: Best class student for continuous 10 years, St. Johns Senior School, Chennai, India
- Best House officer of the year – Gayathree Medical Center, Theni, India

Observer ship:

Institution : Jacobs Neurological Institute,
State University of New York at Buffalo

Department : Neurology

Supervisors :

- *Dr. Frederick Munschauer* - From July, 2008 to October, 2008
- *Dr. Bianca Weinstock-Guttman* - From June, 2007 to September, 2007

- Attending clinical meetings, ward rounds, and clinics
- Discussing physical examination findings, differential diagnosis, work up plan and treatment plan
- Grand rounds and Guest conferences
- Observing procedures
- Observing research project - Utilizing the medical school resources (library, online journals) to learn independently
- Earning CME credits

Professional Experience:

Work Experience:

From 9/2002 to 4/2003

Gayathree Medical Center, Theni, Tamil Nadu, India

Average Hours/Week: 80

Director: Dr. Venkatesh

Designation: House Officer, Department of Internal Medicine and Obstetrics and Gynecology

- Attended the outpatient department every morning from September 2002 to December 2002
- Responsible for providing antenatal care, the conduct of normal labor and delivery
- Identified the complications of labor, delivery and the puerperium and summoned expert help as needed
- Assisted in Cesarean section and other high risk obstetrics under the supervision of Dr. Gayathree.
- Continued rotation in the Internal Medicine Department from January 2003 to April 2003 under the supervision of Dr. Venkatesh
- Responsible for the inpatient care includes admission, history taking, physical examination, ordering and checking results of diagnostic studies and tests, daily primary care, discharging and communication with primary attending physician, out patient staff and referring physician's office.
- Outpatient care included both evaluation of scheduled patients and acute care visits

From 4/2002 to 8/2002

Holy Redeemer Hospital, Theni, Tamil Nadu, India

Average Hours/Week: 80

Director: Dr. Ajikannammal

Designation: House Officer, Department of Obstetrics and Gynecology

- Provided antenatal care and postnatal care
- Management of labor and obstetrics complications
- Assisted in lower segment Cesarean section
- Counseled young mothers about breast feeding, immunization, safe sex, Pap smear, breast cancer screening and contraception
- Conducted teaching courses regarding labor and antenatal care to nursing students

From 7/1999 to 11/2001

St. Isabel's Hospital, Chennai, India

Average Hours/Week: 80.

Director: Sr. Philomena Joseph M.B.B.S, D.G.O

Designation: House Officer, Department of Internal Medicine and Surgery

- Worked as a house officer at St. Isabel's Hospital and was responsible for post operative care in Surgical Intensive Care Unit from July 1999 to December 2000
- Discussed each case with the attending of record or my designate on the day of admission and on a daily basis there after
- Worked in the Internal Medicine department as a house officer from January 2001 to November 2001 under the supervision of Dr. Alfred Paul
- Responsible for evaluation of patients admitted to my care on the floor and in the Intensive Care Unit with particular reference to history taking, physical examination, appropriate laboratory procedures, treatment plan and patient chart documentation and patient discharge
- Discussed each case with Dr. Alfred Paul M.D. every day and further follow up of patients at the outpatient department
- Supervision of junior residents and training them in diagnostic procedures

Volunteer Work:

From 12/2002 - 4/2003

House Officer, Gayathree Medical Center, Theni, Tamil Nadu, India

- Volunteered for Pulse Polio Immunization and health camps at welfare centers

- Participated in eclampsia and iron deficiency anemia screening of antenatal women in the underserved Theni district, India

From 12/1996 - 11/1999

Medical Student, Chennai Medical College, Chennai, Tamil Nadu, India

- Volunteered in Pulse Polio Immunization Program, funded by Federal Government of India from 1996 to 1999
- Participated in various school health camps organized by Social and Preventive Medicine department of Chennai Medical College
- Gathered questionnaires from lower income people of Chennai about sexual health as a part of rural HIV Research project
- Participated in National Malaria and Leprosy Program at Chennai, India
- Participated for Blood drive – Indian Red Cross Organization

Other Language Fluency (Other than English)

Fluent in Tamil

Working knowledge of Hindi and Telugu