



Francesca Del Signore

Born in L'Aquila, Italy

Veterinary doctor with clinical experience in small vet., internal medicine and MRI Imaging



Francesco de Pasquale

FIS/ 07 Applied Physics, PhD

Research field: advanced neuroimaging techniques, MRI, fMRI and Magnetoencephalography



Patrice Peran

Neuropsychologist, PhD
INSERM researcher
ToNIC - DEVIN team leader,
Toulouse Neuroimaging
Center INSERM



Erminio Bassi

Senior Product Marketing
manager
ESAOTE SPA, Genova, Italy

Company mission:
development of modern
devices for imaging in
Veterinary and Human
Medicine

Development of multimodal Magnetic Resonance Imaging Biomarkers in brain diseases in pets.

- This project aims at developing an advanced low-field (250 mT) MRI approach to improve diagnosis of feline and canine brain disorders. In particular, new MRI relaxometry protocols will be investigated to evaluate if T1, T2 maps can improve the diagnosis of brain pathologies such as micro-hemorrhages typically undetected by standard approaches.
- The developed acquisition protocol might represent an advanced tool for clinicians that can be integrated in routinely diagnostic procedures. The developed new MRI sequences and analysis tools might be implemented in the current MRI scanners software/hardware and thus provided to the users by the MR manufacturing company ESAOTE SPA.



- Co-projecting: ESAOTE is actively cooperating to the project: they are training the PhD student in the acquisition of advanced protocols, they contributed with its personnel to the optimization of MR system, the development of new MR sequences and their implementation in our scanner.
- Training: ESAOTE assisted the PhD student with a specific training period on the proper setting of low field MRI scanners, modification and implementation of acquisition protocols
- Research: ESAOTE cooperated in the research project by supervising experiments with UNITE. In particular, they increased the available SNR in the scanner for allowing relaxometry studies and implemented a new T2 sequence developed ad-hoc for the project.
- Technological transfer: the company aims at testing and developing a new relaxometry tool that might be integrated as an advanced tool in the MR scanner. This tool might consist of a set of optimized sequences as well as new analysis software directly available to the user in the scanner console.

Publications

- THE POTENTIAL OF MAGNETIC RESONANCE BRAIN RELAXOMETRY IN VETERINARY MEDICINE: A PRELIMINARY STUDY. **F. Del Signore**, M. Vignoli, G. Marruchella, F. Simeoni, R. Tamburro, G. Aste and F. de Pasquale, *Journal of Biological Regulators and Homeostatic Agents*, 2019 Nov 5;33(6). doi: 10.23812/19-215-A.



Scientific meeting



- BRAIN RELAXOMETRY IN VETERINARY MEDICINE: STATE OF THE ART AND FUTURE DIRECTIONS **F. Del Signore**, M. Vignoli, G. Marruchella, R. Tamburro, G. Aste, F. de Pasquale. 73° SISVET Meeting, 19-22 June 2019, Olbia, Italy