

Body fluid biomarkers in diagnosis, management, and research of multiple sclerosis: From bench to bedside

WEDNESDAY, 17 JANUARY 2024

- 08.45** **Welcome and Introduction**
- 09.00 - 09.45** **Lecture 1: Biomarkers in MS: success and pitfalls over the last decades**
D. Lippert (Basel, CH)
- 09.45 - 10.45** **Session 1: CSF Biomarkers Diagnosis**
Chairs: F. Deisenhammer (Innsbruck, AT), M. Tintoré (Barcelona, ES)
- 09.45 Typical CSF findings in MS
G. Arrambide (Barcelona, ES)
- 10.15 Atypical CSF findings in MS and MS mimics
E. Thouvenot (Nimes, FR)
- 10.45 - 11.15** **Coffee Break**
- 11.15 - 12.15** **Session 2: Blood Biomarkers Diagnosis**
Chairs: M. Reindl (Innsbruck, AT), J. Palace (Oxford, UK)
- 11.15 Neuromyelitis optica spectrum disorders and MOGAD
J. Palace (Oxford, UK)
- 11.45 MS differential diagnosis beyond NMOSD and MOGAD: use of blood
biomarkers
F. Deisenhammer (Innsbruck, AT)
- 12.15 - 13.30** **Lunch Break**
- 13.30 - 14.15** **Lecture 2: Fluid Biomarker for treatment monitoring of MS**
E. Havrdova (Prague, CZ)

- 14.15 - 16.15** **Session 3: Fluid Biomarkers in monitoring disease activity**
Chairs: F. Di Pauli (Innsbruck, AT), M. Mycko (Olsztyn, PL)
- 14.15 CSF biomarkers for predicting highly active MS
H. Hegen (Innsbruck, AT)
- 14.45 Blood biomarkers for monitoring treatment response
G. Bsteh (Vienna, AT)
- 15.15 Biomarkers to monitor safety aspects
S. Gnanapavan (London, UK)
- 15.45 - 16.30** **Coffee Break**
- 16.30 - 17.15** **Lecture 3: Methodological aspects for successful biomarker development**
C. Teunissen (Amsterdam, NL)
- 19.30** **Dinner at hotel**

THURSDAY, 18 JANUARY 2024

- 09.00 - 09.30** **Lecture 4: Biomarkers as surrogate for clinical trials**
B. Hemmer (Munich, GER)
- 09.30 - 10.30** **Session 4: Statistics**
Chairs: M. P. Sormani (Genoa, IT), B. Hemmer (Munich, GER)
- 09.30 Critical appraisal of statistical analysis and data presentation – from multivariable to metanalysis
M.P. Sormani (Genoa, IT)
- 10.00 What can we learn from other disciplines?
E. Strijbis (Amsterdam, NL)
- 10.30 - 11.00** **Coffee Break**
- 11.00 - 12.30** **Session 5: Fluid Biomarkers in monitoring disease progression**
Chairs: B. Stankoff (Paris, FR), E. Havrdova (Prague, CZ)
- 11.00 Body fluid biomarkers for predicting disease progression
G. Bsteh (Vienna, AT)
- 11.30 Body fluid biomarkers for predicting treatment response in progressive MS
E. Havrdova (Prague, CZ)
- 12.00 Development of risk scores based on fluid biomarkers to predict highly active MS and treatment response
J. Lycke (Gothenburg, SE)
- 12.30 - 13.45** **Lunch Break**
- 13.45 - 14.45** **Workshop 1: Practical applications of Statistics (3 groups, 1h each)**
Group A: M.P. Sormani (Genoa, IT)
Group B: E. Strijbis (Amsterdam, NL)
Group C: P. Carbonell (Barcelona, ES)
- 14.45 - 15.15** **Coffee Break**

15.15 - 17.15 Workshops 2-3: BioMS Workshop (2 rotating groups, 1 hour each)

Workshop 2: Designing multi-centre biomarker studies

M. Khalil (Graz, AT)

Workshop 3: Steps to implement candidate biomarkers in clinical practice

G. Arrambide (Barcelona, ES)

19.00 Winter School Dinner

FRIDAY, 19 JANUARY 2024

- 08.45 - 10.30** **Working groups – (3 working groups)**
Participants will work in 3 working groups (A, B, C) and prepare 3 Biomarker projects for clinical practice and / or research. The projects should consider pathophysiological backgrounds, different disease courses, and methodological aspects. Participants will receive feedback from six senior investigators (facilitators).
- Working Group A: MS Diagnosis**
Facilitators: B. Stankoff (Paris, FR), H. Hegen (Innsbruck, AT)
- Working Group B: Biomarker in predicting treatment response**
Facilitators: F. Deisenhammer (Innsbruck, AT), M. Tintoré (Barcelona, ES)
- Working Group C: Biomarker as surrogate outcome**
Facilitators: M.P. Sormani (Genoa, IT), B. Hemmer (Munich, GER)
- 10.30 - 11.00** **Coffee Break**
- 11.00 - 12.00** **Plenary Session (3 Working Groups, 20 minutes each)**
Participants' presentations of their acquired knowledge. Participants will make proposals of biomarker projects for clinical practice and research. Each project will be presented by WG coordinators and discussed. The session will be led by the facilitators.
- 12.00 - 12.30** **Wrap-up & Adjournment**
Mar Tintoré, Franziska Di Pauli, Harald Hegen, Florian Deisenhammer
- As of 12.30** **Lunch and individual departure**