

**Magnetic Resonance Techniques in Multiple Sclerosis
Twenty-seventh Advanced Course**

**3-4 December 2026
NH Milano 2 – Strada di Olgia Nuova**

President: Massimo Filippi

Scientific Committee: Maria A. Rocca, Paolo Preziosa, Monica Margoni

Organizing secretariat: L. Storelli, L. Zonca

Brain Health as a Disease-Modifying Target in MS: From Mechanisms to Measurable Outcomes and Clinical Implementation

Day-one: 3 December 2026

14.00-14.05 Welcome & opening remarks – (Massimo Filippi, Italy)

Session I. Environmental & lifestyle determinants of brain health in MS. Chairs: Massimo Filippi (Milan, Italy), Peter Feys (Pelt, Belgium)

14.05-14.30 Environmental and lifestyle exposures in MS: immunobiological pathways shaping neuroinflammation, neurodegeneration and CNS resilience - Anne H Cross (St. Louis, USA)

14.30-15.00 Lifestyle factors as modifiable risk contributors: translating clinical evidence into routine MS care – Alice Laroni (Genoa, Italy)

15.00-15.30 MRI markers of lifestyle-related vulnerability and resilience: from tissue integrity to network-level outcomes – P. Preziosa (Milan, Italy)

15.30-15.40 *Roundtable discussion:* Which lifestyle targets have the strongest mechanistic rationale and how can we implement and monitor them in routine MS care? All Faculty

15.40-16.10 Coffee break

Session II. Training-induced resilience in MS: aerobic fitness, motor rehabilitation, and network restoration. Chairs: Maria A. Rocca (Milan, Italy) - Anthony Feinstein (Toronto, Canada)

16.10-16.30 Exercise-driven immunometabolic and neuroplastic mechanisms in MS: biological substrates – TBD

16.30-16.50 Aerobic training and motor rehabilitation in MS: clinical evidence, practical implementation, and real-world functional outcomes - Peter Feys (Pelt, Belgium)

16.50-17.10 Imaging biomarkers of training response: microstructural repair, adaptive reorganization, and reserve signatures – Monica Margoni (Milan, Italy)

17.30-18.00 *Roundtable discussion:* Can MRI enable personalized “training prescriptions” in MS, and which outcomes should drive clinical decision-making? – All Faculty

Day-two: 4 December 2026

Session III. Cognitive impairment, resilience, training & rehabilitation. Chairs: Paolo Preziosa (Milan, Italy), Laura Hancock (Cleveland, USA)

- 9.00-9.30 Biological mechanisms of cognitive impairment and resilience in MS - Laura Hancock (Cleveland, USA)
- 9.30-10.00 Cognitive impairment and clinical evidence, selecting targets and optimizing benefit of cognitive rehabilitation – Maria Pia Amato (Florence, Italy)
- 10.00-10.30 MRI signatures of cognitive reserve and cognitive dysfunction: imaging predictors and intervention-sensitive endpoints – Maria A. Rocca (Milan, Italy)
- 10.30-11.00 *Roundtable discussion:* Which patients should be prioritized for cognitive rehabilitation, and what are the strongest clinical and MRI endpoints to demonstrate efficacy? – All Faculty
- 11.00-11.30 Coffee break

Session IV. Multimodal brain-health interventions in MS: symptom networks, synergistic mechanisms, and novel outcomes. Chairs: Monica Margoni (Milan, Italy), - Maria Pia Amato (Florence, Italy)

- 11.30-11.55 Fatigue, pain, and mood disorders in MS: from symptoms to multimodal brain-health interventions - Iris Katharina Penner (Bern, Switzerland)
- 11.55-12.20 Synergistic mechanisms of multimodal brain-health strategies: why combined interventions may (or may not) outperform single-component approaches - Anthony Feinstein (Toronto, Canada)
- 12.20-12.45 Next-generation outcomes in MS brain-health trials: advanced MRI, digital biomarkers, wearable devices, and artificial intelligence – Jaume Sastre-Garriga (Barcelona, Spain)
- 12.45-13.00 Concluding remarks
- 13.00-14.30 Farewell cocktail

