

GROUNDBREAKING MR SCIENCE • SUPERIOR MR EDUCATION • GLOBAL NETWORKING

# ISMRRM Workshop on Diffusion MRI: From Research to Clinic



Postillion Hotel & Convention Centre Amsterdam, Amsterdam, The Netherlands • 10-14 October 2022

## OVERVIEW

This workshop aims to elaborate a common vision for the future of the field and what is needed for its translation to everyday clinical practice. Key topics include the latest methodological developments in hardware and acquisitions, microstructure modelling, and the use of AI. Special attention is also given to novel developments of diffusion MRI outside the brain (prostate, fetal, placental, muscle, and breast, amongst others). The workshop will then focus on bridging the gap between research and clinic and establishing the translational path of the different themes, focusing on better links between experiments and modelling, consolidation of current approaches, and current and potential future integration into the clinical studies and practice.

## EDUCATIONAL OBJECTIVES

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

- Review the fundamentals of diffusion acquisition, modelling, analysis, and applications;
- Prepare an overview of key recent developments in diffusion MRI: acquisition and processing, tractography and connectivity, microstructure, and hardware advances;
- Describe the development and application of diffusion MRI outside the brain;
- Review the current uses of AI in diffusion MRI;
- Recognize the current limitations in diffusion MRI, both from the standpoint of physical limits and obstacles to clinical translation;
- Develop their own view on the common vision for the future of the diffusion MRI and its translation to everyday clinical practice;
- Explain the translational pathway from research to the clinic including: modelling, experiments, validation, application, and the corresponding links;
- Examine both the established and the more recent developments in diffusion MRI for use in the clinical applications; and
- Discuss setting guidelines on DTI, diffusion MRI processing, small-animal and ex vivo imaging, clinical tractography, IVIM and diffusion outside the brain, and clinical dMRI.

## TARGET AUDIENCE

This workshop is designed for researchers (including Ph.D. students and postdocs); clinicians (e.g., neurologists, radiologists, neurosurgeons); MR technologists; government regulatory experts; nonprofit and academic groups interested in early diagnosis and public health; and members of the ISMRRM Diffusion MRI and White Matter Study Groups.

## ORGANIZING COMMITTEE

Committee Chair: Ivana Drobnjak, Ph.D.

Committee: Flavio Dell'Acqua, Ph.D.; Els Fieremans, Ph.D.; Ileana O. Jelescu, Ph.D.; Jennifer McNab, Ph.D.

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

This workshop offers CME credits.