

GROUNDBREAKING MR SCIENCE • SUPERIOR MR EDUCATION • GLOBAL NETWORKING

# ISMRRM Workshop on Neurofluids: Anatomy, Physiology & Imaging



Sapienza University of Rome, Rome, Italy • 21-24 September 2022

## OVERVIEW

Although the first description of the anatomy of brain lymphatics dates back 250 years, it is only in the past decade or so that there is groundbreaking evidence from both animal and human studies proving the existence of a brain clearance system via CSF and ISF flow. This shows that fundamental elements of the brain anatomy and physiology have been neglected for too long and that there is an urgent need for in vivo imaging technology to monitor brain clearance. It is only in the recent past that some elements of brain clearance are being imaged using cutting-edge MR techniques such as contrast-enhanced MRI, diffusion tensor imaging, perfusion-weighted imaging, MR elastography, and flow studies to name a few. There is tremendous excitement in this field and such discoveries have the potential to revolutionize our understanding of most neurodegenerative and neuroinflammatory diseases.

## EDUCATIONAL OBJECTIVES

Upon completion of this activity, participants should be able to:

- Describe the anatomy and physiology of meningeal lymphatic pathways;
- Describe the different theories on brain clearance both regarding common elements as well as still-disputed components;
- Describe current imaging methods to probe the brain clearance system;
- Describe how diseases affect brain clearance as well as MRI of brain clearance;
- Identify gaps in our current MRI arsenal for monitoring brain clearance; and
- Identify current barriers for widespread dissemination of brain clearance MRI.

## TARGET AUDIENCE

This workshop is designed to attract scientists at all levels of career and experience who are keen on deepening their current understanding of the anatomy, physiology, and MR techniques available for imaging meningeal lymphatics and brain waste clearance pathways.

## ORGANIZING COMMITTEE

Committee Co-Chairs: Nivedita Agarwal, M.D.; Olivier Balédent, Ph.D.

Committee: Matthias J. P. van Osch, Ph.D.; Lydiane Hirschler, Ph.D. (Trainee Observer)

For more information including housing & registration, please visit: [www.ismrm.org](http://www.ismrm.org) or call + 1 510 841 1899