

**Multiple Sclerosis Fellowship
Neurology Department
University of Texas Southwestern Medical School
5323 Harry Hines Blvd., Dallas, TX 75390-8806**

Program Director: Elliot M Frohman, MD, PhD., FAAN
Information Contact: 214-645-0555

Multiple Sclerosis Program at UT Southwestern:

Fellowship Program Description:

The Multiple Sclerosis Center at UT Southwestern, under the direction of Dr. Elliot Frohman, emphasizes a comprehensive approach to the triad of patient care, clinical and basic research, and teaching. The clinical group is comprised of neurologists, an MS fellowship trained physiatrist (PM&R), two physician assistants, a dedicated MS infusion suite with chemo-certified nurse, a dedicated social worker/case manager, a clinical triage nurse, three clinical research assistants, two clinical trial research nurses, a post-graduate public health fellow, a neurophysiologist, and two staff assistants.

The group cares for in excess of 4000 patients from all 50 states and several foreign countries, and is actively involved in multiple clinical trials that evaluate disease-modifying agents, symptomatic therapies, and new diagnostic and prognostic criteria. We are actively involved in studies aimed at understanding neurodegeneration and neuroprotection, utilizing optical coherence tomography (OCT) and other neuro-ophthalmologic assessments that characterized retinal damage following optic neuritis.

The MS Clinical Center is comprised of eleven exam rooms, an infusion center, on-site bladder evaluation and intrathecal baclofen pump refills, ocular motor physiology and optic nerve laboratories (equipped with state of the art retinal imaging technologies). We have complete electronic charting, ordering, and imaging (EPIC, Magic Web).

The MS Program at UT Southwestern has been the only federally funded (Congressional Appropriations Bill, authored by Dr. Frohman and sponsored by Senator Kay Bailey Hutcheson) comprehensive treatment training preceptorship program in the United States, and since its inception in 1999 has trained in excess of 550 neurologists and 250 neurology residents from all 50 states. The basic research group involves approximately 30 scientists involved in the study of T-cell, B-cell and macrophage mediated pathways of immune modulation, as well as immuno-cytologic evaluation of the effects of disease-modifying agents on patients' immune systems. Neuroimmunology laboratory section directors include Drs. Olaf Stuve, Nitin Karandikar, Nancy Monson, Todd Eager, and Steven Vernino (peripheral neuroimmunology).

The fellow would receive comprehensive training in the clinical evaluation and management of the MS patient and related disorders (e.g. neuromyelitis optica, neurosarcoid, CNS vasculitis, Susac's, transverse myelitis). The complete range of immune-modulating therapies (interferons, glatiramer acetate, natalizumab, azathioprine,

methotrexate, mycophenolate, cyclophosphamide, mitoxantrone, IVIg, plasma exchange, rituximab, etc) is employed, allowing the fellow to participate in varied treatment approaches and understand different rationales in managing patients with breakthrough disease. Training will also emphasize neuro-ophthalmologic and neuro-vestibular examination techniques; innovative symptom management of fatigue, spasticity, bowel and bladder dysfunction, sexual difficulties, mood disorders, pain, osteoporosis, and assistive device utilization; and the logistics of working within a multi-disciplinary team. Participation in and design of clinical trials will be encouraged, as well as matriculation through graduate level courses with formal didactic teaching on evaluation and design of clinical trials (UT Southwestern has the first NIH sponsored Clinical Investigator Development Program headed by Dr. Milton Packer, formerly of Columbia University). Other opportunities in basic science research can also be arranged. Typical weekly schedule involves three days of managing patients in clinic with attendings and two days with protected time for the development and participation in research activities. A Wednesday MS Team meeting from 9-10:30 am is utilized for clinical and research presentations while a weekly Tuesday neuroimmunology conference takes place from 9-10:30 and is focused on basic investigations underway at Southwestern and other collaborating institutions.

UT Southwestern Multiple Sclerosis Faculty:

Elliot M. Frohman, MD, PhD. Director, MS Division

Anjali Shah, MD Director of Neuro-rehabilitation Division

Olaf Stuve, MD Director, MS Program-Veteran's Administration

Nitin Karandikar, MD, PhD Director Cellular Immunology

Steven Vernino, MD, PhD Peripheral Immunity

Nancy Monson, PhD B cell Immunology

Scott Davis, PhD Neuro-physiology

Todd Eager, PhD Immune Regulation

Teresa Frohman, BA-Director ocular motor and optic nerve testing laboratories

The fellowship provides hands on experience and intensive individual training by faculty in the following procedures and clinical activities.

- The clinical evaluation and management of the MS patient and related disorders
- Training in the use of a complete range of immune-modulating therapies
- Training baclofen pump management and use of botox for spasticity
- Wheelchair and bed management, orthotic devices, bone and mineral metabolism, skin integrity and wound care
- Case management and social work issues
- Training in neuro-ophthalmologic and neuro-vestibular examination techniques
- Innovative symptom management of fatigue, spasticity, bowel and bladder dysfunction, sexual difficulties, mood disorders, pain, osteoporosis, and assistive device utilization; and the logistics of working within a multi-disciplinary team

- Participation in and design of clinical trials will be encouraged, as well as matriculation through graduate level courses with formal didactic teaching on evaluation and design of clinical trials
- Other opportunities in basic science research can also be arranged.

Clinical Facilities:

The University of Texas Southwestern Medical Center at Dallas campus is located a few minutes north of downtown Dallas and includes Southwestern Medical School, Southwestern Graduate School of Biomedical Sciences, and Southwestern Allied Health Sciences School. A Howard Hughes Medical Institute research center also is located on campus. UT Southwestern has earned an international reputation in basic and clinical research and is the only medical school in the world with four active Nobel laureates and eleven members in the National Academy of Sciences.

The new MS Clinical Center is staffed with multiple administrative personnel, medical assistants, and a fulltime chemotherapy certified infusion nurse. The clinic has 11 exam/consultation rooms, two MRI interpretation areas, a four-chair MS dedicated infusion clinic, a bladder assessment lab, and an ocular motor physiology laboratory. The new MS Clinical Center serves as the site for our ongoing National MS preceptorship training program, the UT Southwestern MS Comprehensive Treatment Training Program. The MS Program includes substantial infrastructural support including four administrative assistants.

Research Facilities:

The MS neuroimmunology research apparatus receives overall direction from Dr. Olaf Stuve. The laboratory programs include a B-Cell laboratory headed by Dr. Nancy Monson; a T-Cell and immunopathology laboratory headed by Dr. Nitin Karandikar. In addition to the cellular and molecular research programs focused on the neuroimmunology of MS, we have ocular motor neurophysiology and optic nerve laboratories headed by Dr. Elliot Frohman and Teresa Frohman and an MS imaging effort headed by Dr. Roddy McColl. A neurophysiologist, Dr. Scott Davis trained with Dr. Jack Petajan at the University of Utah, and has been involved with NASA sponsored studies here in Dallas focused on autonomic dysfunction.

Support Structures:

Research studies being conducted at UT Southwestern are supported by a variety of granting agencies including the NIH, the National MS Society, the Wadsworth Foundation, the United States Congress, and by private foundations and individuals. We have also been able to forge productive ties with multiple pharmaceutical companies that

have contributed unrestricted funding for the purpose of facilitating the development of the MS Program at UT Southwestern.

Duties:

The MS Fellow would be responsible for out patient care six half days per week and in-patient care at one of UT Southwestern's affiliated hospitals as needed.

Curriculum:

The fellow would receive comprehensive training in the clinical evaluation and management of the MS patient and related disorders (e.g. neuromyelitis optica, neurosarcoid, CNS vasculitis, Susac's, transverse myelitis). The complete range of immune-modulating is employed, allowing the fellow to participate in varied treatment approaches and understand different rationales in managing patients with breakthrough disease. Training will also emphasize neuro-ophthalmologic and neuro-vestibular examination techniques; innovative symptom management of fatigue, spasticity, bowel and bladder dysfunction, sexual difficulties, mood disorders, pain, osteoporosis, and assistive device utilization; and the logistics of working within a multi-disciplinary team. Participation in and design of clinical trials will be encouraged, as well as matriculation through graduate level courses with formal didactic teaching on evaluation and design of clinical trials (UT Southwestern has the first NIH sponsored Clinical Investigator Development Program headed by Dr. Milton Packer, formerly of Columbia University). Other opportunities in basic science research can also be arranged. Typical weekly schedule involves three days of managing patients in clinic with attendings and two days with protected time for the development and participation in research activities. A Wednesday MS Team meeting from 9-10:30 am is utilized for clinical and research presentations while a weekly Tuesday neuroimmunology conference takes place from 9-10:30 and is focused on basic investigations underway at Southwestern and other collaborating institutions.

A. Conferences. Weekly one and one half hour duration Multiple Sclerosis team meeting, and weekly departmental grand rounds occur, at which the fellow's attendance is generally expected. An additional clinical and basic science resident lecture series is offered by departmental and UT faculty during the academic year.

B. Out patient MS Clinic The MS Clinical Care Center at UT Southwestern cares for in excess of 4000 patients from all 50 states and several foreign countries. The fellow will be in clinic six half days per week.

Supervision:

The fellow will be supervised directly at all times by one of the faculty members in the Multiple Sclerosis Division.

Research:

Supervised, independent or joint research is encouraged during the year of fellowship

training. Many experimental treatment and investigational modalities for multiple sclerosis are currently being conducted.

- A. Manuscript preparation and publications.** The fellow will be offered the opportunity to assist in the preparation and submission of articles for publication in peer- reviewed journals. Authorship will be commensurate to the proportion of involvement in both the intellectual planning of the study/paper and work done in gathering and entering data. It is our goal to have each fellow first author at least one published manuscript by the end of the year, and to include the fellow as a co-author in any project or manuscript in which s/he was directly involved, including all abstract submissions and publications occurring after completing the fellowship. It is our intent to produce clinically and academically well- rounded individuals who will go on to make a meaningful contribution to advancing the state of knowledge of multiple sclerosis, and to continue supporting our trainees academically, politically, and personally as they begin their careers as MS specialists.
- B. Participation in national meetings.** The MS Division will fund the fellow's attendance to one of the annual Neurology meetings (AAN, ANA, MS Consortium, and ACTRIMS) and additionally fund attendance at any other national meeting at which the fellow presents and abstract/poster/plenary session.

Salaries:

An annual salary commensurate with the fellow's postgraduate training experience, for PGY-5, will be provided.

Hours of Work:

Generally day time business hours, with night call.

Requirements:

For the cerebrovascular disease fellowship includes:

- A. Education:** The applicants for fellowship must have completed three years of an accredited neurology or psychiatry residency, and be Board certified or board eligible in neurology.
- B. Licensure:** Successful applicants must be able to obtain medical licensure in Texas.