GIDRM
Gruppo Italiano Discussione Risonanze Magnetiche

# 53RD NATIONAL CONGRESS ON MAGNETIC RESONANCE

CASERTA 9-11 SEPTEMBER 2026

## SCIENTIFIC PROGRAM

**Wednesday September 9th**

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| 9:00-14:00 | **Registration** |
| 10:00-11:30 | **Jeol satellite meeting** |
| 11:30-13:00 | **Bruker satellite meeting** |
| 13:00-14:00 | **Bruker/Jeol Lunch** |

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| 14:00-14:30 | **Opening (Room A2)** |
| | **Plenary session (Room A2)**<br>**Chair: A. Mucci & M. R. Chierotti** |
| 14:30-15:20 | **Plenary Lecture 1**<br>**GIDRM/GTRM gold medal award**<br>**Giovanna Musco (Biomolecular NMR Unit, IRCCS Ospedale San Raffaele)**<br>***Do we still need N(avigating) M(ysterious) R(elationships)?*** |
| | **Plenary Lecture 2**<br>**Chair: V. Righi** |
| 15:20-16:05 | **Iola Duarte (University of Aveiro)**<br>***Metabolic phenotyping of biomimetic 3D cell models using NMR-based metabolomics*** |

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| 16:05-17:00 | **Coffee break + Poster session (ODD abstract numbers)** |

| | **Parallel session A (Room A2)**<br>**Chair: V. Righi** | **Parallel session B (Room B2)**<br>**Chair: R. Fattorusso** |
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| 17:00-17:30 | **Veronesi M.** NMR in drug discovery: from hit identification to Exo-metabolomics | **Mauri M.** Time-Domain NMR: mobility and interfacial phenomena across multiple scales |
| 17:30-17:45 | **Marino C.** Untargeted $^{1}$H NMR-based metabolomics and high-pressure liquid chromatography analyses reveal sexual dimorphism in the serum metabolic profiles of patients with different genetic forms of Parkinson's disease | **Petrella G.** An HMBC-based J-modulation sequence for the measurement of nJHC coupling constants: application to CORROLE systems |
| 17:45-18:00 | **Krid M.A.R.** Advancing Food Analysis: Amino Acid Quantification by NMR and Deep Learning | **Petrone M.** Suppressing proton competition to reveal intrinsic Zn(II) chelation in L-carnosine mimics by solution NMR |
| 18:00-18:15 | **Gallo A.** Exploring the urinary metabolomic fingerprint of human cytomegalovirus: a $^{1}$H-NMR study on congenitally infected newborns | **Schiavina M.** The Synergy of Multiple Receivers and Heteronuclear Detection to Draw a Complete Picture of Intrinsically Disordered Proteins in Action |
| 18:15-18:30 | **Vigni G.** Integrated chemometric analyses of NMR, HPLC-MS and IRMS data for geographical origin authentication | **Yang Zhou A.** Next-Generation EPR: Combining High-Performance Q Band Instrumentation with Artificial Intelligence Enhanced Spectral Processing |

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| | **Plenary session (Room A2)**<br>**Chair: S. Borsacchi** |
| 18:30-18:45 | **ABCS/Nanalysis Sponsorship Lecture: V. Vanoli**<br>***Quantitative Characterization of Lignin by Benchtop $^{31}$P NMR*** |
| 18:45-19:30 | **Plenary Lecture 3**<br>**Marina Carravetta (University of Southampton)**<br>***Solid state NMR on supported palladium nanoparticles*** |

## Thursday September 10th

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| | **Plenary session (Room A2)**<br>**Chair: L. Russo** |
| 8:45-9:30 | **Plenary Lecture 4**<br>**Vincenzo Venditti (Iowa State University)**<br>***Beyond Structures: Solution NMR as a method for resolving dynamic mechanisms across biological and heterogeneous catalysts*** |
| 9:30-9:45 | **Jeol Sponsorship Lecture: M.J. Smith**<br>***Improving the detection limits*** |
| | **Under 35 GIDRM Award (Room A2)**<br>**Chair: M. Chierotti** |
| 9:45-10:15 | **Gaia Meoni (University of Florence)**<br>***NMR-based metabolomics: a journey between health and food*** |
| 10:15-10:30 | **Bruker Sponsorship Lecture: M. Mayzel**<br>***Spatially resolved NMR spectroscopy: principles and applications*** |

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| 10:30-11:20 | **Coffee break + Poster session (EVEN abstract numbers)** |

| | **Parallel session A (Room A2)**<br>**Chair: D. Lalli** | **Parallel session B (Room B2)**<br>**Chair: G. Musco** |
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| 11:20-11:50 | **Carniato F.** Investigation of transition metal-based MRI probes: a combined $^{1}$H NMR relaxometry, EPR and computational study | **Isernia C.** A glimpse in the metal ion selectivity rules: Zn(II), Cd(II) and Co(II) interplay with different protein coordination spheres in determining variable thermal stability and folding scenarios |
| 11:50-12:05 | **Scarciglia A.** A Rare Earth Elements recovery strategy using natural dioptase and $^{1}$H-NMR relaxometry | **Ciabini C.** Monitoring disordered protein-ligand interactions through NMR |
| 12:05-12:20 | **Micocci S.** Visualize & Destabilize: boronated carboranyl-curcuminoids as theranostic candidates in Alzheimer's MRI-guided Neutron Capture Therapy | **Santoro F.** Integrating NMR structure determination and ligand optimization of the CIAP2-BIR1 protein |
| 12:20-12:35 | **Caporale A. S.** The association between grey matter microstructural characteristics and cerebral oxidative metabolism is altered in Multiple Sclerosis | **Macchia L.** NMR mapping of Cyclophilin D pockets using ultra-low molecular weight fragments |
| 12:35-12:50 | **Piña Marcosa J. N.** Targeted liposomes for combined boron neutron capture therapy and MRI visualization in non-small cell lung cancer | **Lippi C.** NMR-based solvent paramagnetic enhancement experiments on IDPs |

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| 12:50-14:10 | **Lunch + Poster session (ODD abstract numbers)** |

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| | **Plenary session (Room A2)**<br>**Chair: L. Russo** |
| 14:10-14:55 | **Plenary Lecture 5**<br>**Simonetta Geninatti Crich (University of Turin)**<br>***Fast Field-Cycling Relaxometry as a Tool to Investigate Pathological States through Water Dynamics in Tissues*** |
| 14:55-15:10 | **Stelar Sponsorship Lecture: I. Sarwara**<br>***Molecular Dynamics of Animal- and Plant-Based Cheese Matrices via Temperature-Dependent FFC-NMR Relaxometry*** |
| 15:10-15:25 | **Magritek Sponsorship Lecture: L. Bottalico**<br>***Unlocking New Capabilities in Benchtop NMR: High-Resolution Analysis at 100 MHz*** |
| | **Segre-Capitani Fellowship**<br>**Chair: L. Ragona** |
| 15:25-15:40 | **Simone Fabbian (University of Padua)**<br>***Oncogenic non-coding RNA targeted by small molecules: a NMR-based approach*** |

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| 15:40-17:00 | **Coffee break + Poster session (EVEN abstract numbers)** |
| 16:15-17:00 | **GTRM assembly (Room A2)** |
| 17:00-19.00 | **GIDRM assembly + announcement of poster competition winners** |

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| 19:30 | **social dinner** |

## Friday September 11th

| | Plenary session (Room A2)<br>Chair: E. Carignani |
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| 8:45-9:30 | Plenary Lecture 6<br>Roberto Gobetto (University of Turin)<br>*Solid State NMR tools in the evaluation of weak interactions* |

| | Parallel session A (Room A2)<br>Chair: A. Randazzo | Parallel session B (Room B2)<br>Chair: D. Lalli |
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| 9:30-10:00 | **Mamone S.** Rational optimization of [1-$^{13}$C] pyruvate sabre hyperpolarization through catalyst design, kinetic modelling, and temperature control | **Proietti N.** Single-sided NMR: strengths and weaknesses |
| 10:00-10:15 | **Mosca F.** Structural investigation of Braun protein transpeptidation inhibitors in Gram-negative bacteria | **Pierigè M.** Accessing dynamics of sbr compounds by variable temperature $^{1}$H FC NMR and DFMSE experiments |
| 10:15-10:30 | **Gado I.** RNA mimic in HUR-ligand studies: insights from STD-NMR and protein-based NMR techniques | **Conti L.** In-Situ Single-Sided NMR profiling to assess cleaning treatments on XI-Century wall paintings |
| 10:30-10:45 | **Cesaroni S.** Exploring $^{1}$H-NMR data extraction potential in metabolomics: unveiling an opioid signature | **Ceccon A.** Reactive adduct intermediates and solvent-cage effects in azo-initiated oxidation of cinnamic acid derivatives revealed by solution NMR spectroscopy |
| 10:45-11:00 | **Parafioriti M.** Modulating heparanase activity with heparan sulfate mimetics: insights from NMR and molecular dynamics into structure–function relationships | **Napolitano E.** Metabolomic insights into the protective mechanisms of the NGF mutant CHF6467 in an Alzheimer's disease cell model |
| 11:00-11:30 | Coffee break | |

| | Parallel session A (Room A2)<br>Chair: G. Malgieri | Parallel session B (Room B2)<br>Chair: E. Carignani |
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| 11:30-12:00 | **Fragai M.** NMR-based characterization for the design, stability studies, and delivery control of biopharmaceuticals | **Borsacchi S.** Probing structure, dynamics and light-induced effects in halide perovskites via Solid State NMR and NQR |
| 12:00-12:15 | **Dragone M.** A $^{19}$F NMR structural characterization of selumetinib and trametinib β-cyclodextrin inclusion complexes | **Scarperi A.** Solid-State NMR insights into hydration, framework flexibility, and guest dynamics in calf-20 |
| 12:15-12:30 | **Barbero M. T.** Structural and Dynamic features of diastereomeric (Deep) Eutectic Systems (DIADES) | **Sabena C.** $^{14}$N Solid-State NMR quadrupolar products as quantitative probes of hydrogen-bond environments in pyridinic solids |
| 12:30-12:45 | **Bolognesi T.** NMR strategies for multidomain intrinsically disordered proteins: application to the SARS-CoV-2 nucleocapsid reveals structure, dynamics, and binding mechanisms | **Ghelardi A.** Structural insights into a new dual-drug co-crystal characterised by NMR crystallography and electron diffraction |

| | Plenary session (Room A2)<br>Chair: L. Ragona & M. Chierotti |
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| 12:45-13:25 | Poster competition winner lectures |
| 13:25-13:30 | Closing |
| 13:30-14:30 | Lunch |