

## Multiple Sclerosis Fellowship Program: Clinical Fellowship

The Partners MS Center located at the Brigham and Women's Hospital, Harvard Medical School, Boston is a major regional MS Center, which is internationally renowned for clinical and scientific research in MS, which follows over 2500 patients annually. The Partners MS Center subscribes to the model of multidisciplinary care for MS, NMO and related disorders, and is a recognized Center of Excellence as designated by the NMSS. The center staffs 5 full-time clinicians, and 5 clinician-scientists, as well as a nurse practitioner, psychologist, social worker, clinical nurse and research study staff. In the floors below the clinic, there is a 25-chair infusion unit and a dedicated MS MRI-magnet. Clinical trials, as well as clinical research related to disease course, treatment response, cognitive testing, MRI and biomarkers are ongoing at the Center. At this time, over 2000 patients are enrolled in a natural history study (Comprehensive Longitudinal Investigations in MS at BWH- CLIMB), and complete standardized clinical exams, MRIs, HR-QOL and annual blood draws. Ongoing studies utilizing CLIMB data include assessment of disease course and phenotypes, treatment response and cognitive measures in MS patients.

### Howard Weiner, M.D.

*Founder, MS Fellowship Program  
Director, Partners MS Center  
Robert L. Kroc Professor of Neurology*

### Tanuja Chitnis, M.D.

*Co-Director, MS Fellowship Program  
Director, CLIMB Study  
Professor of Neurology*

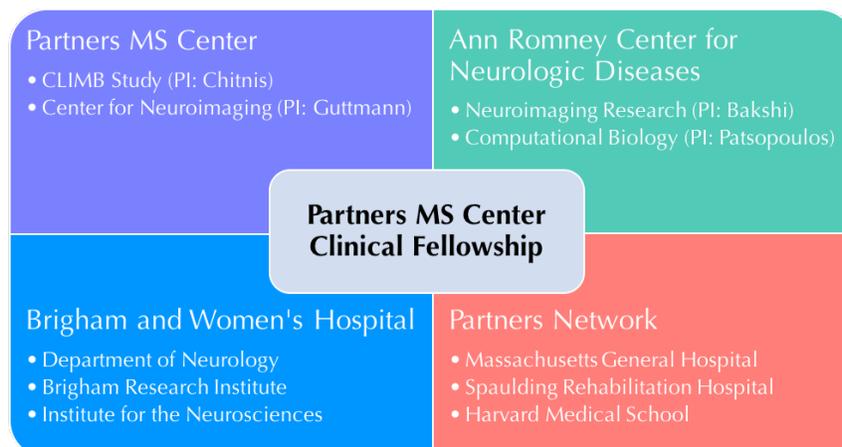
### James Stankiewicz, M.D.

*Co-Director, MS Fellowship Program  
Clinical Director, Partners MS Center  
Assistant Professor of Neurology*

### Taylor Saraceno, B.Sc.

*Coordinator, Fellowship Program  
Project Manager, Neurology*

The clinical research unit of the Partners MS Center is located a few floors above the clinic, and houses a biostatistician, database staff, MRI analysts, and research fellows working with on the CLIMB study (with Dr. Chitnis) and MRI research (with Dr. Bakshi). The Partners Pediatric MS Center located at the Massachusetts General Hospital is closely affiliated with the Partners MS Center, and is directed by Dr. Chitnis, and has common Partners network infrastructure as well as house staff. We work with fellows entering our program, to develop and individualize a training plan which includes direct supervised MS patient care at both the Adult and Pediatric MS Centers, exposure to multidisciplinary care in weekly meetings and coordination of patient care, and various didactic activities, as well as research activities tailored to the fellows' interests. The fellows will complete supervised clinics each week with adult MS specialists, as well as subspecialty clinics in pediatric MS, urology, rehabilitation 3-4 times per year. In addition, they will interface regularly, and receive guidance from our in-house psychologist, social worker and neuropsychologist regarding patient care. MRI experts are available for consultation regarding neuroradiology cases and give quarterly seminars for fellows and staff. Fellows will have the opportunity to participate in clinical courses, such as epidemiology and biostatistics as pertains to ongoing clinical research projects within the Partners system, which are offered throughout the year. Also, the fellow(s) will participate in ongoing clinical trials, the CLIMB study, ongoing MRI research, and interact with over 50 scientists from the Ann Romney Center for Neurologic Diseases, whom are conducting MS and Neuroimmunology research.



## ACCOMPLISHMENTS FROM RECENT GRADUATES:

### Moogeh Baharnoori, MD, PhD<sup>†</sup>

- **Fellowship type:** Clinical care fellowship. 4 half-day mentored clinics weekly, plus sub-specialty clinics. Participation in CLIMB related studies.
- **Funding:** MS Society of Canada, Fellowship Award
- **Presentation(s):** Prevalence of Epilepsy and the Demographics, Clinical and Paraclinical Features in Patients with Multiple Sclerosis (2017 AAN Meeting)
- **Publications:** Nonfatal PML in a patient with multiple sclerosis treated with dimethyl fumarate (NNN, 2016 Aug); Predictors of hematological abnormalities in multiple sclerosis treated with fingolimod and dimethyl fumarate and impact of treatment switch on lymphocyte and leukocyte count (MSARD, 2018 Feb)

### Robert Carruthers, MD<sup>†</sup>

- **Fellowship type:** Clinical care fellowship. 4 half-day mentored clinics weekly, plus sub-specialty clinics. Participation in CLIMB related studies.
- **Funding:** National MS Society, Clinical Fellowship Award
- **Presentation(s):** Clinical Predictors of Treatment Failure in First-Line Immunomodulatory Therapy in Multiple Sclerosis (2013 AAN Meeting)
- **Publications:** An observational comparison of natalizumab vs. fingolimod using JCV serology to determine therapy (MSJ, 2014 May); Progression rates and sample size estimates for PPMS based on the CLIMB study population (MSJ, 2014 July); Modeling probability of additional cases of natalizumab-associated JCV seronegative progressive multifocal leukoencephalopathy (MSJ, 2014 May)

### Dalia Rotstein, MD<sup>†</sup>

- **Fellowship type:** Clinical care fellowship. 4 half-day mentored clinics weekly, plus sub-specialty clinics. Participation in CLIMB related studies. Combined with an MPH degree at the Harvard TH Chan School of Public Health.
- **Funding:** MS Society of Canada, Fellowship Program, project "Predictors of response to MS treatments".
- **Presentation(s):** Vitamin D in Gilenya treated MS patients,ECTRIMS, Copenhagen 2013
- **Publication(s):** Increasing use of disease modifying drugs for MS in Canada (Canadian Journal of Neurological Science, 2010 May); An observational comparison of natalizumab vs. fingolimod using JCV serology to determine therapy (MSJ, 2014 May)

Inquiries: [MSFellowship@partners.org](mailto:MSFellowship@partners.org)

Additional Information: [www.partnersmscenter.org/fellowships/](http://www.partnersmscenter.org/fellowships/)

Program Funding AY20: Biogen Idec, Tiziana Life Sciences, National MS Society

## PROGRAM FELLOWS TO DATE:

Kristin Galetta, MD <sup>*</sup>	2019 –
Matthew McAdams, MD	2019 –
Amir Hadi Maghzi, MD <sup>*</sup>	2018 –
Alexandra Filippakis, DO <sup>*</sup>	2018-2019
Michael Bradshaw, MD <sup>*</sup>	2017-2018
Christopher Hemond, MD <sup>*</sup>	2016-2018
Jonathan Zurawski, MD <sup>*</sup>	2016-2018
Tamara Bockow Kaplan, MD <sup>*</sup>	2016-2017
Stephanie Tankou, MD, PhD <sup>*</sup>	2015-2019
Moogeh Baharnoori, MD, PhD <sup>†</sup>	2015-2017
Joshua Chalkley, DO <sup>*</sup>	2015-2016
Akram Dastagir, MD <sup>*</sup>	2014-2015
Robert Carruthers, MD <sup>*</sup>	2012-2014
Dalia Rotstein, MD <sup>*</sup>	2012-2014
Riley Bove, MD <sup>*</sup>	2011-2014
Channa Kolb, MD	2010-2012
Jennifer Moodie, MD	2007-2009
Eman Ali, MD	2006-2008
Salvatore Napoli, MD <sup>*</sup>	2005-2007
Susan Gauthier, DO <sup>*</sup>	2002-2005

<sup>\*</sup>Silvia-Lawry Fellowship Recipient

<sup>†</sup>NMSS Fellowship Award Recipient

## OVERARCHING PROGRAM GOALS:

- Strong knowledge regarding MS pathophysiology, epidemiology, diagnosis, and management.
- Understand differential diagnostic considerations and how to apply them to a particular clinical situation.
- Relate neuromyelitis optica pathophysiology, epidemiology, diagnosis, and management.
- Be aware of the literature regarding chemotherapeutic agents, proper use and monitoring of these drugs.
- Learn about MRI as it informs diagnosis and our pathophysiologic understandings including relationship between different MRI metrics and both physical and cognitive disability.
- Discuss spasticity evaluation and management.
- Evaluate urinary dysfunction and learn proper management.
- Understand how pediatric MS differs from adult MS.
- Recognize primary progressive multiple sclerosis. Relate how this may differ from relapsing multiple sclerosis.
- Understand sex specific issues in MS.
- Know strategies for managing acute MS flares and symptoms
- Read the Partners MS Center Guide to MS.
- Read seminal papers in each area of epidemiology, pathophysiology, diagnosis, and management.
- Be involved in writing a review and scholarly research article.
- Present a poster or platform at a national or international meeting.