OVERVIEW
This workshop will cover the latest technical advances and potential clinical applications in X-nuclei imaging (i.e., there is more to MRI than hydrogen, 1H) using 23Na (sodium) as an example. We expect that such discussions will be informative for imaging of other X-nuclei as there are often many methodological similarities given low concentrations, complex spin dynamics when spin > 1/2, unique relaxation characteristics necessitating different kspace trajectories, need for custom RF coils (usually at high field), and last but not least issues of absolute quantification. The new biochemical information available from imaging X-nuclei linked to metabolism can address in a novel way several clinical questions affecting both the brain and body.

EDUCATIONAL OBJECTIVES
Upon completion of this activity, participants should be able to:
• Recognize the controversies and challenges of imaging X-nuclei;
• Outline choices in hardware and acquisition methods for imaging X-nuclei;
• Discuss current and potential applications in human disease;
• Predict future research and clinical needs for human applications of X-nuclei MRI

TARGET AUDIENCE
The goal is to bring together our community of experienced researchers and newcomers, both basic scientists and physicians, who are interested or engaged in developing and using non-proton X-nuclei MR imaging. Attendees are members of the X-Nuclei Imaging study group, basic scientists and physicians interested or engaged in developing and using non-proton MR imaging, and people from industry involved in X-nuclei imaging.

ORGANIZING COMMITTEE
Co-Chairs: Lothar Schad, Ph.D.; Wafaa Zaaraoui, Ph.D.