HADASSAH UNIVERSITY MEDICAL CENTER

Founded by Hadassah, the Women's Zionist Organization of America

First announcement (for the year starting in 10-2026)

Deadline for applications: 30-6-2026 (applications to be sent to: ms@hadassah.org.il or to: dimitrios@hadassah.org.il)

The Hadassah-Hebrew University Medical Organization announces an annual fellowship program in the field of Neuroimmunology, in memory of Ionas Karoussis. The scholarship is addressed to Medical doctors of Greek Citizenship, worldwide.

Details of the program:
Fellowship scholarship in Neuroimmunology at the Center of MS and Unit of neuroimmunology at Hadassah-Hebrew University Hospital, in memory of Ionas Karussis

Head of the Center and responsible for the program:
Prof. Dimitrios Karussis, MD, PhD

Faculty: Senior physicians and researchers in the Centre:
Dr. Panayiota Petrou, MD (Head of the Day care Neuroimmunology Unit, Clinical coordinator of the stem cell trials)
Dr. Ibrahim Kassis, PhD (Head of the laboratory of stem cell facilities)
Dr. Amy Werber, MD (Pain and spasticity management)
Yarden Levi, Phsychologist, specialized in MS and in the evaluation of various cognitive functions
Dr. Ariel Ginzberg, PhD, coordinator and responsible for the quantitative MRI evaluations, computerized cognitive tests and biomarkers; MS algorithms calculator.
Prof. Zeev Meiner, MD, (MS rehabilitation programs)

Scope: The fellowship will provide a 12-months training in the clinical or basic science research and skills in the diagnosis and management of patients with immune-mediated disorders of the nervous system.

The fellow will have the opportunity to participate in specialty clinics that include the Multiple Sclerosis clinic (including the pain and spasticity clinic), the Neuromuscular clinic and the Neuro-oncological clinic which deals with paraneoplastic syndromes. Besides, they will rotate on an inpatient consult service geared towards the care of patients with the above disorders. They will also have the opportunity to participate and become familiar with all the laboratory immunological tests used for the diagnosis and follow up of patients with neuroimmunological diseases, including CSF tests, serum antibodies against neural antigens (paraneoplastic antibodies, MOG and AQP4), antibodies targeting the neuromuscular junction, AQP4 antibodies testing, FACS analysis of the lymphocyte subpopulations, techniques for the detection of cytokines and chemokines (expression and secretion), testing of peripheral blood biomarkers (such as neurofilaments and GFAP), HLA and genetic tests.

The fellowship program will include didactic courses in the field of Neuroimmunology. The fellows will become familiar with the use and indications and practical issues related to the use of the old and novel immunosuppressive and immunomodulatory treatments for MS and neuroimmunological diseases (including cytotoxic therapies, interferons, glatiramer acetate, cyclophosphamide, azathioprine, mitoxanthrone, methotrexate, and various biological immunotherapies and monoclonal antibodies) and will have the opportunity to participate in ongoing clinical trials (including the novel trials with stem cells that are performed in our Centre for the last decade and for which our group at Hadassah has gained world recognition), and in the design and performance of new preclinical and clinical studies. They will have the ability to choose from a wide variety of basic science projects in the laboratories of the faculty within the division. These include state of the art techniques in proteomics, lipidomics and genomics in addition to core neuroscience and immunology and usage of experimental animal models of neuroimmunological diseases.

Clinical training:
Fellows will receive intensive clinical training in the following areas:
1) Differential diagnosis of multiple sclerosis (MS) and related disorders (ADEM, NMO-spectrum etc).
2) Neurological presentations and management of systemic autoimmune, connective tissue diseases and CNS and PNS vasculitis.
3) Diagnosis and management of peripheral nerve and neuromuscular immune-mediated diseases.
4) Use of prophylactic agents at the very early stages of MS; selection of the optimal therapeutic window and the suitable candidates for such treatment.
5) Treatment of progressive or aggressive MS and demyelinating diseases, including the use of chemotherapeutic agents and various monoclonal

antibodies and modern immunomodulators. The fellows will become familiar with technical issues related to the administration of these therapies (cytotoxic medications, anti-CD20 theraies, anti-CD56 treatments, S1P inhibitors**,** etc) in our Day care facility, by experienced physicians and nurses in the field.
6) Getting familiar with the role of stem cells in animal models of neuroinflammatory and neurodegenerative diseases (MS and ALS). The application of stem cell treatments in MS patients in the frame of the clinical trials at Hadassah and the use the above biomarkers for the evaluation of treatment effect.
7) Interpretation of MRI and other imaging techniques of relevance to MS and other similar diseases affecting the CNS (including functional MRI, OCT and novel tests for evaluation of the cognitive/neuropshychological and visual functions). Use of biomarkers for evaluation of the activity of multiple sclerosis (MS) and the prediction of disability progression and silent disease activity, using a combination of 3 biomarkers, the serum levels of neurofilaments (using the SIMOA technique), the quantitative analysis of brain MRI structures and of various automated cognitive tests. Using this combination of biomarkers, our group has developed an algorithm for definition of the criteria of success or failure of treatment in progressive MS, which is still an unmet need worldwide.
8) Use of symptomatic treatments for management of pain, spasticity, fatigue, bowel- or bladder- dysfunction, including the use of intrathecal baclophen injections and the use of medical cannabis in MS patients.
9) Rehabilitation of MS and chronic neuroloimmunological diseases

Program Overview

a. Didactic courses:

- Clinical Neuroimmunology
- Overview of cytotoxic, immunosuppressive and immunomodulatory treatments
- Laboratory of Neuroimmunology and neuroimmunological techniques
- Neuroradiology, (including the use of fMRI, computerized AI-based quantitative evaluations and comparisons of the MRI scans and use of novel MRI methods for evaluation of brain atrophy) novel visual and cognitive tests (in relation to neuroimmunological diseases)

b. Basic clinical activities:

Fellows will attend one of the MS/Neuroimmunology clinics and will become familiar with the diagnosis and management of:

- Multiple Sclerosis, neuromyelitis optica (NMO spectrum of diseases) and other demyelinating diseases of the central nervous system.
- Neuromuscular diseases (myasthenia gravis, AIDP, CIDP and related disorders)
- Neurological complications of connective tissue diseases and Neurosarcoidosis
- Lumbar Puncture and Stem Cell Infusion techniques

c. Laboratory Activities:

- Rotation in the Neuroimmunology Laboratory: animal models of MS, neuronal autoantibodies testing, testing of serum and CSF biomarkers.

d. Additional elective rotations:

- Neuro-ophthalmology
- Neuropathology
- Neuroradiology
- Neurovirology
- Neuro-Urology
- Neuro-rehabilitation

Duration: 12 months, with optional extension. Possibility for a short-term 3-6 months option. A full 12 months fellowship is recognized by the Israel Medical Association providing a diploma in Neuroimmunology

Candidates: Board certificated neurologists and neuroimmunologists with Greek citizenship. Excellent knowledge of English is required.

The scholarship will cover the salary of the candidate – 18,000 NIS per month (approx. 4,500-5,000 Euros), heavily subsidize the accommodation (the candidate will pay only 1000 NIS per month - approx. 250 Euros) and cover the malpractice medical insurance.

Suggested basic syllabus:

1. **Clinical Neuroimmunology** (2nd Edition) by Angela Vincent (Editor), Jack P. Antel (Editor), Hans-Peter Hartung (Editor), Gary Birnbaum (Editor), November 2005

2. **Neuroimmunology in Clinical Practice** (1st Edition) by Bernadette Kalman (Editor), Thomas H. Brannagan (Editor), October 2007

3. **Neuroimmunomodulation: From Fundamental Biology to Therapy** (1st Edition) by Hugo Besedovsky (Editor), Wilson Savino (Editor), Priscilla Oliveira Silva (Editor) - March 2009

4. **Neuroimmunology in Clinical Practice** (1st Edition) by Bernadette Kalman (Editor), Thomas H. Brannagan (Editor)- October 2007

5. **Autoantibodies in Neurological Diseases**
by Angela Vincent (Editor), G. Martino (Editor)- February 2002

6. **Clinical Neuroimmunology: Multiple Sclerosis and Related Disorders** (Current Clinical Neurology) by Patricia K. Coyle and Syed Rizvi (Sep 1, 2011)

7. **CONTINUUM OF THE American academy of Neurology**: Neuroimmunology - June 2001

8. **CONTINUUM OF THE American academy of Neurology**: Paraneoplastic Disorders - December 1999

9. **CONTINUUM OF THE American academy of Neurology**: Peripheral Neuropathy - December 2003

10. **CONTINUUM OF THE American academy of Neurology**: Infectious Diseases - April 2006

11. **CONTINUUM OF THE American academy of Neurology**: Multiple Sclerosis - October 2010

12. **CONTINUUM OF THE American academy of Neurology**: Neurologic Complications of Systemic Disease - February 2011