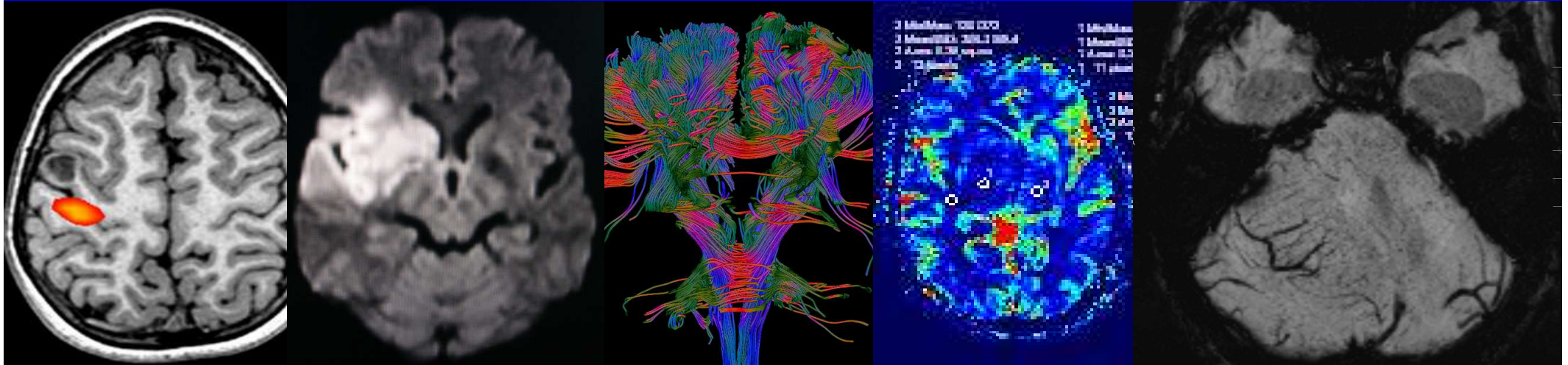


Prof. C. Kesavadas
**DEPARTMENT OF IMAGING SCIENCES &
INTERVENTIONAL RADIOLOGY, SCTIMST,
TRIVANDRUM**

- **CLINICAL IMAGING FACILITIES**
- State of the art 1.5T MRI – Advanced Neuro & Cardiac , soon to get a 3T MRI
- Soon to install 256 slice CT
- State of art Doppler Ultrasound
- PACS



Imaging Research- Pathology

- Epilepsy
- Brain tumors
- Stroke
- Movement disorders
- Pediatric Neuroradiology
- Cardiovascular diseases

MR Clinical Research

- Real time Functional MR Imaging (fMRI) for presurgical evaluation of pediatric epilepsy **Pediatric Radiology**
- Diffusion tensor and tensor metrics imaging in intracranial epidemoid cysts, meningioma & glioma **JMRI**
- Susceptibility weighted imaging: A new tool for magnetic resonance imaging of stroke **Clinical Radiology**

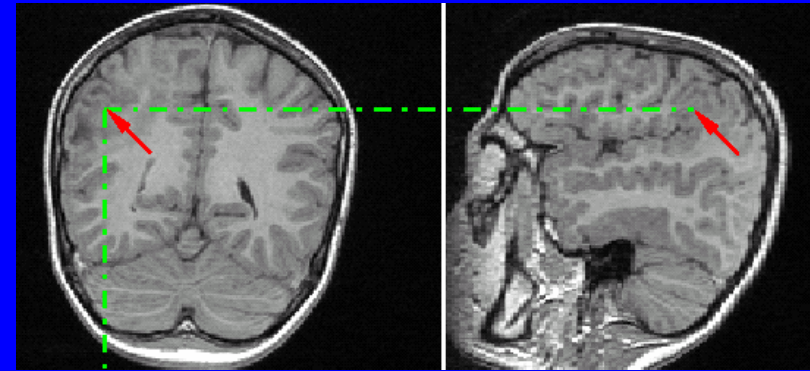
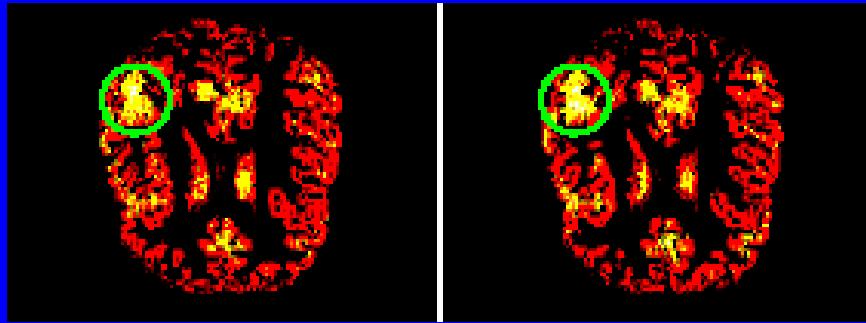
MR Clinical Research

- Advanced Neuroimaging techniques in epilepsy **Acta Radiologica, RSNA 2007**
- Glioma grading: sensitivity, specificity, positive and negative predictive values of diffusion & perfusion imaging **J. Neurooncology**
- Unique MR spectroscopic finding in colloid-like cyst **Neuroradiology**

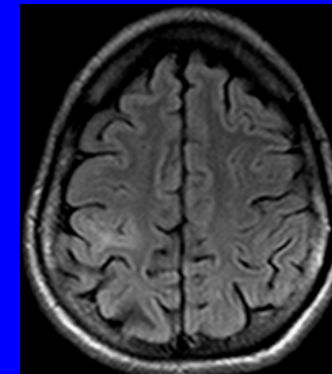
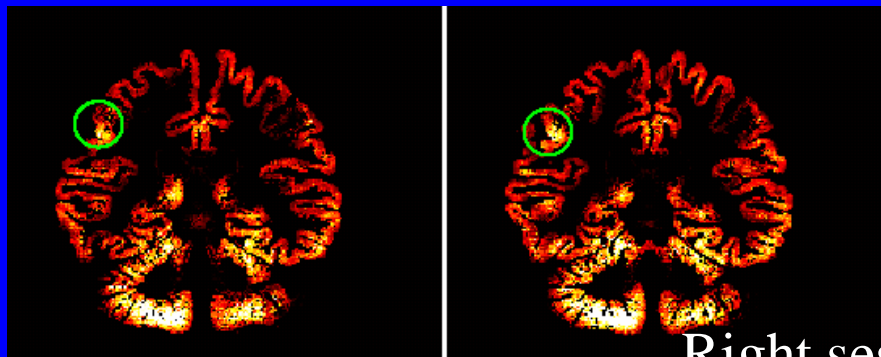
Medical Imaging Informatics

- Focal Cortical Dysplasia (FCD) lesion analysis with complex diffusion approach **Comput Med Imaging Graph**
- Segmentation and volume estimation of brain tissues from MR images **IAENG**
- Evaluation of atlas based segmentation of hippocampi in healthy humans **Mag Reson Imag**
- Lesion load calculation & MT ratio map in MS

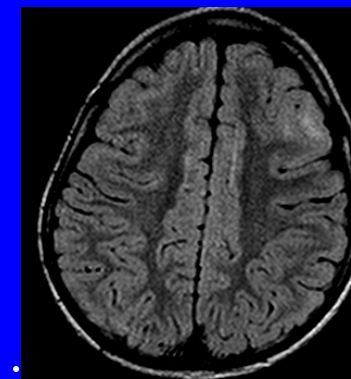
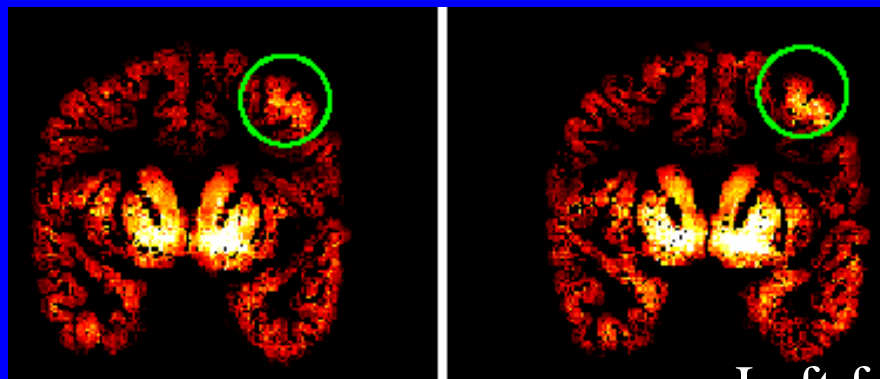
Automated detection of focal cortical dysplasia with texture analysis



Right parietal dysplasia



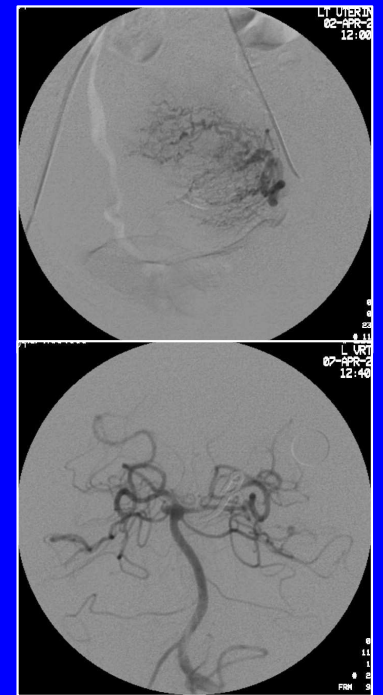
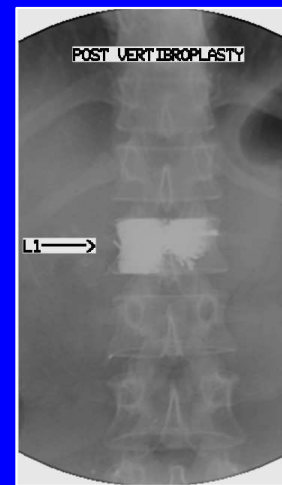
Right sensorimotor cortex dysplasia



Left frontal dysplasia

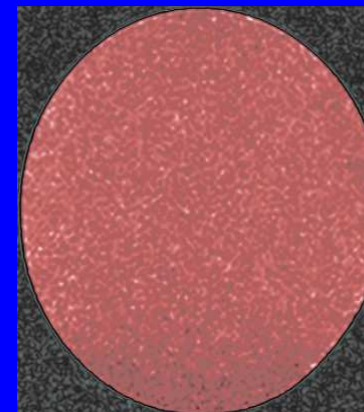
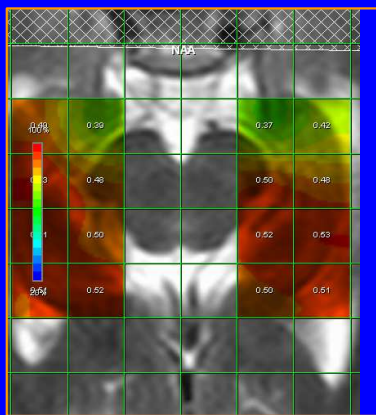
Interventional Radiology in Biplane Cathlab

- Neurointerventional & Vascular
- Embolisation with newer agents
- Endovascular stenting in aneurysm & minimally invasive techniques



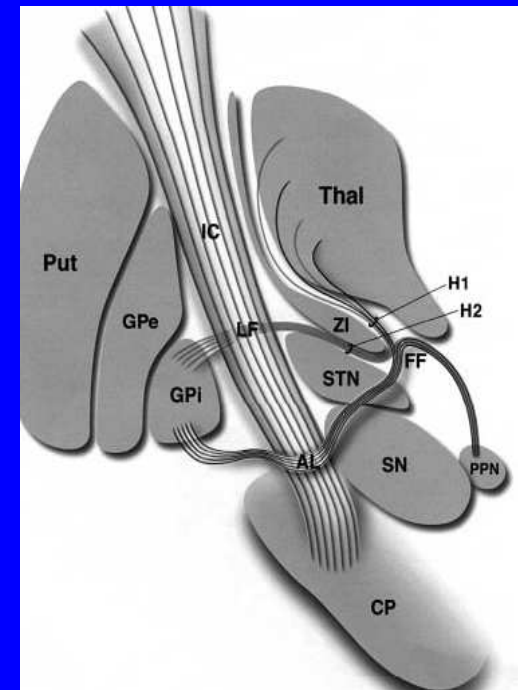
ONGOING RESEARCH PROJECTS

- Indo – Italian Project on stroke & brain tumor imaging
- Multimodality Epilepsy imaging
- Development of spectroscopic protocol for magnetic resonance spectroscopy and chemical shift imaging of temporal lobe epilepsy in rabbits
- Development of Iron Oxide Nano particle probes for organ specific molecular MR Imaging
- Indo- US collaboration in Susceptibility weighted imaging sequence in MRI



Research Interests - Neuroimaging

- BRAIN COMPUTER INTERFACE : Neurofeedback using f-MRI & EEG based BCI (stroke rehabilitation)
- EEG correlated fMRI & Arterial spin labeling (epilepsy focus localisation),
- Fiber tractography & DTI, (deep brain stimulation targets, FCD detection)
- Brain tumor angiogenesis imaging
- Brain tumor- neuronavigation protocol
- SWI- iron quantification & deep nuclei identification



Research Interests

- Computer-aided diagnosis for critical therapeutic decision making in acute stroke patients
- 3D computational fluid dynamics of intracranial aneurysms: prediction of rupture risk & growth
- Myocardial Perfusion & Tractography
- Multimodal probes for optical and MR imaging

