



## PROGRAM

Wednesday June 5th

9:00-10:30 Registration - STELAR Tutorial (P. Sebastião, M. Pasin) – Coffee break offered by Stelar  
11:00-11:10 **OPENING**

### Session 1: Evolution and prospects of Field Cycling NMR CHAIR: M. Geppi

11:10-11:50 **Keynote lecture by R. Kimmich**  
ON TIME AND FREQUENCY SCALES OF MOLECULAR DYNAMICS TO BE PROBED BY NMR TECHNIQUES

11:50-12:20 **Invited lecture by C. Luchinat**  
RELAXOMETRY AND OVERHAUSER DYNAMIC NUCLEAR POLARIZATION

12:20-12:40 **Lecture by H. M. Vieth**  
MAGNETIC FIELD CYCLING OVER ULTRA-WIDE RANGE FOR NMR RELAXATION DISPERSION AND HYPERPOLARIZATION

12:40-13:00 **Lecture by S. Sykora**  
FIELD CYCLING RELAXOMETRY OF POLYDISPERSED SAMPLES: SOME SPECIAL ASPECTS

13:00-13:30 **Invited lecture by L. Broche**  
FIRST CLINICAL STUDIES WITH FFC-MRI: EARLY RESULTS

13:30-14:30 **LUNCH**

### Session 2: Instrumentation and methods CHAIR: G. Ferrante

14:30-15:00 **Invited lecture by L. de Rochefort**  
FAST-FIELD CYCLING MAGNETIC RESONANCE IMAGING AROUND 1.5 T TO MAP NMR RELAXATION DISPERSION IN VIVO

15:00-15:20 **Lecture by G. Rodriguez**  
FFC-MRI AT LOW MAGNETIC FIELD HOMOGENEITY

15:20-15:40 **Lecture by G. Galuppini**  
TOWARDS A MODEL-BASED FIELD-FREQUENCY LOCK FOR FAST FIELD CYCLING NMR: EXPERIMENTAL VALIDATION

15:40-16:00 **Lecture by B. Gizatullin**  
DIFFERENCE APPROACH TO ELIMINATING RADICAL RELAXIVITY IN DNP FFC RELAXATION STUDY

16:00-16:20 **Lecture by A. Yurkovskaya**  
FIELD-CYCLING STUDY OF EXCHANGE INTERACTION IN SHORT-LIVED BIRADICALS BY LIGHT-INDUCED NUCLEAR HYPERPOLARIZATION IN RIGID D-X-A DYADS

16:20-16:40 **Lecture by R. Francischello**  
THE USE OF LOW RANK APPROXIMATION FOR NOISE REDUCTION IN LOW FIELD NMR: A FLEXIBLE METHOD FOR THE ACCELERATION OF MULTIDIMENSIONAL STUDIES AND THE IMPROVEMENT OF TIME RESOLUTION IN REACTION MONITORING

16:40-17:20 **COFFEE BREAK AND POSTER SESSION**

### Session 3: Applications to life sciences I CHAIR: D. Brougham

17:20-17:50 **Invited lecture by R. Muller**  
FFC, A LOOK TO THE PAST

17:50-18:10 **Lecture by F. Carniato**  
RELAXOMETRIC CHARACTERIZATION OF POTENTIAL  $Mn^{2+}$ -BASED MRI CONTRAST AGENTS

18:10-18:30 **Lecture by C. Henoumont**  
SYNTHESIS AND RELAXOMETRIC CHARACTERIZATION OF MRI CONTRAST AGENTS BASED ON PYCLEN STRUCTURE AND COMPLEXED WITH MANGANESE

18:30-18:50 **Lecture by Q. L. Vuong**  
SIMULATION OF THE NUCLEAR MAGNETIC RELAXATION INDUCED BY SUPERPARAMAGNETIC NANOPARTICLES TRAPPED IN A BIOLOGICAL TISSUE

18:50-19:20 **Invited lecture by S. Geninatti Crich**  
EVIDENCE FOR THE ROLE OF INTRACELLULAR WATER LIFETIME AS A TUMOUR BIOMARKER OBTAINED BY IN VIVO FIELD-CYCLING RELAXOMETRY



Thursday June 6th

**Session 4: Theory and modelling CHAIR: D. Kruk**

- 8:30-9:10 **Keynote lecture by R. Bryant**  
PROTEIN AGGREGATION AND RELAXATION DISPERSION
- 9:10-9:30 **Lecture by E. Masiewicz**  
WHAT DO WE KNOW ABOUT  $^{14}\text{N}$  QUADRUPOLE RELAXATION ENHANCEMENT?
- 9:30-9:50 **Lecture by P. Levitz**  
NMRD OF WATER IN CONFINED NANOPOROUS NETWORK: INTERMITTENT DYNAMICS VERSUS PORE SURFACE CURVATURE
- 9:50-10:10 **Lecture by D. Faux**  
GETTING THE MOST FROM A FFC-NMR DISPERSION CURVE FROM A POROUS MATERIAL
- 10:10-10:40 **Invited lecture by P. H. Fries**  
ANALYTICAL EXPRESSIONS AND SIMULATION OF NUCLEAR SPIN RELAXATION IN 3D LIQUID SYSTEMS

**10:40-11:20 COFFEE BREAK AND POSTER SESSION**

**Session 5: Applications in materials science I CHAIR: A. L. Rollet**

- 11:20-11:50 **Invited lecture by J.P. Korb**  
APPLICATIONS OF FFC-NMR RELAXOMETRY TO PETROLEUM POROUS MATERIALS
- 11:50-12:10 **Lecture by J. B. Pigot**  
ROLE OF PORE INTERCONNECTIVITY ON MOLECULAR DIFFUSION WITHIN FAUJASITE ZEOLITE INVESTIGATED BY NMR RELAXOMETRY
- 12:10-12:30 **Lecture by J. Ward-Williams**  
PROBING INTERACTION STRENGTH AND LIQUID DYNAMICS IN NANOPOROUS OXIDES USING FAST FIELD CYCLING NMR
- 12:30-12:50 **Lecture by Y. Gossuin**  
NMR RELAXOMETRY FOR ADSORPTION STUDIES: PROOF OF CONCEPT WITH COPPER ADSORPTION ON ACTIVATED ALUMINA
- 12:50-13:20 **Invited lecture by I. Ardelean**  
SURFACE EFFECT ON THE MOLECULAR DYNAMICS INSIDE CARBON XEROGEL MESOPORES

**13:20-14:20 LUNCH**

**Session 6: Applications to life sciences II CHAIR: D. Lurie**

- 14:20-15:00 **Keynote lecture by T. Scholl**  
MOLECULAR IMAGING OF CANCER USING FIELD CYCLING
- 15:00-15:20 **Lecture by J. Ross**  
FAST FIELD-CYCLING MRI IDENTIFIES ISCHAEMIC STROKE AT ULTRA-LOW MAGNETIC FIELD STRENGTH
- 15:20-15:40 **Lecture by G. Duhamel**  
MULTICOMPONENT DIPOLAR RELAXATION TIME ( $T_{1D}$ ) ASSESSMENT IN MYELIN USING INHOMOGENEOUS MAGNETIZATION TRANSFER (ihMT) MRI
- 15:40-16:00 **Lecture by G. Ferrauto**  
FFC-NMRD RELAXOMETRY FOR EARLY DETECTION AND CHARACTERIZATION OF *EX-VIVO* MURINE BREAST CANCER
- 16:00-16:20 **Lecture by A. Cretu**  
NMR RELAXOMETRY EXPERIMENTS IN BOVINE AND HUMAN CARTILAGE – SIMULATING EFFECTS OF OSTEOARTHRITIS
- 16:20-16:40 **Lecture by S. Baroni**  
*IN VIVO* FFC-NMR OF TUMOR-ASSOCIATED MACROPHAGES (TAMs) IN MURINE MELANOMA WITH ASSESSMENT OF INTRA-CELLULAR LOCALIZATION OF IRON OXIDE PARTICLES

**16:40-17:20 COFFEE BREAK offered by Extra Byte**

- 18:00-19:30 **Excursion to the Square of Miracles**  
20:30 **Social Dinner**

