



## 1 x PostDoc / Duration 3 (+2) years / Salary according to federal regulation (TVL) depending on level of qualification

We seek a **PostDoc** with a strong theoretical and experimental background in MR to lead the X-nuclei research group at the Chair of Computer Assisted Clinical Medicine.

The Candidate has a good knowledge of sequence design and programming in languages such as C/C++, and MATLAB. He/ She is interested in (bio-) physics of spin  $> 1/2$  nuclei and electrophysiology. The candidate is expected to focus on the preclinical sector and to closely collaborate with the other research groups at the Chair but also to perform own research. The position involves teaching at the local medical study course and the master study courses of the Faculty. The work will involve the development of high sophisticated MRI/MRS (e.g. UTE, ZTE and TQF) techniques at a 9.4T animal system (Bruker) with transfer to 3T and 7T whole body MRI systems (Siemens).

The candidate will participate in ongoing collaborations with other researchers at the Karlsruhe Institute of Technology (KIT) with multiple opportunities to visit leading international laboratories (e.g. Centre de Résonance Magnétique Biologique et Médicale, Marseille and the National High Magnetic Field Laboratory, Tallahassee) and to attend taught schools. The candidate has the option to qualify as a professor (Habilitation).

The Medical Faculty Mannheim at Heidelberg University has a strong focus on Medical Technology and uses imaging and spectroscopic information for modern treatment planning and monitoring e.g. in cancer treatment. Our institution is equipped with modern 1.5T and 3T whole-body MR systems and has also access to a 9.4T animal system at the Central Institute of Mental Health (ZI) and a 7T whole-body system at the German Cancer Research Center (DKFZ). Our group is doing basic research in developing new MR-techniques for measuring perfusion, diffusion, oxygenation, and sodium in the human brain, other organs like lung, liver or heart and in highly dense three dimensional cell cultures. We are composed of scientists from physics, electrical engineering, and computer science and are working in close co-operation with the local medical departments. We have know-how and expertise in fundamental MR-physics and MR-sequence programming and its application in human studies since 1985. The specific sequence design for X-nuclei is highly important to extract all physiological information from the MR signal of X-nuclei. In particular, new applications which comprise sodium, chlorine, and potassium for *in-vivo* measurement of tissue viability benefit from sequences tailored for these nuclei.

For more information on the project please **contact**:

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