Scientific Programme

Wednesday, 14 September 2016

Teaching Courses, Hall C

08:30 - 10:00  **Teaching Course 1 Disease modifying treatment**

Chairs
R.J. Fox (Cleveland, United States)
L. Kappos (Basel, Switzerland)

08:30 - 09:00  **New MS treatments and updates on established treatments**
R.J. Fox (Cleveland, United States)

09:00 - 09:30  **Assessing and mitigating risks: the right treatment for the right patient**
S. Vukusic (Lyon, France)

09:30 - 10:00  **Defining what is working: choosing a therapeutic strategy**
L. Kappos (Basel, Switzerland)

Teaching Courses, Hall D

08:30 - 10:00  **Teaching Course 2 MS during pregnancy and post-partum**

Chairs
K. Hellwig (Bochum, Germany)
A.M. Langer-Gould (Pasadena, United States)

08:30 - 09:00  **Family planning with MS general consideration/assisted reproductive techniques**
M.K. Houtchens (Brookline, United States)

09:00 - 09:30  **Pregnancy management: medications and lactation**
K. Hellwig (Bochum, Germany)

09:30 - 10:00  **MS and oral contraceptives: the effect on susceptibility and prognosis**
A.M. Langer-Gould (Pasadena, United States)

Teaching Courses, Hall E

08:30 - 10:00  **Teaching Course 3 Advanced MS genetics and immunology**

Chairs
R. Liblau (Toulouse, France)
F. Zipp (Mainz, Germany)

08:30 - 09:00  **Functional genetics in MS**
L. Fugger (Oxford, United Kingdom)
Scientific Programme

09:00 - 09:30  Immunology of MS: how the pathogenic adaptive immune response develops
R. Liblau (Toulouse, France)

09:30 - 10:00  Immunology of MS: innate and adaptive immune events within the CNS
F. Zipp (Mainz, Germany)

08:30 - 10:00  Teaching Course 4 MS brain health

Chairs
G. Giovannoni (London, United Kingdom)
R.A. Marrie (Winnipeg, Canada)

08:30 - 09:00  What is brain health?
G. Giovannoni (London, United Kingdom)

09:00 - 09:30  Comorbidities in MS
R.A. Marrie (Winnipeg, Canada)

09:30 - 10:00  Lifestyle modification in MS
J. Saxton (Newcastle upon Tyne, United Kingdom)

08:30 - 10:00  Teaching Course 5 Examination of blood and CSF in clinical practise

Chairs
F. Sellebjerg (Copenhagen, Denmark)
M. Comabella (Barcelona, Spain)

08:30 - 09:00  Biomarkers in blood
F. Sellebjerg (Copenhagen, Denmark)

09:00 - 09:30  Current biomarkers in cerebrospinal fluid
M. Comabella (Barcelona, Spain)

09:30 - 10:00  Emerging biomarkers
C. Teunissen (Amsterdam, Netherlands)

10:30 - 12:00  Teaching Course 6 Controversy in management

Chairs
A.E. Miller (New York, United States)
X. Montalban (Barcelona, Spain)
Scientific Programme

10:30 - 11:00  Case 1 - Relapsing MS  
A.E. Miller (New York, United States)

11:00 - 11:30  Case 2 - Progressive MS  
X. Montalban (Barcelona, Spain)

11:30 - 12:00  Neuromyelitis optica spectrum disorder (NMOSD)  
D.M. Wingerchuk (Scottsdale, United States)

Teaching Courses, Hall D

10:30 - 12:00  Teaching Course 7 Symptomatic therapy

Chairs
T. Berger (Innsbruck, Austria)  
A. Feinstein (Toronto, Canada)

10:30 - 11:00  Lower urinary tract dysfunction in Multiple sclerosis: pitfalls and challenges  
M. Pakzad (London, United Kingdom)

11:00 - 11:30  Treatment of spasticity and walking impairment  
T. Berger (Innsbruck, Austria)

11:30 - 12:00  The neuropsychiatry of MS  
A. Feinstein (Toronto, Canada)

Teaching Courses, Hall E

10:30 - 12:00  Teaching Course 8 MRI as predictor of treatment response

Chairs
C. Gasperini (Rome, Italy)  
M. Tintoré (Barcelona, Spain)

10:30 - 11:00  Predictive model of treatment response in MS  
M.P. Sormani (Genoa, Italy)

11:00 - 11:30  Predicting treatment response  
M. Tintoré (Barcelona, Spain)

11:30 - 12:00  MRI as predictor of treatment response  
C. Gasperini (Rome, Italy)
10:30 - 12:00

**Teaching Course 10 Myelin regeneration and neuroprotection**

*Chairs*
C. Lubetzki (Paris, France)
B. Stankoff (Paris, France)

10:30 - 11:00

**Models of myelination and remyelination to identify potential therapeutic cues**

C. Lubetzki (Paris, France)

11:00 - 11:30

**In vivo analysis of neuronal damage**

M. Kerschensteiner (Munich, Germany)

11:30 - 12:00

**Molecular imaging to quantify tissue damage and repair**

B. Stankoff (Paris, France)

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10:30 - 12:00

**Teaching Course 9 Cognition**

*Chairs*
M.P. Amato (Florence, Italy)
J. DeLuca (New Orange, United States)

10:30 - 11:00

**Epidemiology of cognitive impairment in MS: an update**

M.P. Amato (Florence, Italy)

11:00 - 11:30

**Assessment: Pros and cons of available tools**

D. Langdon (Egham, United Kingdom)

11:30 - 12:00

**Current approaches to management**

J. DeLuca (New Orange, United States)

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10:30 - 12:00

**Teaching Course 16 OCT in clinical practise: a hands on teaching course**

*Chairs*
A. Petzold (London, United Kingdom)

10:30 - 12:00

**OCT in clinical practise: a hands on teaching course**

A. Petzold (London, United Kingdom)
Scientific Programme

Satellite Symposia, Hall B

12:30 - 13:30  European Charcot Foundation Role of B-Cells in MS Pathogenesis Symposium

Chairs
G. Comi (Milan, Italy)

12:30 - 12:50  Why antibody therapy in MS
H.-P. Hartung (Düsseldorf, Germany)

12:50 - 13:10  Update of the role of b-cells follicles in MS
R. Reynolds (London, United Kingdom)

13:10 - 13:30  Anti b-cells therapy in MS and related disorders
G. Comi (Milan, Italy)

Teaching Courses, Hall C

12:30 - 14:00  Teaching Course 11 Differential diagnoses

Chairs
S. Fredrikson (Stockholm, Sweden)
A. Siva (Istanbul, Turkey)

12:30 - 13:00  Diagnostic and differential diagnostic aspects in MS
S. Fredrikson (Stockholm, Sweden)

13:00 - 13:30  Multiple Sclerosis Differential diagnoses MRI - diagnostic possibilities and pitfalls
A. Siva (Istanbul, Turkey)

13:30 - 14:00  Blood and CSF Biomarkers in the Diagnostic Process
F. Sellebjerg (Copenhagen, Denmark)

Teaching Courses, Hall D

12:30 - 14:00  Teaching Course 12 Neuromyelitis optica spectrum disorders

Chairs
K. Fujihara (Sendai, Japan)
D.M. Wingerchuk (Scottsdale, United States)

12:30 - 13:00  Benefits and challenges of the new diagnostic criteria (2015)
D.M. Wingerchuk (Scottsdale, United States)

13:00 - 13:30  Pathomechanisms of AQP4-IgG-, MOG-IgG- and seronegative diseases
K. Fujihara (Sendai, Japan)

13:30 - 14:00  Management of typical, gray-zone and pregnant patients
A. Jacob (Liverpool, United Kingdom)
Scientific Programme

Teaching Courses, Hall E

12:30 - 14:00  
**Teaching Course 13 Improving the differential diagnosis of MS using MRI**

**Chairs**
J. Palace (Oxford, United Kingdom)  
F. Barkhof (Amsterdam, Netherlands)

12:30 - 13:00  
**Aging and vascular diseases**
F. Barkhof (Amsterdam, Netherlands)

13:00 - 13:30  
**Neuromyelitis spectrum disorders**
J. Palace (Oxford, United Kingdom)

13:30 - 14:00  
**MS mimics**
A. Rovira (Barcelona, Spain)

Teaching Courses, Hall F

12:30 - 14:00  
**Teaching Course 14 Patient empowerment and coping**

**Chairs**
A. Solari (Milan, Italy)  
C. Heesen (Hamburg, Germany)

12:30 - 13:00  
**Self-management interventions**
R. Moss Morris (London, United Kingdom)

13:00 - 13:30  
**Evidence-based patient information**
C. Heesen (Hamburg, Germany)

13:30 - 14:00  
**Coping with severe MS**
A. Solari (Milan, Italy)

Teaching Courses, Hall G

12:30 - 14:00  
**Teaching Course 15 Paediatric MS**

**Chairs**
B. Banwell (Philadelphia, United States)  
C. Hemingway (London, United Kingdom)

12:30 - 13:00  
**Diagnosis of MS and related disorders**
C. Hemingway (London, United Kingdom)

13:00 - 13:30  
**MRI Features of MS in Children**
B. Banwell (Philadelphia, United States)

13:30 - 14:00  
**Genetic and environmental risk factors for pediatric MS**
E. Waubant (San Francisco, United States)
Teaching Courses, Moorfields Eye Hospital

12:30 - 14:00

Teaching Course 17 OCT in clinical practise: a hands on teaching course

Chairs
A. Petzold (London, United Kingdom)

12:30 - 14:00

OCT in clinical practise: a hands on teaching course
A. Petzold (London, United Kingdom)

Parallel Sessions, Hall B

14:00 - 15:30

Parallel Session 1 Challenges for care and research in MS outside Europe and North America

Chairs
X. Montalban (Barcelona, Spain)
D. Miller (London, United Kingdom)

14:00 - 14:10

Asia
T. Saida (Kyoto, Japan)

14:10 - 14:20

Challenges for multiple sclerosis care and research in the Middle East
B. Yamout (Beirut, Lebanon)

14:20 - 14:30

Challenges for care and research in MS in Iran
M.A.A. Sahraian (Tehran, Iran, Islamic Republic of)

14:30 - 14:40

Organization of MS care in Russia
A. Boyko (Moscow, Russian Federation)

14:40 - 14:50

Latin America
J. Correale (Buenos Aires, Argentina)

14:50 - 15:00

Challenges for care and research in MS outside Europe and North America: Brazil
M. Lana-Peixoto (Belo Horizonte, Brazil)

15:00 - 15:10

Challenges for care and research in MS outside Europe and North America: Australia & New Zealand
W.M. Carroll (Nedlands, Australia)

15:10 - 15:20

Incidence and prevalence of neuromyelitis optica in Australia and New Zealand: a population-based, clinical survey
S.A. Broadley (Griffith University, Australia)
Scientific Programme

Young Scientific Investigators' Sessions, Hall C

14:00 - 15:30  
**Young Scientific Investigators' Session 1**

**Chairs**  
T. Derfuss (Basel, Switzerland)  
L. Leocani (Milan, Italy)

14:00 - 14:15  
The role of GPR65 and GALC in multiple sclerosis  
W. Liao (Cambridge, United Kingdom)

14:15 - 14:30  
Comparison of MRI criteria for the diagnosis of multiple sclerosis: role of cortical lesions  
P. Preziosa (Milan, Italy)

14:30 - 14:45  
A network approach to suggest a role of variation in complement pathway genes in retinal atrophy in multiple sclerosis patients  
K.C. Fitzgerald (Baltimore, United States)

14:45 - 15:00  
Income and cognitive impairment among multiple sclerosis patients  
A. Kavaliunas (Stockholm, Sweden)

15:00 - 15:15  
Fingolimod therapy modulates B cell functions: reduces CXCR4-mediated migration and increases B cell-mediated anti-inflammatory cytokine profile  
S. Blumenfeld (Haifa, Israel)

15:15 - 15:30  
Spinal cord volume loss predicts disease activity and disability over time in multiple sclerosis  
C. Tsagkas (Basel, Switzerland)

Nurses Sessions, Hall D

14:15 - 15:30  
**Nurses' Session 1 MS in childhood and senescence and the value of multidisciplinary teamwork**

**Chairs**  
A.K. Krakau Hansen (Copenhagen, Denmark)  
K. Vernon (Salford, United Kingdom)

14:15 - 14:40  
Children of parents with multiple sclerosis attain higher grades in basic school  
J.Y. Moberg (Copenhagen, Denmark)

14:40 - 15:05  
The elderly person with multiple sclerosis: clinical implications for the increasing life-span  
M. Buhse (Stony Brook New York, United States)

15:05 - 15:30  
The importance of a multi-disciplinary perspective and patient activation programmes in MS management  
P.L. Eelen (Melsbroek, Belgium)  
S. Lykke Andersen (Glostrup, Denmark)
Hot Topic Sessions, Hall A

16:00 - 16:45
**Hot Topic 1** The initial treatment of early active relapsing remitting MS should be with a potent induction therapy rather than standard immunomodulation then escalation

**Chairs**
L. Kappos (Basel, Switzerland)
A. Compston (Cambridge, United Kingdom)

16:00 - 16:15
The initial treatment of early active relapsing remitting MS should be with a potent induction therapy rather than standard immunomodulation then escalation
G. Edan (Rennes, France)

16:15 - 16:30
Against potent induction early
E. Waubant (San Francisco, United States)

16:30 - 16:40
Cladribine tablets in the ORACLE-MS study open-label maintenance period: analysis of efficacy in patients after conversion to clinically definite multiple sclerosis (CDMS)
G. Comi (Milan, Italy)

16:40 - 16:45
**Summary**
L. Kappos (Basel, Switzerland)

Young Scientific Investigators' Sessions, Hall C

16:00 - 17:15
**Young Scientific Investigators' Session 2**

**Chairs**
F. Fazekas (Graz, Austria)
J. Sastre-Garriga (Barcelona, Spain)

16:00 - 16:15
DICAM: a new player in multiple sclerosis pathogenesis
S. Ghannam (Montreal, Canada)

16:15 - 16:30
Risks of psychiatric disorders in children and young adults with demyelinating diseases of the central nervous system: a national record-linkage study
J. Pakpoor (Oxford, United Kingdom)

16:30 - 16:45
The role of gut immunity in multiple sclerosis patients
G. Dalla Costa (Milan, Italy)

16:45 - 17:00
Dynamic assessment of macrophages infiltration and microstructural damage within MS lesions
A. Kerbrat (Rennes, France)

17:00 - 17:15
Detection of spinal cord lesions in clinically isolated syndrome patients: comparison of sagittal short T1 inversion recovery (STIR), T2-weighted, proton density and combined T2-STIR sequences
A. Salerno (Barcelona, Spain)
Scientific Programme

Nurses Sessions, Hall D

16:00 - 17:15  
**Nurses' Session 2 MS Nurses as scientific investigators: lessons from around the globe**

*Chairs*
B. Porter (London, United Kingdom)  
D. Thomas (Hereford, United Kingdom)

**16:00 - 16:15**  
The role of Vitamin D in utero  
L. Ruscoe (Newcastle Road, United Kingdom)

**16:15 - 16:35**  
The needs of children living with multiple sclerosis  
N. Conway (United Kingdom)

**16:35 - 16:55**  
Use of social media to enhance the patient experience  
M. Allan (Melbourne, Australia)

**16:55 - 17:15**  
Changing practice through the ECTRIMS Nurse Fellowship  
M.A. Robles Sanchez (Barcelona, Spain)

Satellite Symposia, Hall B

17:30 - 18:30  
**Satellite Symposium - Changing perspectives on the role of the immune system in multiple sclerosis: pathology, differentiation, and targeted therapies**

Supported by Vindico with an independent educational grant from Roche

*Chairs*
H.-P. Hartung (Düsseldorf, Germany)

**17:30 - 17:35**  
Introduction and Pretest  
H.-P. Hartung (Düsseldorf, Germany)

**17:35 - 17:50**  
Differentiating disease and the role of the immune system  
G. Comi (Milan, Italy)

**17:50 - 18:05**  
Dissecting the data on new and emerging high-efficacy agents for RRMS and PPMS  
S. Hauser (San Francisco, United States)

**18:05 - 18:20**  
Best practices when using selective high-efficacy agents  
X. Montalban (Barcelona, Spain)

**18:20 - 18:25**  
Posttest

**18:25 - 18:30**  
Question and Answer
Satellite Symposium - Reimagining the MS treatment journey

Supported by Merck

Chairs
D. Bates (Newcastle upon Tyne, United Kingdom)
G. Giovannoni (London, United Kingdom)

18:45 - 18:55
Opening and welcome Evolving therapeutic landscape: do we still have unmet needs?
D. Bates (Newcastle upon Tyne, United Kingdom)
G. Giovannoni (London, United Kingdom)

18:55 - 19:15
Debate: do we still have unmet needs in multiple sclerosis?
G. Giovannoni (London, United Kingdom)
H. Wiendl (Münster, Germany)

19:15 - 19:25
What are we looking for in a multiple sclerosis therapy?
H. Wiendl (Münster, Germany)

19:25 - 19:40
Current and future therapies: are we getting closer to addressing the unmet needs?
S. Schippling (Zurich, Switzerland)

19:40 - 19:45
Summary and close
D. Bates (Newcastle upon Tyne, United Kingdom)
G. Giovannoni (London, United Kingdom)
Scientific Programme

Thursday, 15 September 2016

Satellite Symposia, Hall A

07:45 - 08:45

Satellite Symposium - Optimising MS Care: physician and patient choices

Supported by Biogen

A case-based exploration of evidence-based decision making in MS, with integrated panel discussion and audience interaction throughout

Chairs
D. Bates (Newcastle upon Tyne, United Kingdom)

07:45 - 08:00

Chair’s welcome and introduction
D. Bates (Newcastle upon Tyne, United Kingdom)

08:00 - 08:15

Predictors of prognosis: where are we now?
D. Horáková (Prague, Czech Republic)

08:15 - 08:30

Early intervention: how can we maximise patient prospects?
T. Berger (Innsbruck, Austria)

08:30 - 08:45

Treatment optimisation: how do we apply emerging evidence?
T. Ziemssen (Dresden, Germany)

Chair’s closing remarks

Plenary Sessions, Hall A

09:00 - 10:15

Plenary Session 1

Chairs
X. Montalban (Barcelona, Spain)
D. Miller (London, United Kingdom)

09:00 - 09:25

Welcome to ECTRIMS 2016
D. Miller (London, United Kingdom)
X. Montalban (Barcelona, Spain)

09:25 - 09:30

Cultural feature

09:30 - 10:15

ECTRIMS lecture: “MS diagnosis and personalised treatment”
X. Montalban (Barcelona, Spain)
Parallel Sessions, Hall A

10:45 - 12:15  Parallel Session 2 Neuroprotection in MS: focus on acute optic neuritis

Chairs
M. Craner (Oxford, United Kingdom)
L.J. Balk (Amsterdam, Netherlands)

10:45 - 11:05  Tools for measuring neuroaxonal loss in the visual pathway
P. Calabresi (Baltimore, United States)

11:05 - 11:25  Neuroprotection in MS: results of optic neuritis trials
R. Kapoor (London, United Kingdom)

A.M. Rothman (Baltimore, United States)

11:37 - 11:49  Multifocal visual evoked potentials measurements in the acute phase may predict long term visual outcome following optic neuritis
G. Pihl-Jensen (Glostrup, Denmark)

11:49 - 12:01  Amiloride does not protect retinal nerve fibre layer thickness following acute optic neuritis; result from a phase II, double blind, randomised controlled trial
J.B. McKee (Headington, United Kingdom)

12:01 - 12:13  NEDA 3 in multiple sclerosis preserves from retinal axonal loss
M. Pisa (Milan, Italy)

Parallel Sessions, Hall B

10:45 - 12:15  Parallel Session 3 NMO update

Chairs
J. de Seze (Strasbourg, France)
D.M. Wingerchuk (Scottsdale, United States)

10:45 - 11:05  New trial designs and treatment approach for NMO
K. Fujihara (Sendai, Japan)

11:05 - 11:25  MOG antibodies in inflammatory CNS disease
J. Palace (Oxford, United Kingdom)

11:25 - 11:37  Plasma exchange and immunoadsorption for neuromyelitis optica spectrum disorder attacks
I. Kleiter (Bochum, Germany)

11:37 - 11:49  Severe neurodegeneration and unique dynamics of aquaporin-4 on astrocytes in the anterior visual pathway of neuromyelitis optica
E. Saji (Niigata, Japan)
Scientific Programme

11:49 - 12:01  Characterization of cortical pathology and lesion patterns in patients with multiple sclerosis and neuromyelitis optica with high resolution 7T MRI
S. Sadaghiani (Tehran, Iran, Islamic Republic of)

12:01 - 12:13  Anti-aquaporin-4 antibodies longitudinal titration in NMO patients treated with rituximab: involvement in the pathogenesis of the disease, rituximab impact, and clinical practice
A. Bertolotto (Orbassano, Italy)

Parallel Sessions, Hall C

10:45 - 12:15  Parallel Session 4 The innate immune system in MS

Chairs
J. Antel (Montreal, Canada)
R. Liblau (Toulouse, France)

10:45 - 11:05  Mechanisms of innate immune system-mediated tissue damage
K. Akassoglou (San Francisco, United States)

11:05 - 11:25  Therapies directed at modulating the innate immune system
R.J. Fox (Cleveland, United States)

11:25 - 11:37  Advanced characterization of intrathecal inflammation and cortical pathology stratify early MS patients
R. Magliozzi (Verona, Italy)

11:37 - 11:49  Persistent cytokine production induced in the cerebral meninges in a rat model of MS gives rise to chronic cortical pathology
R. Reynolds (London, United Kingdom)

11:49 - 12:01  Integrin alpha8 is a novel mediator of T lymphocyte migration across the CNS barriers
E.M. Gowing (Montreal, Canada)

12:01 - 12:13  Microglia activation is dissociated in cortex and white matter: a combined 11C-PBR28 and 7T imaging study
E. Herranz (Boston, United States)

Parallel Sessions, Hall D

10:45 - 12:15  RIMS Parallel Session 1 Multi-Disciplinary Rehabilitation

Chairs
A.J. Thompson (London, United Kingdom)
U. Dalgas (Aarhus, Denmark)

10:45 - 11:05  Effects on health related quality of life from multidisciplinary rehabilitation in multiple sclerosis: a randomized controlled trial - the Danish MS hospitals rehabilitation study
F. Boesen (Haslev, Denmark)
11:05 - 11:25  Rehabilitation strategies for progressive multiple sclerosis: what works, what does not, and what is needed
J. Freeman (Plymouth, United Kingdom)

11:25 - 11:45  Behavioural change interventions to increase physical activity
L. Hale (Dunedin, New Zealand)

11:45 - 12:00  Modifiable psychosocial constructs associated with physical activity participation in people with multiple sclerosis: a systematic review and meta-analysis
B. Casey (Limerick, Ireland)

12:00 - 12:15  Telerehabilitation in multiple sclerosis: results of a randomized, 3-arm, rater blinded, feasibility and efficacy pilot study; gait and balance report
G. Pardo (Oklahoma City, United States)

13:00 - 14:00  Satellite Symposium - Building confidence through long-term experience with fingolimod
supported by Novartis

Chairs
X. Montalban (Barcelona, Spain)
H.-P. Hartung (Düsseldorf, Germany)

13:00 - 13:03  Chair’s opening and welcome
H.-P. Hartung (Düsseldorf, Germany)

13:03 - 13:21  Building confidence in MS: long-term experience with fingolimod
B. Singer (St. Louis, United States)

X. Montalban (Barcelona, Spain)

13:39 - 13:57  Patient management in MS: the importance of acting early and effectively
H.-P. Hartung (Düsseldorf, Germany)

13:57 - 14:00  Closing remarks
X. Montalban (Barcelona, Spain)

14:15 - 15:45  Parallel Session 5 New developments in pathophysiologically-based symptomatic therapy

Chairs
A.J. Thompson (London, United Kingdom)
M. Clanet (Toulouse, France)
Scientific Programme

14:15 - 14:35
Improving mobility in multiple sclerosis
D. Centonze (Rome, Italy)

14:35 - 14:47
Chasing the driver of fatigue in multiple sclerosis: brain MRI versus CSF
V. Biberacher (München, Germany)

14:47 - 14:59
Brain imaging of short-term functional plasticity predicts performance improvement with longer-term motor sequence training in multiple sclerosis
I. Lipp (Cardiff, United Kingdom)

14:59 - 15:11
A randomized, double-blind, parallel group study to compare the safety and efficacy of Arbaclofen Extended Release Tablets to placebo and baclofen for the treatment of spasticity in patients with multiple sclerosis
D. Kantor (Parkland, United States)

15:11 - 15:23
A randomized trial of dual lead thalamic DBS for the treatment of Multiple Sclerosis tremor: Results from the NIH cohort
D. Kantor (Parkland, United States)

15:23 - 15:43
Treating MS bladder dysfunction
J. Panicker (London, United Kingdom)

Parallel Sessions, Hall B

Parallel Session 6 New techniques to image neuroprotection and repair

Chairs
N. De Stefano (Siena, Italy)
D. Reich (Bethesda, United States)

14:15 - 14:35
Is there anything better than atrophy to image neuroprotection?
J. Oh (Toronto, Canada)

14:35 - 14:55
Is MTR a robust measure of tissue repair?
C. Enzinger (Graz, Austria)

14:55 - 15:07
Imaging signature of multiple sclerosis phenotypes in grey matter
A. Eshaghi (London, United Kingdom)

15:07 - 15:19
Physical exercise-related changes in structural connectome architecture in patients with relapsing-remitting multiple sclerosis
S.C. Hodecker (Hamburg, Germany)

15:19 - 15:31
Lesion accumulation rate is higher in cortex than in white matter and associated with cortical thinning in multiple sclerosis: a longitudinal 7T study
T. Granberg (Stockholm, Sweden)
15:31 - 15:43  In vivo translocator protein positron emission tomography imaging detects a heterogeneity of lesion inflammatory activity in multiple sclerosis not evident by MRI  
G. Datta (London, United Kingdom)

Parallel Sessions, Hall C

14:15 - 15:45  Parallel Session 7 Mitochondrial dysfunction and energy deficits mediating neurodegeneration in MS  
Chairs  
B. Trapp (Cleveland, United States)  
W. Brück (Göttingen, Germany)

14:15 - 14:35  Multiple sclerosis from an energy perspective  
K. Smith (London, United Kingdom)

14:35 - 14:55  Evidence in MS neuropathology  
D.J. Mahad (Edinburgh, United Kingdom)

14:55 - 15:07  Transport deficits lead to mitochondrial depletion of the distal collaterals and synapses in a model of chronic neuroinflammation  
A. Ladwig (Munich, Germany)

15:07 - 15:19  Reduced expression of mitochondrial fumarate hydratase contributes to impaired MSC-mediated neuroprotection in multiple sclerosis  
P. Sarkar (Bristol, United Kingdom)

15:19 - 15:31  Increased cortical and deep grey matter sodium concentration is associated with physical and cognitive disability in relapse-onset multiple sclerosis  
W.J. Brownlee (London, United Kingdom)

15:31 - 15:43  Cutaneous sodium storage is a major driver of autoimmune responses in neuroinflammation  
S. Jörg (Erlangen, Germany)

Parallel Sessions, Hall D

14:15 - 15:45  RIMS Parallel Session 2 Symptomatic management  
Chairs  
P. Hämäläinen (Masku, Finland)  
D. Kos (Leuven, Belgium)

14:15 - 14:35  Rehabilitation to treat MS-related fatigue: the TREFAMS research programme  
V. de Groot (Amsterdam, Netherlands)

14:35 - 14:55  Cognitive rehabilitation in PPMS  
F. Patti (Catania, Italy)
### Scientific Programme

**14:55 - 15:10**  
Cognitive improvement and functional connectivity changes after integrative group-based cognitive rehabilitation in multiple sclerosis  
O. Rilo (Bilbao, Spain)

**15:10 - 15:25**  
Superior and middle frontal gyrus activity during N-Back correlates with the effect of computer-assisted cognitive rehabilitation  
P. Iaffaldano (Bari, Italy)

**15:25 - 15:40**  
A standardized outpatient physical rehabilitation program improves walking in people with multiple sclerosis presenting with different levels of disability: a retrospective study  
G. Loyola (Barcelona, Spain)

**Poster Sessions, Poster Exhibition**

**15:45 - 17:00**  
**Poster Session 1**

<table>
<thead>
<tr>
<th>Title</th>
<th>Author(s)</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>There is less MRI brain lesions and no characteristic MRI brain findings in IIDDs patients with positive AQP4 serology among Malaysians</td>
<td>S. Abdullah</td>
<td>Kuala Lumpur, Malaysia</td>
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<tr>
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PREVAIL: predicting recovery through estimation and visualization of active and incident lesions
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Thalamic magnetic resonance spectroscopy in highly active multiple sclerosis
L. Peress (London, United Kingdom)

T2* at 3T detects a higher proportion of white matter lesions with central veins compared to FLAIR-SWI in patients with MS
A.P. Samaraweera (Nottingham, United Kingdom)

Impact of 3 Tesla MRI on diagnosis in clinically isolated syndrome: a MAGNIMS multicentre study
M.H. Hagens (Amsterdam, Netherlands)
Apparent fiber density: A novel method to detect axonal degeneration in patients with MS
S. Gajamange (Melbourne, Australia)

Quantitative susceptibility mapping of multiple sclerosis lesions in a longitudinal cohort using magnetic resonance imaging
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Outer and inner cortical MTR abnormalities in clinically isolated syndromes
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Reproducible quantitative cervical spinal cord MRI for progressive MS
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Detection of new multiple sclerosis lesions on longitudinal brain MRI
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The two cytoarchitectonic divisions of BA 4 show distinguishable BOLD-force profiles in multiple sclerosis
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Cladribine effect on brain volume loss and its correlation with disability progression in patients with relapsing multiple sclerosis
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Fatigue in multiple sclerosis: the contribution of resting-state functional connectivity reorganization
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Predicting gadolinium enhancement using non-enhanced FLAIR MRI imaging in relapsing-remitting multiple sclerosis
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Detection of cortical lesions by 3D-double inversion recovery imaging in Japanese patients with multiple sclerosis and neuromyelitis optica spectrum disorder
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Cerebral microbleeds in multiple sclerosis evaluated on susceptibility-weighted imaging and quantitative susceptibility mapping are associated with more severe cognitive and physical outcomes
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Continuous short-term structural network reorganisation beyond atrophy in patients with RRMS
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Correlations of volumetric and R2*-defined microstructural abnormalities in hippocampus and amygdala with cognition in MS
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High resolution, quantitative magnetic susceptibility and phase mapping MRI techniques show increased iron deposition in patients with multiple sclerosis
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Increased total sodium concentration in asymptomatic T2 lesions in clinically isolated syndrome
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A multicentre study of quantitative susceptibility mapping in sub-cortical deep gray matter structures in relapsing multiple sclerosis
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An abnormal periventricular gradient in magnetisation transfer ratio occurs early in multiple sclerosis
J.W.L. Brown (Cambridge, United Kingdom)

Brain functional MRI changes in multiple sclerosis patients treated with Tetrahydrocannabinol:Cannabidiol (THC:CBD) oromucosal spray for spasticity
F. Gobbin (Verona, Italy)

Subclinical optic nerve involvement in CIS patients demonstrated by MRI is associated with McDonald MS 2010 criteria
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Grey matter hypoperfusion and subsequent brain atrophy in MS: a longitudinal MRI study with pseudo-continuous arterial spin labeling
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The cerebello-thalamic tract as a neural correlate for tremor in multiple sclerosis
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Microstructural white matter correlates of motor fatigue in multiple sclerosis - a diffusion weighted imaging study
C. Bauer (Hvidovre, Denmark)

Heterogeneity of cortical lesions susceptibility map in multiple sclerosis and its neuropathological interpretation
M. Castellaro (Padova, Italy)

Neurite orientation dispersion and density imaging (NODDI) reflects early microstructural brain tissue changes in clinically isolated syndrome (CIS)
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Corpus callosum in clinically isolated syndromes: lesion distribution, atrophy and predictor value to conversion
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Cortical and deep grey matter network changes in secondary progressive multiple sclerosis
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Correlation between brain volume change and T2 relaxation time in patients with clinically isolated syndrome
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An integrated imaging informatics software platform to improve the analysis of clinical trials and research data in MS
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Multiple MRI measures to predict disability in MS patients: which works best?
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Decreased susceptibility of the thalamus is associated with increased disability in patients with multiple sclerosis
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Impact of fingolimod on MRI brain measures in routine clinical practice: interim results from a longitudinal observational, multicenter real-world outcome study in multiple sclerosis patients
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The effect of intramuscular interferon beta-1a on spinal cord volume in relapsing-remitting multiple sclerosis
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Protective personality traits for memory are related to larger hippocampal volume in MS
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Prospective measurement of quantitative spinal cord MRI in radiologically isolated syndrome: baseline analysis
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A MRI-pharmacokinetic study of gadolinium deposition in the dentate nucleus in multiple sclerosis patients receiving serial triple-doses of Gd for 14 consecutive months
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Ultra-high field and gradient strength MRI reveal neuro-axonal pathology in cortex and white matter in early MS
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Whole brain white matter alterations revealed by diffusion basis spectrum imaging (DBSI) in multiple sclerosis
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Long-term change in magnetisation transfer ratio detects chronic active lesions in multiple sclerosis
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Diffusion tensor imaging shows brain structural damage associated with verbal memory in subjects with multiple sclerosis
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Physical activity levels are associated with hippocampal dentate gyrus volume of pediatric patients with acquired demyelinating syndromes
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Diffusion basis spectrum imaging in acute and remote optic neuritis
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Diffusion tensor imaging of normal appearing white matter in patients with neuromyelitis optica spectrum disorder and multiple sclerosis
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Left versus right regional volumes related to cognitive deficits in multiple sclerosis  
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Cortical mantle thinning in pediatric MS: correlations with motor function  
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Longitudinal study of MS lesions using multi-parametric ultra-high field (7Tesla) MRI  
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Quantifying lesion progression in multiple sclerosis: a novel magnetic resonance imaging pipeline  
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Investigating early evidence of multiple sclerosis in a prospective study of asymptomatic high-risk first-degree family members  
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Global and regional annual brain volume loss rates in physiological ageing  
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Cerebellar contribution to motor and cognitive impairment in multiple sclerosis patients: an MRI sub-regional structural analysis  
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Longitudinal evaluation of diffusion tensor imaging measures in patients meeting criteria for “No Evidence of Disease Activity”  
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Signal abnormalities on magnetic resonance imaging in acute optic neuritis. A prospective study  
K.K. Soelberg (Vejle, Denmark)

Thalamic functional connectivity in multiple sclerosis: the role of temporal thalamic sub-region in maladaptation  
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Deep gray matter atrophy in neuromyelitis optica spectrum disorder and multiple sclerosis  
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Structural connectivity in multiple sclerosis and simulation of disconnection  
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Head motion during resting state fMRI acquisition significantly alter functional connectivity and it depends on patient disability  
E. Silvestri (Padova, Italy)

Differences in brain MRI features between Japanese and caucasian patients with multiple sclerosis  
Y. Nakamura (Fukuoka, Japan)
Impact of lesion segmentation and filling on cortical thickness estimation
M. Castellaro (Padova, Italy)

Leptomeningeal contrast enhancement in patients with neuromyelitis optica spectrum disorder
S.V. Okar (Ankara, Turkey)

Changes in diffusion-based structural brain network in relapsing-remitting multiple sclerosis
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Retinal measures correlate with cognitive and physical disability in early multiple sclerosis
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Retinal nerve fibre layer changes over 2 years correlate with brain volume and N-acetylaspartate in alemtuzumab treated multiple sclerosis patients
A.-L. Nguyen (Vancouver, Canada)

Optical coherence tomography in secondary progressive multiple sclerosis: a baseline data report from the MS-SMART trial
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Retinal nerve fiber layer and macular volume in familial and sporadic MS patients
M. Siger (Lodz, Poland)

Leptomeningeal contrast enhancement is associated with loss of retinal nerve fiber layer thickness and macular volume on optical coherence tomography in multiple sclerosis
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Retinal Layers as measured by optical coherence tomography are associated with distinct parameters of disease activity in multiple sclerosis
B. Knier (München, Germany)

Associations between optical coherence tomography measures and clinical visual outcomes in patients with multiple sclerosis
A. Papadopoulou (Basel, Switzerland)

Selective thinning of the maculo-papillary bundle and inner ganglion cell layer in radiologically isolated syndrome
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Optic neuritis does not mask progression of neurodegeneration affecting the macula in multiple sclerosis: a longitudinal OCT study
D. Coric (Amsterdam, Netherlands)

Signal quality dependency of intra-retinal segmentation algorithms in macular optical coherence tomography
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MRI and neurophysiological correlates of upper limb function in multiple sclerosis
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Objective pupil perimetry and MS progression
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Interoception and theory of mind in multiple sclerosis
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Linking neurotransmitters and functional connectivity: a multimodal study on relapsing-remitting and progressive MS
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Increased variability of temporal gait parameters among patient with MS at early stages of the disease
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Autonomic dysfunction in patients with neuromyelitis optica disorders
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The VEMP score as a predictor of disability progression in patients with multiple sclerosis
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Vestibular evoked myogenic potentials in evaluating brainstem lesions in multiple sclerosis
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Myelin loss alters cortical network functionality by mediating a reorganization of activity pattern of the cortical layers and triggering cognitive deficits in rodents
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Hyperstable EEG-vigilance in multiple sclerosis patients
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Episodic autobiographical memory retrieval characteristics in multiple sclerosis
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Baseline cognition in those undergoing mesenchymal stem cell transplant: is there an opportunity to detect a repair signal?
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Brain perfusion SPECT with Brodmann areas mapping and neurocognition in multiple sclerosis
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Cognitive impairment and structural brain changes in patients with clinically isolated syndrome
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Ambulation and cognition following treatment with dalfampridine in multiple sclerosis
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Hippocampal atrophy as a neuroanatomical basis for memory deficits in MS: support for a degenerative model of MS memory decline
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The cognitive profile of multiple sclerosis patients who respond to fampridine
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The impact of the disease and cognitive impairment in employment and socioeconomic status in multiple sclerosis patients in a Latin American country
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fMRI correlates of cognitive impairment and cognitive reserve in multiple sclerosis
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Benefits of a cognitive rehabilitation program in relapsing-remitting multiple sclerosis patients
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Cognitive assessment with BICAMS battery during and after MS relapse
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An examination of cognitive fatigue and the interrelatedness of disease severity, fatigue, depression, and sleep quality
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Relationship between Vitamin D levels and cognitive impairment, depression and fatigue in relapsing remitting multiple sclerosis patients
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Cognitive impairment in multiple sclerosis in a series of 228 patients: is SDMT useful as a screening tool?
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Depression, anxiety, and stress severities in multiple sclerosis patients using injectable vs. oral treatments
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Differences in cognitive impairment and corpus callosum index between relapsing remitting and progressive multiple sclerosis in Chile
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Cognition over the course of multiple sclerosis
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CSF markers of axonal damage, glial activation and immune response in acute myelitis
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MRI biomarkers of opicinumab (Anti-LINGO-1) repair in relapsing MS: results from the Phase 2b SYNERGY trial
M. Mellion (Cambridge, United States)

Soluble CD27 levels in CSF as a prognostic biomarker in clinically isolated syndrome
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Molecular signatures associated with cognitive dysfunctions in pediatric multiple sclerosis
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sCD27, IgG and IgM index as potential CSF biomarkers for predicting MRI activity in newly diagnosed MS patients
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Long non coding RNA (LncRNAs) expression analysis in patients with multiple sclerosis: potential biomarkers of disease susceptibility and progression
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Neurofilament light chain and disease progression in MS
A. Bhan (Stavanger, Norway)

Prognostic role of cerebrospinal fluid neurofilament, chitinase-3-like and tau levels in patients with clinically isolated syndrome
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Endothelin-1 as a candidate cerebrovascular biomarker in multiple sclerosis
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Kappa free-light chains in cerebrospinal fluid show prognostic significance for long-term disability progression in multiple sclerosis
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No association of serum Netrin-1 with MRI based evidence of disease activity in early multiple sclerosis
M.M. Voortman (Graz, Austria)

Serum exosomes as biomarkers of multiple sclerosis
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Extending the spectrum of anti-MOG antibody positive autoimmune inflammatory CNS disease: overlapping demyelinating syndromes in patients with systemic lupus erythematosus
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Comparison between recurrent and monophasic MOG antibody-associated demyelinating disease
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Epigenetic profile of chromosome conformation signatures underlying multiple sclerosis and its severity
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Molecular profiling of damage and repair in the CSF by translating transcriptome data to CSF proteome
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Longitudinal assessment of cervical cord atrophy across MS clinical phenotypes: a multicenter study
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Gene expression and cytokine protein analysis of the cerebrospinal fluid in early multiple sclerosis: association with grey matter damage assessed by MR imaging
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Myeloid microvesicles and risk of multiple sclerosis in patients with clinically isolated syndromes
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Accumulation of disability on the neurophysical disability progression composite: daclizumab high-yield process vs. interferon beta-1a in relapsing-remitting multiple sclerosis patients from the DECIDE study
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Placebo-controlled Phase 3 study of delayed-release dimethyl fumarate in patients with relapsing multiple sclerosis from Asia-Pacific and other countries
B. Zhu (Cambridge, United States)

Results of a non-randomised, parallel-group clinical trial to assess efficacy and safety of fingolimod in treatment-naive and previously treated patients with relapsing-remitting multiple sclerosis. The EARLIMS Study
O. Fernández (Málaga, Spain)

Case-report: no evidence of disease activity in neuromyelitis optica patient 5 years after allogeneic hematopoietic stem cells transplantation
E. Krasulova (Prague, Czech Republic)

Alemtuzumab significantly improves disability in patients with active relapsing-remitting MS and an inadequate response to prior therapy as assessed using a novel, composite measure: confirmed disability improvement-plus: results from CARE-MS II
B. Singer (St. Louis, United States)

Effectiveness of mycophenolate mofetil as first line therapy in AQP4-IgG, MOG-IgG and seronegative neuromyelitis optica spectrum disorders
A. Montcuquet (Limoges, France)

Cutaneous events in daclizumab HYP-treated patients did not impact patient-reported outcomes in the DECIDE study
G. Sabatella (Cambridge, United States)

Durable effect of alemtuzumab on MRI lesion outcomes over 5 years in patients with highly active relapsing-remitting multiple sclerosis who had an inadequate response to prior therapy (CARE-MS II)
G. Comi (Milan, Italy)
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Assessment of No Evidence of Disease Activity (NEDA-3) in alemtuzumab-treated patients with aggressive multiple sclerosis who failed multiple disease-modifying drugs
L. Prosperini (Rome, Italy)

Rituximab treatment in Italian NMOSD patients
M. Radaelli (Milan, Italy)

Real life efficacy and tolerability of Teriflunomide a multicentre study
P. Annovazzi (Gallarate, Italy)

Effects of generic glatiramer acetate (BCD-063) on magnetic resonance imaging outcomes in patients with relapsing multiple sclerosis. A randomized double-blind 48 weeks clinical trial
N.N. Babicheva (Kazan, Russian Federation)

Efficacy of daclizumab HYP versus intramuscular interferon beta-1a in patients without neutralising antibodies against interferon beta in the DECIDE study
A. Bertolotto (Orbassano, Italy)

Three-year real-world data in fingolimod treatment: the effects on cognitive function
S. Ozakbas (Izmir, Turkey)

Does clinicians’ risk attitudes influence therapeutic decisions? Translating principles from behavioral economics to multiple sclerosis care
G. Saposnik (Toronto, Canada)

Australian cladribine experience
T. Kalincik (Melbourne, Australia)

Boswellic acids immunomodulate T cell populations in relapsing-remitting multiple sclerosis in the SABA phase IIa clinical trial
K.H. Stürmer (Hamburg, Germany)

Preservation of CD25 protein expression on CD4+ Treg by vitamin D3 supplementation in relapsing remitting multiple sclerosis
J. Smolders (Sittard, Netherlands)

Teriflunomide (Aubagio®) reduces glutamate, and possible excitotoxicity, in cortico-basal gangliionic-thalamo-cortical connectivity in mouse model of multiple sclerosis
C.M. Modica (Buffalo, United States)

An open-label add-on trial of cetirizine for neuromyelitis optica: preliminary results
I. Katz Sand (New York, United States)

Alemtuzumab long-lasting immunological effects: a 48 months follow-up observation
L. Durelli (Orbassano, Italy)
Immune regulatory effects of high dose vitamin D3 supplementation in a randomized controlled trial in relapsing remitting multiple sclerosis patients receiving IFNβ: the SOLARIUM study
A.-H. Muris (Maastricht, Netherlands)

Long term changes in T cell subsets following cessation of fingolimod
M. Ghadiri (Montreal, Canada)

Efficacy of daclizumab HYP vs intramuscular interferon beta-1a on 24-week sustained disability progression using a modified multiple sclerosis functional composite
S. Cohan (Portland, United States)

Effect of dimethylfumarate treatment on lymphocytes and antigen presenting cells in multiple sclerosis patients
M.A. Mazzola (Boston, United States)

Seven-year follow-up of the efficacy of delayed-release dimethyl fumarate in newly diagnosed patients with relapsing-remitting multiple sclerosis: integrated analysis of DEFINE, CONFIRM, and ENDORSE
R. Gold (Bochum, Germany)

Characterisation of the lymphadenopathy events observed in the daclizumab HYP clinical trials
G. Lima (Cambridge, United States)

A randomized, open-label study to assess the immune response to vaccination in patients with relapsing forms of multiple sclerosis treated with delayed-release dimethyl fumarate compared to non-pegylated interferon
J. Howard (New York, United States)

Effectiveness of delayed-release dimethyl fumarate on clinical disease activity and patient-reported outcomes in patients with relapsing-remitting multiple sclerosis in the real-world setting: a multicentre, open-label study (PROTEC)
T. Berger (Innsbruck, Austria)

Cladribine tablets in the treatment of patients with multiple sclerosis: an integrated analysis of infections in association with severe lymphopenia
S. Cook (Newark, United States)

Benefits of cladribine tablets on the proportion of patients with multiple sclerosis free from clinical and radiological indicators of disease activity in the CLARITY EXTENSION study
G. Giovannoni (London, United Kingdom)

Metabolomics identifies novel effects of dimethyl fumarate on lipid metabolism in relapsing remitting MS
P. Bhargava (Baltimore, United States)

A retrospective analysis of discontinuation rates and reasons for discontinuation in multiple sclerosis patients treated with delayed-release dimethyl fumarate (Biogen ONE Support Program)
M. Vlaicu (Mississauga, Canada)
A novel Nrf2 inducer TFM-735 ameliorates experimental autoimmune encephalomyelitis in mice
C. Higashi (Gotemba, Japan)

Fingolimod in routine clinical practice: Canadian experience
V. Bhan (Halifax, Canada)

Benefits of cladribine tablets on the achievement of no evidence of disease activity (NEDA) status in patients with multiple sclerosis: analysis of pooled double-blind data from the CLARITY and ONWARD studies
G. Giovannoni (London, United Kingdom)

Benefits of cladribine tablets on magnetic resonance imaging (MRI) outcomes in patients with multiple sclerosis: analysis of pooled double-blind data from the CLARITY and ONWARD studies
G. Giovannoni (London, United Kingdom)

Benefits of cladribine tablets on relapse rates and disability progression in patients with multiple sclerosis: analysis of pooled double-blind data from the CLARITY and ONWARD studies
G. Giovannoni (London, United Kingdom)

Cladribine tablets in the treatment of patients with multiple sclerosis: an integrated analysis of safety from the multiple sclerosis clinical development program
S. Cook (Newark, United States)

Reduction of lymphopenia by cladribine tablets under retreatment guidelines: a long-term follow-up analysis of patients in the ORACLE-MS study
T. Leist (Philadelphia, United States)

Stable disability and patient-reported performance outcomes over 48 weeks of teriflunomide treatment: results from the Phase 4 Teri-PRO Study
R. Gold (Bochum, Germany)

Impact of teriflunomide treatment on real-world quality of life in the Phase 4 Teri-PRO Study
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Teriflunomide real-world safety profile: results of the Phase 4 Teri-PRO Study
P.K. Coyle (Stony Brook, United States)

Comparative analysis of adherence and persistence for delayed-release dimethyl fumarate versus interferons and glatiramer acetate - a population based study in Sweden
A. Berglund (Upplands Väsby, Sweden)

Teriflunomide and dimethylfumarate: prescription and patients' satisfaction in a real life setting
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Real-life data from efficacy of fingolimod treatment in multiple sclerosis patients in Turkey
M. Terzi (Samsun, Turkey)

DMF induces differential apoptosis of T cell subsets and leads to a shift in the regulatory to effector T cell balance in MS patients
M. Ghadiri (Montreal, Canada)

Interim report on the safety and efficacy of long-term daclizumab HYP treatment for up to 5 years in EXTEND
L. Kappos (Basel, Switzerland)

Lymphocyte depletion and repopulation is consistent across alemtuzumab treatment courses in patients with relapsing-remitting multiple sclerosis: 6-year analysis of patients from the CARE-MS studies
A. Boyko (Moscow, Russian Federation)

Rebound disease activity reduction in relapsing multiple sclerosis patients transitioned from natalizumab to teriflunomide
S. Cohan (Portland, United States)

Efficacy of natalizumab and fingolimod in multiple sclerosis in real world clinical setting: a 2-year follow-up study
R. Totaro (L’Aquila, Italy)

Comparative efficacy and discontinuation of dimethyl fumarate and fingolimod as first line and second line therapy in clinical practice
C.M. Hersh (Las Vegas, United States)

Differences in tolerability and discontinuation rates in teriflunomide-treated patients: a real-world clinic experience
H. Alnajashi (Jeddah, Saudi Arabia)

Recovery of demyelinating optic neuritis after treatment with bioequivalent high doses of oral vs. intravenous corticosteroids: a randomized single blinded clinical trial
S.A. Morrow (London, Canada)

Adherence and tolerability to dimethyl fumarate in 253 patients with MS
T. Sejbaek (Odense, Denmark)

Significant increase of CD56+(bright) CD16- NK cells observed in multiple sclerosis patients treated with dimethylfumarate
V. Camera (Verona, Italy)

Inflammatory biomarkers and serum nitric oxide concentrations in multiple sclerosis patients according to the different kinds of disease modifying therapy
M. Adamczyk-Sowa (Zabrze, Poland)

Achievement of no evidence of disease activity by time interval with daclizumab HYP versus intramuscular interferon beta-1a treatment in DECIDE
G. Giovannoni (London, United Kingdom)
Acute respiratory distress syndrome following treatment with alemtuzumab for relapsing multiple sclerosis
A. Pace (Salford, United Kingdom)

Glatiramer acetate immune modulates pathogenic B cell function and maintains clinical benefit after anti-CD20 induction therapy
D. Häusler (Goettingen, Germany)

Return of clinical and radiological disease activity after cessation of natalizumab in patients with relapsing remitting and secondary progressive multiple sclerosis
U. Proschmann (Dresden, Germany)

Therapeutic effect of SINE compounds in a preclinical model of multiple sclerosis and an in vitro screening of related viruses
S. Tamir (Newton, United States)

Alterations in the secretome of MSCs isolated from patients with MS are in keeping with their reduced neuroprotective potential under conditions of oxidative stress
J. Redondo (Bristol, United Kingdom)

Teriflunomide impacts primary microglia and astrocyte functions in vitro
A. Edling (Framingham, United States)

MD1003 halts axonal degeneration and locomotor disability in a model of X-linked adrenoleukodystrophy
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Penetration of dimethyl fumarate into cerebrospinal fluid and brain: a pharmacokinetic and tissue distribution study in monkeys
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Association of serum 25-hydroxyvitamin D levels with disability and relapses in relapsing-remitting multiple sclerosis
H.A. ıdrısoglu (Istanbul, Turkey)

Oral lipoic acid as a treatment for acute optic neuritis: a blinded, placebo-controlled randomized trial
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Safety and tolerability of opicinumab in relapsing multiple sclerosis: the Phase 2b SYNERGY trial
D. Cadavid (Cambridge, United States)

Mesenchymal stem cell Labeling for In vivo cell tracking
S.M. Planchon (Cleveland, United States)

Human embryonic stem cell-derived oligodendrocyte progenitor cells provide long term immune-regulation and protection in a chronic-relapsing model of multiple sclerosis
T. Ben-Hur (Jerusalem, Israel)

Quantifying remyelination in vivo - metabolic labeling of myelin in an animal model of multiple sclerosis
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Efficacy and safety of alemtuzumab in patients with RRMS is durable over 10 years: follow-up from the CAMMS223 study
K. Selmaj (Lodz, Poland)

Alemtuzumab improves clinical outcomes over 4 years in patients with relapsing-remitting multiple sclerosis who switched from SC IFNB-1a: CARE-MS II extension study 4-year follow-up
A. Boyko (Moscow, Russian Federation)

Durable suppression of disease activity by alemtuzumab in the absence of continuous treatment over 6 years in patients with active relapsing-remitting multiple sclerosis and an inadequate response to prior therapy (CARE-MS II)
C. LaGanke (Cullman, United States)

Alemtuzumab durably suppresses disease activity over 6 years in treatment-naive patients with active relapsing-remitting multiple sclerosis in the absence of continuous treatment (CARE-MS I)
H. Wiendl (Münster, Germany)

Durable reduction in MRI disease activity with alemtuzumab in treatment-naive patients with active relapsing-remitting multiple sclerosis: 6-year follow-up of the CARE-MS I study
D.L. Arnold (Montréal, Canada)

Natalizumab, first therapy to demonstrate a significant impact on multiple sclerosis disease severity
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Predictors of long-term interferon discontinuation in newly diagnosed relapsing multiple sclerosis
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Real world efficacy of fingolimod: experience from the Glasgow MS Centre (GMSC) in comparison with the FREEDOMS and TRANSFORMS studies
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Impact of fingolimod therapy on neutrophil counts: real world experience from the Glasgow MS Centre (GMSC)
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Determinants of treatment persistence with glatiramer acetate in the French national Copaxone registry
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Effect of early versus delayed scIFN β-1a on radiological or clinical activity-free status in patients with CIS: a post-hoc analysis of REFLEXION
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Outcomes of the TOPIC extension study of teriflunomide in patients with early multiple sclerosis: up to 7 years of clinical results
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Benefit of long-term treatment with teriflunomide on disability outcomes: results from TEMSO and TOWER
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Outcomes of the TEMSO extension study of teriflunomide: 10.5 years of clinical results
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Alemtuzumab (Lemtrada®) in multiple sclerosis: lessons from social media in enhancing patient care
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Three years of clinical experience with dimethyl fumarate (DMF): data from the providence multiple sclerosis center’s DMF Registry
K.E. Smoot (Portland, United States)

A Swedish nationwide pharmaco-epidemiological and genetic study of the long-term safety and effectiveness of natalizumab (IMSE 1)
S. Johansson (Stockholm, Sweden)

Lymphocyte count in peripheral blood is not associated with the level of clinical response to treatment with fingolimod
Y.D. Fragoso (Santos, Brazil)

A Swedish nationwide pharmaco-epidemiological and genetic study of the long-term safety and effectiveness of dimethyl fumarate (IMSE 5)
L. Forsberg (Stockholm, Sweden)

Adherence to fingolimod in multiple sclerosis patients taking part in a person-centred integrated care programme in Switzerland
A. Bourdin (Lausanne, Switzerland)

Defining non-adherence to the injectable disease-modifying therapies in multiple sclerosis
K.A. McKay (Vancouver, Canada)

Open-label prospective nonrandomized long-term study of interferon-beta biosimilars: efficacy of generic drugs in multiple sclerosis
D. Kasatkin (Yaroslavl, Russian Federation)

S. Ozakbas (Izmir, Turkey)

Comparison of fingolimod and dimethyl fumarate in the treatment of multiple sclerosis: two year experience
B.L. Vollmer (Aurora, United States)

9% of multiple sclerosis patients taking dimethyl fumarate have a severe reduction in CD8+ T lymphocytes (CD8+ &LT; 100 mm³) but have only grade 1 lymphopenia when measured as absolute lymphocyte count
C. Spinelli (New Orleans, United States)
MSFIRST - utilising a longitudinal, prospective, comparative drug safety module for use in everyday MS clinical practice to evaluate and track incidence and characteristics of safety outcomes in MS patients on therapy over the long term
J. Haartsen (Melbourne, Australia)

Effect of fingolimod on an animal surgical wound healing model: a non-immunosuppressive profile
R.C. Ginestal (Madrid, Spain)

Evaluation of switching to teriflunomide in high risk natalizumab patients
K.R. Edwards (Latham, United States)

Acute motor axonal neuropathy following alemtuzumab treatment in relapsing-remitting multiple sclerosis patient - a case report
P. Hradilek (Ostrava, Czech Republic)

Neutropenia in two MS patients treated with alemtuzumab
M.I. Gaitán (Buenos Aires, Argentina)

VJC seroconversion is not related to disease modifying therapy in multiple sclerosis patients: searching for a seroconverter profile
S. Eichau (Sevilla, Spain)

BKPyV antibody level is associated with protection against development of PML
F. Rossi (Roma, Italy)

Effect of extended interval dose natalizumab therapy on CD19+ and CD34+ cell mobilization from bone marrow and JC Viremia
L. Zhovtis Ryerson (New York, United States)

Infratentorial brain infections induced by JC virus after treatment with Natalizumab: clinical and radiological variability
L. Kremer (Strasbourg, France)

Cytomegalovirus reactivation during alemtuzumab treatment in a patient with multiple sclerosis
S.F. De Mercanti (Torino, Italy)

Pregnancy outcomes with delayed-release dimethyl fumarate: preliminary registry results
N.J. Everage (Cambridge, United States)

Cumulative data on pregnancy outcomes after exposure to fingolimod and in comparison with the general population
Y. Geissbühler (Basel, Switzerland)

Absolute lymphocyte count and lymphocyte subset profiles during long-term treatment with delayed-release dimethyl fumarate in patients with relapsing-remitting multiple sclerosis
R.J. Fox (Cleveland, United States)

Lymphopenia with dimethyl fumarate and fingolimod in clinical practice
C.M. Hersh (Las Vegas, United States)
Alterations of serum lipid profile in multiple sclerosis patients treated with fingolimod
S. Haars (Leipzig, Germany)

Selection of first-line therapy in multiple sclerosis using risk-benefit decision analysis
D. Bargiela (Boston, United States)

Infusion-related reactions with ocrelizumab in relapsing multiple sclerosis and primary progressive multiple sclerosis
J. de Seze (Strasbourg, France)

The CSF JCV antibody index for diagnosis of early progressive multifocal leukoencephalopathy
C. Warnke (Duesseldorf, Germany)

NEDA after stratification of PML risk
L. Romero-Pinel (L’Hospitalet de Llobregat, Spain)

Diet composition and dimethylfumarate (DMF) side effects in relapsing-remitting multiple sclerosis (RRMS) patients: a pilot study
M. Pugliatti (Ferrara, Italy)

Prevalence and predictors of lymphopenia in multiple sclerosis (MS) patients treated with fingolimod (FG) or delayed-release dimethyl fumarate (DMF)
M. Baharnoori (Brookline, United States)

Evaluating the safety of beta-interferons in multiple sclerosis: a series of nested case-control studies
H.J. De Jong (Vancouver, Canada)

First dose effects of fingolimod: in depth electrocardiographic analysis of over 4,700 patients confirms first dose observation is usually uneventful
V. Limmroth (Köln, Germany)

Sensitivity of magnetic resonance imaging to fingolimod dosage in a cuprizone mouse model
V. Vegh (Brisbane, Australia)

Interferon-beta therapy in multiple sclerosis induces differential gene regulatory effects in distinct cell populations of the peripheral blood
M. Hecker (Rostock, Germany)

Individual response to disease modifying therapies: a global observational cohort study
T. Kalincik (Melbourne, Australia)

Dose-response model for B cell count reduction under ofatumumab treatment
M. Savelieva (Basel, Switzerland)

Effect of teriflunomide on relapse and disability worsening: an analysis of the TOWER Study with 2 years of treatment
K. Thangavelu (Cambridge, United States)
Confirmation of population structure among MS subjects: an MS subset has more disease activity
P. De Jager (Boston, United States)

Brain volume loss correlates with long-term disability worsening in patients with MS: SIENA analysis of TEMSO MRI data
L. Kappos (Basel, Switzerland)

Teriflunomide is effective in reducing brain volume loss in previously treated patients: a subgroup analysis of TEMSO SIENA data
M.S. Freedman (Ottawa, Canada)

Clinical predictors of fingolimod response over 2-year follow-up in an Italian cohort of multiple sclerosis relapsing remitting patients
F. Esposito (Milan, Italy)

Utilizing brain volume loss as an additional predictor of long-term treatment outcomes: analysis of TEMSO MRI SIENA data
M.P. Sormani (Genoa, Italy)

Development of a sensitive outcome for economical drug screening for progressive multiple sclerosis
P. Kosa (Bethesda, United States)

CD56 positivity of T cells as a candidate of a predictive biomarker for relapse of multiple sclerosis under fingolimod therapy
C. Fujii (Kyoto, Japan)

Validation of an algorithm to detect severe MS relapses in administrative health databases
J.J. Marriott (Winnipeg, Canada)

Optical coherence tomography detects significant retinal atrophy in progressive MS which is modulated by disease modifying therapies
S. Saidha (Baltimore, United States)

Apheresis therapy in multiple sclerosis patients with histopathologically classified immunopathological patterns
W. Brück (Göttingen, Germany)

Anti-inflammatory disease modifying treatment does not attenuate disability progression in secondary progressive multiple sclerosis
J. Lorscheider (Melbourne, Australia)

Access and use of clinical services and disease modifying therapies by people with progressive multiple sclerosis in the UK
E. Campbell (Glasgow, United Kingdom)

Progressive multiple sclerosis: effectiveness of a medical education activity in improving the knowledge of novel approaches to treatment
T.F. Finnegan (New York, United States)

Fear of falling and participation following the use of functional electrical stimulation for the lower limb in people with multiple sclerosis
T. Street (Salisbury, United Kingdom)
An exploratory analysis of 12- and 24-week composite confirmed disability progression in patients with primary progressive multiple sclerosis in the ORATORIO trial
G. Giovannoni (London, United Kingdom)

Biotin in multiple sclerosis in real world: a cohort of 50 patients
A. Fromont (Dijon, France)

Safety and tolerability of ALKS 8700 in relapsing-remitting multiple sclerosis: Phase 3 open-label study design (EVOLVE-MS-1)
R.T. Naismith (Saint Louis, United States)

Therapeutic inertia in multiple sclerosis care: lessons learned from behavioral economics
G. Saposnik (Toronto, Canada)

Cholecalciferol supplementation in relapsing multiple sclerosis patients treated with subcutaneous interferon beta-1a: a randomized controlled trial
W. Camu (Montpellier, France)

Autologous haematopoietic stem cell transplantation in multiple sclerosis: a meta-analysis
M.P. Sormani (Genoa, Italy)

Effects of high- and low-fat meals on the pharmacokinetics of ozanimod, a novel sphingosine 1-phosphate receptor modulator
J.Q. Tran (Summit, United States)

Favourable changing course of multiple sclerosis in the last 15 years: the role of neurologists
G. Comi (Milan, Italy)

Multiple sclerosis triggered during tocilizumab therapy. Report of a new case
G. Cruz-Velásquez (Zaragoza, Spain)

Immunoblation and haematopoietic stem cell transplantation completely aborts inflammation in aggressive relapsing forms of MS
M.S. Freedman (Ottawa, Canada)

Intermediate intensity regimen in autologous HSCT for severe multiple sclerosis: a large, single center experience
R. Saccardi (Florence, Italy)

Tetrahydrocannabinol + cannabidiol oromucosal spray for multiple sclerosis resistant spasticity on daily practice, new data
P. Vermersch (Lille, France)

Diffusion tensor imaging correlates of gait impairment in multiple sclerosis
S. Klineova (New York, United States)

A multicenter randomized controlled trial of two group programs in multiple sclerosis: effects on fatigue and self-efficacy
C. Hugos (Portland, United States)
Evaluating the effect of patients expectations on clinical response to fampridine treatment
F.F. Ladeira (Lisbon, Portugal)

High dose vitamin D3 supplementation does not ameliorate depressive symptoms in relapsing remitting multiple sclerosis: results of a randomized placebo-controlled trial
L. Rolf (Maastricht, Netherlands)

Enhanced cognitive performance independent of depression scores in patients with multiple sclerosis treated with fampridine
M. Fernández-Fournier (Madrid, Spain)

Medical and surgical treatment of trigeminal neuralgia in patients with multiple sclerosis: a literature review
J.L. Frederiksen (Copenhagen, Denmark)

Big conductance calcium-activated potassium channel activation is a novel way to control spasticity without sedation
D. Baker (London, United Kingdom)

Network analysis for understanding the effect of fampridine in gait of primary progressive multiple sclerosis
I. Pulido-Valdeolivias (Madrid, Spain)

Effects of dual-task balance training on postural performance in patients with multiple sclerosis: a double-blind, randomized controlled trial
S. Monjezi (Ahvaz, Iran, Islamic Republic of)

Pain in neuromyelitis optica: characterization and its impact on quality of life: a cross-sectional study in Venezuela
G.A. Chique-Alfonzo (Caracas, Bolivarian Republic of Venezuela)

Improvements in quality of life over 5 years with alemtuzumab are associated with confirmed disability improvement in patients with active relapsing-remitting multiple sclerosis who had an inadequate response to prior therapy (CARE-MS II)
R. Arroyo González (Madrid, Spain)

A non-randomized, open label, exploratory study of dalfampridine-extended release and sexual dysfunction in women with multiple sclerosis
L. Amezcua (Los Angeles, United States)

Illness- and medication-perceptions are key aspects affecting health-related quality of life in patients with MS
S. Ratzabi (Haifa, Israel)

Prospective validation of a short version of MSQOL-54 (MSQOL-29): preliminary findings
A. Solari (Milan, Italy)

Social support and depression in individuals with multiple sclerosis
M.P. Jensen (Seattle, United States)
Adaptation and preliminary testing of Six Neuro-QoL Item banks for use in the Swedish neuro-registries/multiple sclerosis registry (NEUROreg/MSreg)
L. Stawiarz (Stockholm, Sweden)

A comparison of the association between multiple sclerosis symptoms and quality of life among people with relapsing and progressive multiple sclerosis
C. Chen (Portland, United States)

Perception of disease severity in patients with multiple sclerosis
I. León (Hospital de Llobregat, Spain)

Long-term quality of life outcome in subjects with multiple sclerosis responding to treatment with fampridine
F.A. Rodriguez-Leal (Dresden, Germany)

Factors associated with acceptance to intramuscular interferon β-1a in patients with multiple sclerosis: results from the ADOPTE study
C. Mekies (Toulouse, France)

Loneliness and pessimism are independent predictors of timed 25-feet walk worsening at 5 years among ageing MS patients enrolled in the New York State Multiple Sclerosis Consortium
B. Weinstock-Guttman (Buffalo, United States)

Effects of high frequency repetitive transcranial magnetic stimulation on gait and balance in patients with chronic multiple sclerosis
H.S. Shehata (Cairo, Egypt)

Telerehabilitation in multiple sclerosis: results of a randomized, 3-arm, rater blinded, feasibility and efficacy pilot study; patient-reported outcomes report
C. Fjeldstad (Oklahoma City, United States)

Multiple sclerosis and diet: systematic review, internet-based survey and pilot-testing of an evidence based patient education programme
C. Heesen (Hamburg, Germany)

Instrumented version of the modified dynamic gait index: a pilot study
E. Gervasoni (Milan, Italy)

A sensor-engineered glove to quantitatively assess fine hand motor function in MS
E. Gervasoni (Milan, Italy)

An android application to assess attention deficits in people with Multiple Sclerosis
A. Tacchino (Genova, Italy)

Content and extent of upper limb rehabilitation in multiple sclerosis across Europe
I.G. Løyning (Hakadal, Norway)
Determinants of discontinuation of Botulinum Toxin Type A treatment for spasticity in multiple sclerosis
L. Castelli (Rome, Italy)

Oculomotor re-training in people with progressive Multiple Sclerosis and cerebellar signs: A proof of concept study
J. Marsden (Plymouth, United Kingdom)

Effectiveness of energy conservation management on fatigue and participation in multiple sclerosis: a randomized clinical trial
J. van Meeteren (Rotterdam, Netherlands)

Physical behavior is associated with physical fatigue in persons with multiple sclerosis related fatigue
J. van Meeteren (Rotterdam, Netherlands)

Voxel-based lesion symptom mapping to explain the cognitive-posture interference phenomenon in multiple sclerosis
S. Ruggieri (Rome, Italy)

The positive effect of cognitive behavioral therapy for the treatment of fatigue in patients with multiple sclerosis: results of a randomized controlled trial
L. van den Akker (Amsterdam, Netherlands)

Changes in gait and balance in people with multiple sclerosis attending a 12-week Pilates exercise program
A. Kalron (Herzeliya, Israel)

Does aerobic training alleviate fatigue and improve societal participation in patients with multiple sclerosis? The TREFAMS-A multicentre randomised trial
M. Heine (Amsterdam, Netherlands)

Effects of normobaric hypoxic training on physical fitness and immunoregulatory functions in patients with multiple sclerosis: a pilot study
A. Mähler (Berlin, Germany)

Customizable exergames Nintendo Wii balance board-based for rehabilitation in multiple sclerosis
S. Caggiari (Cagliari, Italy)

Treadmill walking exercise training effects on processing speed and thalamic resting-state functional connectivity in multiple sclerosis: a pilot study
B.M. Sandroff (West Orange, United States)

Rhythmic cued motor imagery in people with multiple sclerosis: effects and mechanisms
B. Seebacher (Eastbourne, United Kingdom)

Objective physical activity measurement in people with multiple sclerosis: a review of the literature
B. Casey (Limerick, Ireland)
16:00 - 17:00

**Burning debate: People in wheelchairs should be included in progressive MS trials**

This burning debate will address the topical issue of whether people in wheelchairs should be included in trials for progressive MS. Two opposing views will be put forward to spark debate about the reasons why a significant proportion of people with MS are excluded from clinical trials of disease modifying trials. Votes will be cast via twitter using #burningdebate.

**Chairs**

C. Oreja-Guevara (Madrid, Spain)

**16:00 - 16:05**

Introduction

**16:05 - 16:17**

YES

K. Schmierer (London, United Kingdom)

**16:17 - 16:29**

NO

P.K. Coyle (Stony Brook, United States)

**16:29 - 16:54**

Discussion

**16:54 - 17:00**

Summary and closing vote

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17:00 - 17:45

**Hot Topic 2 Bone marrow transplantation is a justifiable treatment for active relapsing multiple sclerosis**

**Chairs**

P.A. Muraro (London, United Kingdom)

N. Scolding (Bristol, United Kingdom)

**17:00 - 17:15**

Bone marrow transplantation is a justifiable treatment for active relapsing multiple sclerosis: for

G.L. Mancardi (Genoa, Italy)

**17:15 - 17:30**

Bone marrow transplantation is a justifiable treatment for active relapsing remitting multiple sclerosis: against

J.A. Cohen (Cleveland, United States)

**17:30 - 17:40**

Clinical experience in aggressive multiple sclerosis treatment with autologous haematopoietic stem cell transplantation

M. Smilowski (Katowice, Poland)

**17:40 - 17:45**

Summary

P.A. Muraro (London, United Kingdom)
Hot Topic Sessions, Hall B

17:00 - 17:45

**Hot Topic 3 Risk factors for progression of MS**

**Chairs**
H. Tremlett (Vancouver, Canada)
J.-i. Kira (Fukuoka City, Japan)

17:00 - 17:15

Genetic factors associated with progression of MS
S. Sawcer (Cambridge, United Kingdom)

17:15 - 17:30

Environmental factors associated with progression of MS
A. Ascherio (Boston, United States)

17:30 - 17:40

Long-term disability trajectories in primary progressivs MS patients - a latent class growth analysis
A. Signori (Genova, Italy)

17:40 - 17:45

Summary
H. Tremlett (Vancouver, Canada)

Hot Topic Sessions, Hall C

17:00 - 17:45

**Hot Topic 4 Biomarkers associated with the development of PML**

**Chairs**
D. Brassat (Toulouse, France)
M. Comabella (Barcelona, Spain)

17:00 - 17:15

PML pathogenesis
I. Koralnik (Chicago, United States)

17:15 - 17:30

Biomarkers associated with the development of PML: immunological markers
H. Wiendl (Münster, Germany)

17:30 - 17:45

Genomics biomarkers associated with the development of PML
D. Brassat (Toulouse, France)

Satellite Symposia, Hall B

18:00 - 19:00

**Satellite Symposium - Multiple disciplines, common goals: Just a minute! Challenge the expert panel**

Supported by Teva

**Chairs**
P. Vermersch (Lille, France)

18:00 - 18:05

Welcome: multiple disciplines, common goals
P. Vermersch (Lille, France)
18:05 - 18:20  
**Optimising management for family planning: new strategies for an ongoing challenge**  
K. Hellwig (Bochum, Germany)  
S. Verlohren (Berlin, Germany)  

18:20 - 18:30  
**Just a minute! Challenge the expert panel**  
P. Vermersch (Lille, France)  
D. Centonze (Rome, Italy)  
P.K. Coyle (Stony Brook, United States)  
K. Hellwig (Bochum, Germany)  
J.-L. Murk (Utrecht, Netherlands)  
S. Verlohren (Berlin, Germany)  
A. Joosten (Rotterdam, Netherlands)  

18:30 - 18:45  
**Targeting the immune system in MS: a microbiologist’s view**  
J.-L. Murk (Utrecht, Netherlands)  

18:45 - 18:55  
**Just a minute! Challenge the expert panel**  
P. Vermersch (Lille, France)  
D. Centonze (Rome, Italy)  
P.K. Coyle (Stony Brook, United States)  
K. Hellwig (Bochum, Germany)  
J.-L. Murk (Utrecht, Netherlands)  
S. Verlohren (Berlin, Germany)  
A. Joosten (Rotterdam, Netherlands)  

18:55 - 19:00  
**Closing remarks**  
P. Vermersch (Lille, France)
Scientific Programme

Friday, 16 September 2016

08:00 - 09:00
Satellite Symposium - The evolving management of relapsing MS
Supported by Celgene

Chairs
E. Havrdová (Prague, Czech Republic)
G. Comi (Milan, Italy)

08:00 - 08:08
Opening and introductions
E. Havrdová (Prague, Czech Republic)

08:08 - 08:20
Current treatment targets
G. Comi (Milan, Italy)

08:20 - 08:35
Unmet patient needs
E. Havrdová (Prague, Czech Republic)

08:35 - 08:50
Future therapeutic options
J.A. Cohen (Cleveland, United States)

08:50 - 08:55
Panel Discussion

08:55 - 09:00
Meeting close
G. Comi (Milan, Italy)

09:15 - 10:15
Free Communications 1

Chairs
K. Selmaj (Lodz, Poland)
R. Gold (Bochum, Germany)

09:15 - 09:27
Durable efficacy of cladribine tablets in patients with multiple sclerosis: analysis of relapse rates and relapse-free patients in the CLARITY and CLARITY Extension studies
G. Giovannoni (London, United Kingdom)

09:27 - 09:39
Rituximab in multiple sclerosis; data from the swedish MS registry
F. Piehl (Stockholm, Sweden)

09:39 - 09:51
High dose cholecalciferol (vitamin D3) oil as add-on therapy in subjects with relapsing-remitting multiple sclerosis receiving subcutaneous interferon β-1a
R. Hupperts (Maastricht, Netherlands)
Scientific Programme

09:51 - 10:03  Evaluation of no evidence of progression using composite disability outcome measures, in patients with primary progressive multiple sclerosis in the ORATORIO trial
X. Montalban (Barcelona, Spain)

10:03 - 10:15  Autoimmunity in patients treated With Alemtuzumab for relapsing-remitting multiple sclerosis: 5-Year follow-up of the CARE-MS studies
P. Vermersch (Lille, France)

09:15 - 10:15  Free Communications, Hall B

09:15 - 09:27  Subclinical concordance rate in monozygotic twins clinically discordant for multiple sclerosis
L.A. Gerdes (Munich, Germany)

09:27 - 09:39  Evaluation of local ancestry differences in multiple sclerosis among US minority populations
A. Beecham (Coral Gables, United States)

09:39 - 09:51  Evolving dark band on T2*-weighted images is characteristic of PML and indicates iron deposition - a combined MRI, XRF & histopathology study
V.V. Sethi (Bethesda, United States)

09:51 - 10:03  Risk of false negative JC virus PCR in CSF of natalizumab-associated PML patients reflects low PML lesion volume
M.T. Wijburg (Amsterdam, Netherlands)

10:03 - 10:15  To do or not to do? Plasma exchange and steroids in progressive multifocal leukoencephalopathy management
C. Scarpazza (Brescia, Italy)

09:15 - 10:15  Free Communications, Hall C

09:15 - 09:27  Maintaining paid work in MS
C.R. Wicks (Leeds, United Kingdom)

09:27 - 09:39  Caring for and caring about people with severe MS
A. Solari (Milan, Italy)
Scientific Programme

09:39 - 09:51

Social Cognition is associated to selective cognitive impairment and brain atrophy in progressive multiple sclerosis
E. Ciampi (Barcelona, Spain)

09:51 - 10:03

Medication adherence in paediatric MS: barriers and facilitators
S.A. Grover (Toronto, Canada)

10:03 - 10:15

Effect of smoking, a NAT1 genetic variant and HLA genes on disease activity in MS patients before and during interferon-beta treatment
E.R. Petersen (Copenhagen, Denmark)

Free Communications, Hall D

09:15 - 10:15

Free Communications 4

Chairs
A. Siva (Istanbul, Turkey)
K. Gross-Paju (Tallinn, Estonia)

09:15 - 09:27

Gut dysbiosis is a feature of MS and it is characterized by bacteria able to regulate lymphocyte differentiation in vitro
S.E. Baranzini (San Francisco, United States)

09:27 - 09:39

Mucosal-associated invariant T cells regulate immune response in multiple sclerosis
J. Correale (Buenos Aires, Argentina)

09:39 - 09:51

Regulatory B cell induction by the gut microbiome protects against CNS inflammation and demyelination
L. Kasper (Hanover, United States)

09:51 - 10:03

T-cells recovered from chronic active multiple sclerosis lesions are directed to Epstein-Barr virus, but not disease-associated autoantigens
G.P. van Nierop (Rotterdam, Netherlands)

10:03 - 10:15

Early development of a novel serum based test to measure multiple sclerosis disease activity
R.C. Axtell (Oklahoma City, United States)

Parallel Sessions, Hall A

10:45 - 12:15

Parallel Session 8 Long term outcome after presentation with a clinically isolated syndrome

Chairs
N. Evangelou (Nottingham, United Kingdom)
A. Traboulsee (Vancouver, Canada)

10:45 - 11:05

Imaging markers of prognosis
O. Ciccarelli (London, United Kingdom)
Scientific Programme

11:05 - 11:25
Long term outcome after presentation with a clinically isolated syndrome: evidence for therapeutic modulation
M. Tintoré (Barcelona, Spain)

11:25 - 11:37
Early MRI predictors of secondary progressive multiple sclerosis: a 15 year follow-up study of patients with clinically isolated syndrome
W.J. Brownlee (London, United Kingdom)

11:37 - 11:49
Early disease modifying treatment delays disability accumulation in patients with pediatric onset clinically isolated syndrome suggestive of multiple sclerosis
P. Iaffaldano (Bari, Italy)

11:49 - 12:01
Barcelona dynamic model for predicting prognosis in CIS patients incorporating lesion topography and activity
M. Tintoré (Barcelona, Spain)

12:01 - 12:13
Baseline and on-study variables that predict disease activity in patients with CIS treated with interferon beta-1b in the BENEFIT 11 trial
L. Kappos (Basel, Switzerland)

Parallel Sessions, Hall B

10:45 - 12:15
Parallel Session 9 Remyelination: mechanisms and therapeutic approaches

Chairs
S. Chandran (Edinburgh, United Kingdom)
S. Goldman (Rochester, United States)

10:45 - 11:05
Myelination: mechanisms and function in healthy CNS
K.-A. Nave (Göttingen, Germany)

11:05 - 11:25
Remyelination in multiple sclerosis: therapeutic approaches
C. Lubetzki (Paris, France)

11:25 - 11:37
Efficacy analysis of opicinumab in relapsing multiple sclerosis: the Phase 2b SYNERGY trial
D. Cadavid (Cambridge, United States)

11:37 - 11:49
The RXR nuclear receptor agonist IRX4204 promotes myelin repair in vivo
M.E. Sanders (Santa Ana, United States)

11:49 - 12:01
Oligodendroglial damage and remyelination in paediatric multiple sclerosis lesions
S. Pfeifenbring (Göttingen, Germany)

12:01 - 12:13
Chi3l3 induces oligodendrocyte regeneration in a model of multiple sclerosis
S.C. Starossom (Berlin, Germany)
Parallel Sessions, Hall C

10:45 - 12:15

Parallel Session 10 Comorbid diseases in people with MS

Chairs
B. Uitdehaag (Amsterdam, Netherlands)
I. Mylonas (Thessaloniki, Greece)

10:45 - 11:05

Non-vascular comorbidity in multiple sclerosis
P.S. Sorensen (Copenhagen, Denmark)

11:05 - 11:25

Vascular disease comorbidity in MS
R.A. Marrie (Winnipeg, Canada)

11:25 - 11:37

Inverse comorbidity in multiple sclerosis. Findings in a complete nationwide cohort
A. Thormann (Copenhagen, Denmark)

11:37 - 11:49

Serum levels of 25-hydroxyvitamin D and risk of multiple sclerosis among women in the Finnish Maternity Cohort
A. Ascherio (Boston, United States)

11:49 - 12:01

The impact of cardiovascular comorbidities on the temporal evolution of brain volume and lesion load in early multiple sclerosis
A. Pichler (Graz, Austria)

12:01 - 12:13

Ovarian age is associated with gray matter volumes and disability in women with MS independent of chronological age and disease duration
J.S. Graves (San Francisco, United States)

Parallel Sessions, Hall D

10:45 - 12:15

RIMS Parallel Session 3 Neurobiology and rehabilitation

Chairs
G. Comi (Milan, Italy)
J. Sastre-Garriga (Barcelona, Spain)

10:45 - 11:05

Neural and behavioral correlates of cognitive and affective symptom rehabilitation in multiple sclerosis
R.S. Prakash (Columbus, United States)

11:05 - 11:25

Functional and structural brain plasticity enhanced by motor and cognitive rehabilitation in multiple sclerosis
L. Prosperini (Rome, Italy)

11:25 - 11:40

Action observation therapy modifies brain functional reorganization in MS patients with right upper limb motor deficits
M.A. Rocca (Milan, Italy)

11:40 - 11:55

Profusely increased cortical grey, subcortical grey and white matter structural neuroplasticity with enduring real-world motor improvement following Ci therapy for MS: results from a randomised controlled trial
V.W. Mark (Birmingham, United States)
Scientific Programme

11:55 - 12:10
Effects of an individual 12 weeks community located running program on physical capacity, walking, cognitive function, dual tasking and brain volumes and structures in persons with Multiple Sclerosis
P. Feys (Hasselt, Belgium)

12:45 - 13:45
Satellite Symposium - Brain volume loss and disability in MS: What are the clinical implications?
Supported by Sanofi Genzyme

Chairs
P. Vermersch (Lille, France)

12:45 - 13:00
Welcome and introduction
P. Vermersch (Lille, France)

13:00 - 13:15
Understanding mechanism of action in the context of patient outcomes
H. Wiendl (Münster, Germany)

13:15 - 13:30
Preserving brain and function: What it means to patients
B. Singer (St. Louis, United States)

13:30 - 13:45
Closing remarks
P. Vermersch (Lille, France)

Parallel Sessions, Hall A

14:00 - 15:30
Parallel Session 11 Insights to long term treatment effects from MS registries and databases

Chairs
M. Trojano (Bari, Italy)
S. Vukusic (Lyon, France)

14:00 - 14:20
The United Kingdom multiple sclerosis risk-sharing scheme: final 10 year results
M. Duddy (Newcastle upon Tyne, United Kingdom)

14:20 - 14:40
MSBase: studies to date and future prospects
H. Butzkueven (Melbourne, Australia)

14:40 - 14:52
Alemtuzumab provides durable improvements in clinical outcomes in treatment-naive patients with active relapsing-remitting multiple sclerosis over 6 years in the absence of continuous treatment (CARE-MS I)
A.J. Coles (Cambridge, United Kingdom)

14:52 - 15:04
Effect of disease modifying therapies on long-term multiple sclerosis disability and mortality
I. Poliakov (Calgary, Canada)
Scientific Programme

15:04 - 15:16  Therapeutic lag: is treatment effect delayed in progressive MS?
               M.P. Sormani (Genoa, Italy)

15:16 - 15:28  To switch therapies in RRMS: why and when? A real-life multicentre study
               M. Clerico (Torino, Italy)

Parallel Sessions, Hall B

14:00 - 15:30  Parallel Session 12 New directions in progressive MS research
               Chairs
               F. Lublin (New York, United States)
               G. Comi (Milan, Italy)

14:00 - 14:20  The evolving understanding of pathogenic mechanisms of progressive MS
               C. Stadelmann (Göttingen, Germany)

14:20 - 14:40  Unblocking the bottleneck - better trial design in progressive multiple sclerosis
               J. Chataway (London, United Kingdom)

14:40 - 14:52  Molecular-based diagnosis of multiple sclerosis and its progressive stage
               P. Kosa (Bethesda, United States)

14:52 - 15:04  A new rodent model of progressive demyelination and neurodegeneration mimicking progressive MS
               S. Nessler (Göttingen, Germany)

15:04 - 15:16  Synaptic loss in the MS spinal cord: a key driver of disease progression?
               N. Petrova (London, United Kingdom)

               R.I. Spain (Portland, United States)

Parallel Sessions, Hall C

14:00 - 15:30  Parallel Session 13 Cognition in MS
               Chairs
               A. Feinstein (Toronto, Canada)
               I.-K. Penner (Düsseldorf, Germany)

14:00 - 14:20  Mechanisms of cognitive impairment: insights from imaging
               M.M. Schoonheim (Amsterdam, Netherlands)

14:20 - 14:40  Cognitive rehabilitation
               M.P. Amato (Florence, Italy)
Scientific Programme

14:40 - 14:52  Grey and white matter pathology in multiple sclerosis: separate effects on cognition?
A.J. Eijlers (Amsterdam, Netherlands)

14:52 - 15:04  Effect of high-dose simvastatin on cognition in secondary progressive multiple sclerosis (MS-STAT cognitive): a randomised, placebo-controlled, Phase 2 trial
J. Chataway (London, United Kingdom)

15:04 - 15:16  Correlates of cognitive impairment in multiple sclerosis: do environmental and lifestyle risk factors for the disease matter?
I. Righini (Florence, Italy)

15:16 - 15:28  Assessment of cognitive status, physical disability and progressive disease in multiple sclerosis (MS): validation of a comprehensive telehealth approach for clinical research and translation to care
L.F. Barcellos (Berkeley, United States)

Poster Sessions, Poster Exhibition

Poster Session 2

15:30 - 17:00  Multiple sclerosis mimickers on initial presentation: frequency, type and predictors
B. Yamout (Beirut, Lebanon)

Periventricular lesions and multiple sclerosis diagnostic criteria in people with clinically isolated syndromes
W.J. Brownlee (London, United Kingdom)

Individual prediction of clinically definite MS in patients presenting with clinically isolated syndrome using machine learning
V. Wottschel (Amsterdam, Netherlands)

Optic nerve MRI in patients with first-ever optic neuritis
B.-N. Yoon (Incheon, Korea, Republic of)

Subclinical disease processes detected by fullfield and multifocal visual evoked potentials in NMO spectrum disorders
M. Ringelstein (Düsseldorf, Germany)

Assessment of 2015 neuromyelitis optica criteria in rouen university hospital
L. Fechtenbaum (Rouen, France)

Frequency of AQP4-Ab in NMO and NMO-spectrum disorders
A. Vorobyeva (Moscow, Russian Federation)

MRI evaluation of the “central vein sign” in brain white matter lesions of multiple sclerosis and systemic autoimmune diseases
L. Vuolo (Florence, Italy)

Central nervous system demyelination associated to Zika virus outbreaks
O.J.M. Nascimento (Niterói, Brazil)
Asymptomatic acute NMOSD-typical brain lesions at an acute attack of optic neuritis or myelitis
S.-H. Kim (Goyang, Korea, Republic of)

MOG-antibody-related disorders cohort description: common features and uncommon presentations
A. Cobo-Calvo (Lyon, France)

Outcomes of pregnancy in neuromyelitis optica patients: Turkish multicenter study data
A. Altintas (Istanbul, Turkey)

Efficacy of immunotherapies and predictors of therapy response in neuromyelitis optica spectrum disorders: analysis of 397 treatment years from 150 patients
J.-P. Stellmann (Hamburg, Germany)

MOG-IgG in NMO and related disorders: a multicenter study. Part 1: frequency, syndrome specificity, influence of disease activity, long-term course, association with AQP4-IgG, and origin
S. Jarius (Heidelberg, Germany)

Short delay to initiate plasma exchange is the strongest predictor of outcome in attacks of neuromyelitis optica spectrum disorders
M. Bonnan (Pau, France)

Executive function in NMOSD: the relationship with fatigue, anxiety and depression
A. Combes (Vancouver, Canada)

Radiographic and clinical features of neuromyelitis optica spectrum disorder: A retrospective study within the Columbia university medical center patient population
C.-Y. Guo (New York, United States)

MOG-IgG in NMO and related disorders: a multicenter study. Part 2: Epidemiology, clinical presentation, radiological and laboratory features, treatment, and long-term outcome
S. Jarius (Heidelberg, Germany)

Clinical and radiological features of 12 patients with pseudotumoral demyelinating lesions
P. Sánchez (Madrid, Spain)

Multiple sclerosis and NMO spectrum disorder association in sisters
S.A. Hatteb (Tizi Ouzou, Algeria)

S. Jarius (Heidelberg, Germany)

Psychiatric comorbidities and suicide attempt in Neuromyelitis optica spectrum disorders in Argentina
V. Fernández (Buenos Aires, Argentina)
Neuromyelitis Optica Spectrum Disorders in Argentinian patients: A hospital based study  
V. Fernández (Buenos Aires, Argentina)

Structural connectivity abnormalities underlying cognitive impairment in pediatric multiple sclerosis  
E. De Meo (Milan, Italy)

Long-term follow-up of an Italian pediatric MS population treated with first-line agents: a multicentre, retrospective, cohort study  
A. Ghezzi (Gallarate, Italy)

Cognitive impairment and lower cognitive reserve increase the risk of unemployment in patients with pediatric onset multiple sclerosis  
B. Hakiki (Florence, Italy)

Differential MRI lesion features in pediatric NMO and pediatric MS  
R. Ameli (Boston, United States)

The Future study- Quality of liFe in adolescent sUbjecTs affected by mUltiple sclerosis treated with immunomodulatoRy agEnt using self-injecting device. A multicenter, observational, prospective study  
A. Ghezzi (Gallarate, Italy)

Long term outcome of paediatric onset multiple sclerosis: comparison with adult onset  
T. Armangue (Barcelona, Spain)

Predicting paediatric multiple sclerosis in 'MRI negative' patients: bands do aid  
Y.Y.M. Wong (Rotterdam, Netherlands)

Interaction of secondhand tobacco smoke exposure and HLA-DRB1*15 increases the odds for pediatric multiple sclerosis  
A.M. Lavery (Philadelphia, United States)

Immunoglobulin free light chain analysis aids the diagnosis of pediatric MS: a pilot study  
E. Ganelin-Cohen (Petach Tikva, Israel)

Development of a standardized approach to the care of paediatric multiple sclerosis in Canada: Implementation of a national consensus guideline of management strategies including an online pediatric multiple sclerosis care decision support tool  
S. Venkateswaran (Ottawa, Canada)

Vitamin D genetic risk score is strongly associated with vitamin D levels and relapse rate in pediatric MS patients  
J.S. Graves (San Francisco, United States)

Visual perception tasks in paediatric multiple sclerosis patients - a pilot study  
K. Karoscik (Philadelphia, United States)
Low-contrast letter acuity perception matures with age in healthy children
A.T. Waldman (Bryn Mawr, United States)

Paediatric acute disseminated encephalomyelitis followed recurrent optic neuritis (ADEM-ON): disease course and treatment
Y.Y.M. Wong (Rotterdam, Netherlands)

High levels of the T-cell activation marker sCD27 in CSF are associated with MS in childhood acquired demyelinating syndromes
Y.Y.M. Wong (Rotterdam, Netherlands)

Brain reserve and age of MS diagnosis: larger maximal lifetime brain growth is linked to later diagnosis
J.F. Sumowski (New York, United States)

Rethinking the importance of paroxysmal and unusual symptoms as first clinical manifestation of multiple sclerosis: they do matter!
G. Bsteh (Innsbruck, Austria)

More severe disability progression in north africans with multiple sclerosis
Y. Sidhom (Paris, France)

Brain atrophy 15 years after CIS: baseline and follow-up clinico-radiological correlation
À. Vidal-Jordana (Barcelona, Spain)

Clinical worsening in subjects with no MRI evidence of disease activity
D.S. Conway (Cleveland, United States)

Leveraging patient-reported outcomes to assess new neurological symptoms in a prospective cohort study of individuals at risk for multiple sclerosis
R. Bove (Brookline, United States)

Benign multiple sclerosis in the era of disease modifying therapies
C. Diaz-Cruz (Boston, United States)

Early MS patients meeting NEDA show no significant gray matter decline
U. Kaunzner (New York, United States)

A 10-year study of predictors for employment status in people with multiple sclerosis
M. Forslin (Huddinge, Sweden)

Clinical characterization of patients with CNS demyelination among the muslims arabs population in Israel
L. Brill (Jerusalem, Israel)

The influence of coping on long-term employment in multiple sclerosis - a prospective study
N. Grytten (Bergen, Norway)
Multiple sclerosis patients perceive their illness different than neurologists
M. Kurtuncu (Istanbul, Turkey)

MS differences are observed by place of birth and immigration between Mexican American and Mexican populations: a within ethnic-group analysis
L. Amezcua (Los Angeles, United States)

Adolescent exposure to passive smoking is associated with an increased risk of multiple sclerosis
D.B. Oturai (Copenhagen, Denmark)

Alcohol consumption in adolescence is associated with a lower risk of developing multiple sclerosis in Danish women
C. Andersen (Copenhagen, Denmark)

Applying the revised clinical course definitions to describe the phenotype of patients from the Swedish multiple sclerosis register
A. Manouchehrinia (Stockholm, Sweden)

Rates of pregnancy among women with multiple sclerosis over time by age, region, and payer type: a US retrospective claims database analysis
M.K. Houtchens (Brookline, United States)

Identification of coping strategies in Multiple Sclerosis
E. James (London, United Kingdom)

Psychological distress in Multiple Sclerosis and its correlation with coping strategies
E. James (London, United Kingdom)

The use of prescription medication by individuals with multiple sclerosis (MS): A population-based linkage study
L.W. Svenson (Edmonton, Canada)

Differential androgenic effects on inflammatory and degenerative processes in neuroinflammation
C. David (Bochum, Germany)

Effect of combined oral hormonal contraceptives to predict a benign course of multiple sclerosis
R. Hernandez Clares (Murcia, Spain)

Menarche and pregnancies are not related with MS activity or long term prognosis
M.I. Zuluaga (Barcelona, Spain)

A review of observational studies of women with MS and pregnancy
M.K. Houtchens (Brookline, United States)

Disease activity during pregnancy and pregnancy outcomes in patients with multiple sclerosis (MS) treated with alemtuzumab - A case series from the German MS and pregnancy registry-
K. Gerbershagen (Cologne, Germany)
PREG-MS: New England Multiple Sclerosis pregnancy prospective cohort study
T.D. Mahlanza (Brookline, United States)

Pregnancy outcomes of women with MS in a large US claims database
M.K. Houtchens (Brookline, United States)

Levels of serum anti-Müllerian hormone in women with early stage of relapsing-remitting multiple sclerosis
M. Svobodova (Brno, Czech Republic)

Multiple sclerosis and cognitive function: the influence of change in depression and subjective cognitive fatigue on change in cognitive function in people with multiple sclerosis
D. Golan (Haifa, Israel)

Multiple sclerosis and cognitive function: evolution of cognitive function over time in people with multiple sclerosis
D. Golan (Haifa, Israel)

Prevalence of periodic limb movements during sleep among multiple sclerosis patients: potentially beneficial effect of baclofen
P. Repovic (Seattle, United States)

Distinct patterns of fatigue and sleep dysfunction by MS phenotype and disability level
R.J. Mills (Preston, United Kingdom)

Dynamic mobility deficits in people with multiple sclerosis: a systematic review and meta-analysis
L. Comber (Limerick, Ireland)

Cognition, fatigue and health-related quality of life in patients with multiple sclerosis: results from a European-wide study
G. Kobelt (Mulhouse, France)

Influence of cognitive impairment and depression on cortical thinning in patients with multiple sclerosis
L. Cacciaguerra (Milan, Italy)

Prospective evaluation of movement disorders in early multiple sclerosis and other CNS demyelinating diseases
H. Abboud (Cleveland, United States)

The CIRCLES program: accelerating solutions to neuromyelitis optica spectrum disorder
L.J. Cook (Salt Lake City, United States)

Oculomotor synkinesis in multiple sclerosis
G. Castelnovo (Nimes, France)

Hemifacial spasm and continuous facial myokymia in Multiple Sclerosis: A descriptive study on clinical features and treatment outcomes
I.V. Marin Collazo (Rochester, United States)
Meige syndrome as a first relapse of multiple sclerosis  
S.A. Hattéb (Tizi Ouzou, Algeria)

Cognitive impairment of Chinese patients with multiple sclerosis and neuromyelitis optica  
K.H. Chan (Hong Kong, Hong Kong)

Dual-tasking in multiple sclerosis - evidence for lower response selection capacities  
T. Ziemssen (Dresden, Germany)

Video-rating to quantify limb ataxia in multiple sclerosis  
M. D’Souza (Basel, Switzerland)

Effect of transdermal application of myelin peptides on MSFC in MS patients  
A. Walczak (Lodz, Poland)

Novel computer-based testing shows cognitive dysfunction in patients with MS  
A.D. Smith III (Rochester, United States)

Emulating neurologists’ scoring of motor dysfunction with 3D depth sensing and machine learning  
M. D’Souza (Basel, Switzerland)

How to assess the upper limb function in persons with multiple sclerosis: a European RIMS multicenter study investigating convergent validity and floor/ceiling effects of measures at different ICF Levels  
I. Lamers (Hasselt, Belgium)

The impact of visible and invisible symptoms on employment status and work and social functioning in Multiple Sclerosis  
J. Frau (Cagliari, Italy)

Multiple Sclerosis and PDDS: a true walking scale with no brains  
M. Gudesblatt (Patchogue, United States)

Hand motor performance as a new quantitative clinical endpoint in MS: longitudinal evaluation in patients with CIS and correlation with accumulation of disability and tissue integrity at MRI  
L. Bonzano (Genoa, Italy)

Multiple sclerosis and cognitive testing: the relationship between traditional measures and novel computerized analytics - a preliminary analysis  
M. Gudesblatt (Patchogue, United States)

Exploration and verification of a patient-powered research network to provide patient insights in multiple sclerosis  
P. Wicks (Cambridge, United States)

Implications for clinical practice of employing MRI to detect ongoing disease activity in patients with non-symptomatic relapsing-remitting multiple sclerosis who are receiving therapy  
N. Adlard (Camberley, United Kingdom)
Scientific Programme

BICAMS underestimates verbal memory impairment in MS patients: we propose a simple solution
J.F. Sumowski (New York, United States)

Modification of the Tardieu scale to measure lower limb spasticity in people with multiple sclerosis
M. Liddicut (London, United Kingdom)

The clinical role of cortical lesions as a predicting factor for cognitive impairment in multiple sclerosis
E. Curti (Parma, Italy)

Optic nerve ultrasonography in multiples sclerosis
S. Pérez-Sánchez (Seville, Spain)

What are the optimal walking tests to assess disability progression?
S. Piérard (Liège, Belgium)

Towards a Tele-MSDS: an iterative method to assess the MS patient remotely
R. Bove (Brookline, United States)

Predicting conversion to secondary progressive multiple sclerosis using a clinical decision tree
A. Manouchehrinia (Stockholm, Sweden)

Can mean platelet volume predict the risk for atherosclerosis in RRMS patients?
B. Yuksel (Antalya, Turkey)

OPTIMISE: User-guided solutions for harmonized clinical and patient-centred data capture
M. Yong (London, United Kingdom)

Is Multiple Sclerosis a risk factor for atherosclerosis?
B. Yuksel (Antalya, Turkey)

Increased multiple sclerosis impact scale-29 score is associated with reduced survival in multiple sclerosis
A. Wallace (London, United Kingdom)

Paced Auditory Serial Addition Test (PASAT 3") as a quantitative measure of cognitive fatigue in patients with Multiple Sclerosis
Y. Higueras (Madrid, Spain)

Assessment of brain atrophy in multiple sclerosis patients with fatsuppressed T1 weighted and FLAIR subtracted images utilising Comparative Brain Imaging software
L. Wolansky (Cleveland, United States)

Outcome measures for clinical trials on spasticity: preliminary recommendations from the Italian MS Spasticity Consensus Task Force
L. Leocani (Milan, Italy)
Compressive pain: A new predictor of myelitis in Neuromyelitis optica (NMO)?
T. Grippe (Brasilia, Brazil)

Responsiveness of laboratory- and clinically-based measures of postural performance following balance rehabilitation in patients with multiple sclerosis
S. Monjezi (Ahvaz, Iran, Islamic Republic of)

Increasing rates of employment in the Australian MS longitudinal study
I. van der Mei (Hobart, Australia)

Inability to work and need for social and family support drive costs in multiple sclerosis
G. Kobelt (Mulhouse, France)

Predictive validity of the MS work instability scale
C.R. Wicks (Leeds, United Kingdom)

Multiple sclerosis and disease modifying therapies: if you prescribe it, will they take it? - a population analysis of predicted self-administration of medication adherence behavior
M. Gudesblatt (Patchogue, United States)

Income among multiple sclerosis patients with different disease phenotypes
A. Kavaliunas (Stockholm, Sweden)

Differences in employment of people with MS across Europe
T. Meißner (Göttingen, Germany)

The best clinical correlates of employment status in patients with multiple sclerosis
B. Benova (Prague, Czech Republic)

Evaluating the increase in the cost of Multiple Sclerosis drugs in the United States between 2010-2015: Market price vs inflation based analysis
B.L. Vollmer (Aurora, United States)

The impact of patient out-of-pocket costs and satisfaction with therapy on adherence to disease-modifying drugs in patients with multiple sclerosis
L. Mayer (Round Rock, United States)

Poor visual functioning and quality of life in multiple sclerosis are associated with retinal atrophy
L.J. Balk (Amsterdam, Netherlands)

Atypical immune-mediated optic neuritis at onset: antibodies, differential diagnoses and prognoses
E.G. Carnero Contentti (Buenos Aires, Argentina)

Visual performance in patients with neuromyelitis optica correlates with anti-aquaporin-4 antibody level
M. Gurevich (Ramat-Gan, Israel)
The role of multifocal visual evoked potentials in understanding disability in multiple sclerosis
E.H. Martinez-Lapiscina (Barcelona, Spain)

Longitudinal assessment of retinal integrity in multiple sclerosis using 3D OCT imaging and intra-retinal layer segmentation
A. Droby (Mainz, Germany)

Retinal thickness and visual disability in patients with multiple sclerosis and disease-free controls with myopia
R.C. Nolan (New York, United States)

Changes in oxygen saturation and the retinal nerve fiber layer in patients with optic neuritis - a pilot study
T. Svrcinova (Olomouc, Czech Republic)

Descriptive study of a series of optic neuropathies at the moment of diagnosis and predictive factors of its evolution to Multiple Sclerosis
E. García Molina (Murcia, Spain)

Pathological heterogeneity in the multiple sclerosis post mortem cohort of the Netherlands brain bank relates to clinical course and gender
N.L. Fransen (Amsterdam, Netherlands)

Significant meningeal inflammation and cortical neurodegeneration in a post-mortem cohort of short disease duration multiple sclerosis
O.W. Howell (Swansea, United Kingdom)

The influence of HLA-DRB1*15 on motor cortical neurodegeneration in multiple sclerosis
R.L. Yates (Oxford, United Kingdom)

Expression of bone morphogenetic proteins in the central nervous system lesions of multiple sclerosis
C. Costa (Barcelona, Spain)

CSF contents of IL-17 predicts disability progression and neurodegeneration in relapsing remitting Multiple Sclerosis
L. Brambilla (Milan, Italy)

IL-10 in multiple sclerosis: unexpected excitotoxic effects and clinical implications
J. Perugini (Milan, Italy)

Signature of neurodegeneration due to primary cytodegeneration and adaptive immune responses
R. Haag (Munich, Germany)

At clinical onset CXCL13 identifies MS patients with higher intrathecal IgG production and cortical atrophy
M. Puthenparampil (Padua, Italy)

Bone morphogenetic protein signaling as a potential therapeutic target for Multiple Sclerosis
H. Eixarch (Barcelona, Spain)
The genetic multiple sclerosis (MS) risk variant rs7665090-G enhances NF-κB signaling responses in astrocytes
D. Pitt (New Haven, United States)

Investigating the role of astrocytes' anti-excitotoxicity potential for neuronal damage formation in experimental autoimmune encephalomyelitis - an in vivo two-photon imaging approach
V. Siffrin (Berlin, Germany)

The blood meningeal barrier orchestrates the immune response in multiple sclerosis
J. Alvarez (Philadelphia, United States)

In vivo monitoring of acidosis and metabolic alterations in a model of multiple sclerosis
D. De Battista (Milan, Italy)

Signature of neurodegeneration due to primary cytodegeneration and adaptive immune responses
S. Nyamoya (Aachen, Germany)

Dysregulation of repressor element 1-silencing transcription factor in a mouse model of multiple sclerosis
A. Uccelli (Genova, Italy)

Cannabidiol mechanisms in the treatment of adoptively transferred EAE
C. González-García (Majadahonda, Spain)

Viability and distribution of intrathecally transplanted neural stem cells in the acute and chronic disease phases of experimental autoimmune encephalomyelitis
A. Merlini (Milan, Italy)

The role of plasma membrane lipid organization in demyelinating disease: using neurotoxic lipids to understand mechanisms of demyelination
L. D’Auria (Chicago, United States)

In vivo modeling of the nascent Multiple Sclerosis lesion: Mechanisms of blood brain barrier permeability and demyelination
J.R. Linden (New York, United States)

Altered expression of several fatty acid binding proteins during experimental autoimmune encephalomyelitis (EAE) in mice: Modulation by natural triterpenes
M.L. Nieto (Valladolid, Spain)

Combination therapy with ozanimod and dimethyl fumarate is synergistic in a mouse model of experimental autoimmune encephalitis
F.L. Scott (San Diego, United States)

Tolerization therapy reduces disease frequency and severity in mouse model of neuromyelitis optica
M. Levy (Baltimore, United States)
Mesenchymal stem cell therapy ameliorates long-term cognitive decline in a murine model of experimental autoimmune encephalomyelitis with relapsing-remitting course
G. Estivill-Torrús (Málaga, Spain)

Estrogen receptor-alpha regulates epigenetic changes on genomic regulatory regions: potential biomarkers in multiple sclerosis outcomes
M. Clerico (Torino, Italy)

A next generation sequencing study in Italian multiplex families with multiple sclerosis
F. Martinelli Boneschi (Milan, Italy)

Identification and characterization of multiple sclerosis associated loci in the continental Italian population
M. Sorosina (Milan, Italy)

DNA methylation assessment using methylation-specific multiplex ligation dependent probe amplification in MS patients during relapses and remissions
V. Tsimourtou (Larissa, Greece)

Exome sequencing identifies a novel multiple sclerosis risk variant in the FKBP6 gene in a large dutch multiple sclerosis family
J.Y. Mescheriakova (Rotterdam, Netherlands)

Gene expression modulation induced by fingolimod in relapsing remitting multiple sclerosis
E. Mascia (Milan, Italy)

Whole exome sequencing in a chinese family with neuromyelitis optica spectrum disorder
Y. Chang (Guangzhou, China)

TARDBP Ala382Thr mutation and C9ORF expansion in multiple sclerosis: a possible role in brain atrophy
J. Frau (Cagliari, Italy)

MS risk alleles for AHI-1 and IL22RA genes are associated with relapses in children and adults with MS
J.S. Graves (San Francisco, United States)

Chromosome conformation capture to discover candidate epigenetic markers of Multiple Sclerosis disease severity
T. Plavina (Cambridge, United States)

Genotype is predicting Multiple Sclerosis pathology in the cohort of the Netherlands Brain Bank
N.L. Fransen (Amsterdam, Netherlands)

Analysis of DNA methylation in post-mortem brain tissue from Multiple Sclerosis patients
M. Needhamsen (Stockholm, Sweden)
Genetic variants associated with intrathecal synthesis of IgG, IgM and IgA in multiple sclerosis  
C. Gasperi (Munich, Germany)

Excess of rare variants in risk genes for multiple sclerosis identified by DNA resequencing  
E. Gil (Barcelona, Spain)

MS patients show distinct CSF leukocyte profiles and cytokine intracellular production compared to other inflammatory and non inflammatory neurological diseases  
C. Picón (Madrid, Spain)

Infiltration of CD39 T cells in the CSF of relapsing-remitting multiple sclerosis patients  
M. Belghith (Tunis, Tunisia)

Anti-C1q antibodies are characteristically present in patients with relapsing-remitting MS but not in secondary progressive MS: implications for the role of complement activation in the pathogenesis of MS  
V. Tsimourtou (Larissa, Greece)

Imbalances of highly inflammatory Th1/17 cell subsets are associated with early development of multiple sclerosis  
M.M. van Luijn (Rotterdam, Netherlands)

Paradoxical effects of TLR4 stimulation to B cells in multiple sclerosis  
Y. Okada (Kyoto, Japan)

T cell receptor repertoire of circulating and resident antigen-specific T cells of DR2+ patients affected by Multiple Sclerosis  
A.K. Patanella (Rome, Italy)

Intrathecal IgM synthesis: is really a prognostic factor?  
J. Frau (Cagliari, Italy)

Expression and induction of granulocyte-macrophage colony-stimulating factor in immune cells in multiple sclerosis  
J. Aram (Nottingham, United Kingdom)

CD161 intermediate expression defines a neuropathogenic subset of CD8+ T cells in multiple sclerosis  
B. Nicol (Nantes, France)

The intrathecal synthesis of BAFF inversely correlates with local IgG synthesis in multiple sclerosis at clinical onset  
M. Puthenparampil (Padua, Italy)

Does natalizumab play a role in the natural killer cells activation against melanoma?  
I. Gandoglia (Genoa, Italy)

High yield primary microglial cultures for functional studies related to reparative or pathological processes relevant to neurodegeneration  
J. Quandt (Vancouver, Canada)
Study of age induced changes in CSF immune cell profiles shown by MS patients classified according to intrathecal IgM synthesis  
L.M. Villar (Madrid, Spain)

Modulation of IL27Ra expression by vitamin D  
V. Beynon (Boston, United States)

EZH2 expression is up-regulated by multiple sclerosis therapies and expressed by effector memory and central memory T cells  
S. Malhotra (Barcelona, Spain)

Emerging role of extracellular vesicle-derived microRNAs/mRNAs in immune response of Multiple Sclerosis  
S. Ritz (Basel, Switzerland)

Levels of shedding microvesicles in cerebrospinal fluid of Multiple Sclerosis patients distinguish different stages of disease course  
T. Croese (Milano, Italy)

Integrative transcriptomics and proteomics analysis reveals a potential role for serpina3n and s100A4 in the neurodegeneration process during experimental autoimmune encephalomyelitis  
N. Fissolo (Barcelona, Spain)

Genetic association of HLA alleles with JC polyomavirus and cross-reactivity with BK polyomavirus  
J. Huang (Solna, Sweden)

EBV infection affects the processing of myelin oligodendrocyte glycoprotein peptides in B cells - Implications for multiple sclerosis  
E. Morandi (Nottingham, United Kingdom)

Widespread epstein-barr virus reactivation and cytotoxic activity in the brain of a multiple sclerosis patient with lethal relapse after natalizumab withdrawal  
B. Serafini (Rome, Italy)

Epstein-Barr virus immune response in multiple sclerosis patients and their family members  
J.Y. Mescheriakova (Rotterdam, Netherlands)

Secretion of autoantibodies by autoreactive B cells is supported by antiviral T cells  
N.S. Sanderson (Basel, Switzerland)

Widespread brain atrophy following PML secondary to Nataluzimab therapy  
S. Kumari (Birmingham, United Kingdom)

Selective and transient effect of vitamin D3 supplementation on antibody responses against Epstein-Barr virus nuclear antigen 1 in relapsing-remitting multiple sclerosis  
E. Røsjø (Lørenskog, Norway)
Baseline vitamin D levels and multiple sclerosis activity in relapsing-remitting patients treated with fingolimod
L. Ferrè (Milan, Italy)

Association between body mass index and clinical outcome in neuromyelitis optica spectrum disorder
M. Choi (Seoul, Korea, Republic of)

Residual disability after multiple sclerosis relapses: the role of smoking
J.I. Rojas (Buenos Aires, Argentina)

Epigenomic changes in monocytes from RRMS patients with high body mass index and related preclinical animal models
P. Casaccia (New York, United States)

Increasing area level deprivation in England impacts age of progression and wheelchair use in multiple sclerosis
B. Mitchell (London, United Kingdom)

Vitamin D metabolic pathway alterations and risk of multiple sclerosis in patients with clinically isolated syndromes
A. Farina (Milan, Italy)

Immunoglobulin M oligoclonal bands in monosymptomatic optic neuritis: relation to clinical and paraclinical findings
J.L. Frederiksen (Copenhagen, Denmark)

Cellular mechanisms of Cavβ3 subunit regulation of neuroinflammation
S.K. Williams (Heidelberg, Germany)

Alpha B-crystallin, a marker of oligodendrocyte stress, is upregulated within the optic nerve head during development of autoimmune optic neuritis
A. Stojic (Heidelberg, Germany)

Glutathione S-transferase polymorphisms associated with disease severity in multiple sclerosis (MS) increase neuronal vulnerability to oxidative stress
D. Pitt (New Haven, United States)

Search of therapies that favour remyelination based on genomic-signatures of neural stem cells
C. Costa (Barcelona, Spain)

Cervical spinal cord atrophy is an early marker of progressive MS onset
B. Zeydan (Rochester, United States)

Effect of pregnancy on disease course in progressive MS: a case-control study
I. Kister (New York, United States)

Non-gaussian diffusion MRI allows early characterization of tissue disruption in PPMS
M. Petracca (New York, United States)
Complement activation and anaphylatoxin receptor upregulation in chronic active grey matter lesions of progressive multiple sclerosis
R. Evans (Swansea, United Kingdom)

Cortical lesion load correlates with periventricular NAWM damage severity in PPMS
M. Pardini (Genoa, Italy)

Predicting which patients with multiple sclerosis will develop a progressive course using patient information and clinically obtained brain volumes
E. Alvarez (Aurora, United States)

A descriptive study on recruitment effort for a phase I clinical trial of subcutaneous alemtuzumab in patients with progressive MS: the SCALA trial
B. Rodríguez-Acevedo (Barcelona, Spain)

Cytokine levels in interstitial brain fluid in progressive multiple sclerosis measured via intracerebral microdialysis
A. Svenningsson (Stockholm, Sweden)

Comparison of structural T1-weighted sequences: MPRAGE to MP2RAGE
D. Pareto (Barcelona, Spain)

Lesion filling more strongly affects estimation of grey than white matter volumes in a large patient sample depending on hyperintense lesion load
C. Enzinger (Graz, Austria)

Initial cross-sectional MR spectroscopy analysis of a cohort of secondary progressive MS patients enrolled in the MS-SMART trial
D. Plantone (Rome, Italy)

Neurite orientation dispersion and density imaging (NODDI) of the spinal cord in relapsing remitting multiple sclerosis
F. Tona (London, United Kingdom)

Objectively measured daily activity is associated with corticospinal pathway abnormalities in patients with MS
N. Sola-Valls (Barcelona, Spain)

Effect of ocrelizumab on magnetic resonance imaging markers of neurodegeneration in patients with relapsing multiple sclerosis: analysis of the Phase III, double-blind, double-dummy, interferon beta-1a-controlled OPERA I and OPERA II studies
D.L. Arnold (Montréal, Canada)

Consistency of longitudinal brain volume loss assessment in MS using SIENA/FSL
R. Opfer (Hamburg, Germany)

Cognitive decline in multiple sclerosis is associated with structural network disruption - a single-subject network approach
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Toward a standardized quantitative imaging protocol for multiple sclerosis: a NAIMS multisite study of magnetization transfer and quantitative T1 imaging techniques
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Signal mass as a more comprehensive measure of tissue loss in MS
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Concomitant use of quantitative magnetization transfer and susceptibility mapping in longitudinal study of early multiple sclerosis patients
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Grey matter atrophy in the fronto-striato-thalamo-cortical circuit and in the insula play a role in the pathophysiology of fatigue in multiple sclerosis
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Central vein sign in Susac’s Syndrome and Multiple Sclerosis at 7T
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Asymptomatic spinal cord lesions do not predict long term disability in patients with CIS or early MS
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Retinal fibre layer thickness is associated with clinical, MRI and neurophysiological measures of nervous damage but not with markers of disease activity in early relapsing MS
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Optical coherence tomography measures correlate with brain volume and disability in relapsing multiple sclerosis patients
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Optical coherence tomography for the analysis of FTY720-mediated protection from retinal degeneration in mouse models of optic neuritis and traumatic nerve injury
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Relationship between gray matter, retinal nerve fiber layer thickness and cognitive performances in multiple sclerosis: a cross sectional study
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No evidence of trans-synaptic degeneration in the visual pathway of MS at clinical onset
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Primary retinal pathology in neuromyelitis optica detected by optical coherence tomography
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Influence of blood vessels on peripapillary retinal nerve fiber layer thickness measurements in patients with neuromyelitis optica spectrum disorders
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Gray and white matter damage differently correlated with cognition in adult multiple sclerosis patients with different age of disease onset
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Luminex analysis of immunoglobulin A, M, and G subclasses in the cerebrospinal fluid and serum in Multiple Sclerosis and other neurological diseases
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Factors that changes carrierness status of oligoclonal immunoglobulin gamma bands in cerebrospinal fluid in MS during follow up time, registry based study
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Anti-EBNA1 antibody titres at presentation predict failure of thalamic growth in pediatric multiple sclerosis (MS)
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The German MS Register: update on immunotherapy
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Impaired pro-inflammatory capabilities and Th1/Th 17 cell activation by slan dendritic cells after fingolimod in multiple sclerosis
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Teriflunomide (Aubagio®) effect on gray matter pathology in multiple sclerosis is associated with the change in humoral response to Epstein-Barr virus
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Ofatumumab is a fully human anti-CD20 antibody achieving potent B-cell depletion through binding a distinct epitope
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International evaluation of the new BETACONNECT autoinjector for patients with MS undergoing treatment with interferon beta-1b
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Comparative analysis of MS outcomes in natalizumab-treated patients using a novel three-way multinomial propensity score match
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Comparative analysis of MS outcomes in dimethyl fumarate-treated patients relative to propensity matched fingolimod, interferon, glatiramer acetate, or teriflunomide
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Fingolimod real world experience: the French grand-est cohort
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Dimethyl fumarate therapy is associated with increased IL10+ B regulatory cell subsets in patients with multiple sclerosis
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The effect of the short chain fatty acid propionate on immune regulation in MS: a proof-of-concept study
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Treating multiple sclerosis with generic cladribine
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Effect of natalizumab on global and regional cortical thickness in RRMS. A four year longitudinal study highlights efficacy and stresses the importance of a well-timed intervention
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Reduced adhesion to human endothelium as one mechanism of action of dimethyl fumarate in Multiple Sclerosis through down-regulation of VCAM-1 via HCA2-mediated upregulation of Nrf2
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Natalizumab treatment modifies peripheral cytokine profile in multiple sclerosis patients
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PREFERMS study: post hoc analyses of patient retention, key clinical outcomes and patient satisfaction in an African-American patient subgroup
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The effects of natalizumab and fingolimod on clinical and MRI measures in relapsing remitting multiple sclerosis: a two-year comparative study
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Spanish registry of patients with multiple sclerosis treated with fingolimod (GILENYA registry): safety and effectiveness after four years of registry
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Peginterferon beta-1a every 2 weeks increased achievement of NEDA over 4 years in the ADVANCE and ATTAIN studies in patients with RRMS
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Minocycline reduces immune cell infiltration, but not preclinical microglial activation, during autoimmune optic neuritis
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Expanded mode of action: unphosphorylated fingolimod exerts anti-inflammatory effects by inhibiting the IL-33 induced IFN-γ formation in CD8+ Cells
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Prevalence of liver injury and hepatitis after pulsed methylprednisolone therapy in multiple sclerosis patients
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Retrospective analysis of a MS cohort patients treated by fingolimod in South France (Marseille- PACA and Corsica)
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Alemtuzumab reduces the rate of brain volume loss in RRMS patients who switched from SC IFNB-1a to alemtuzumab (4-Year Follow-Up of the CARE-MS I and II studies)
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Real world experience with dimethyl fumarate in relapsing-remitting multiple sclerosis
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One-year MRI and relapse outcomes after initiation of dimethyl fumarate
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Design of two phase III open-label trials evaluating ocrelizumab in patients with relapsing-remitting multiple sclerosis and suboptimal response to disease-modifying treatment
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Alemtuzumab durably slows brain volume loss over 6 years in the absence of continuous treatment in patients with active RRMS who were treatment-naïve (CARE-MS I) or had an inadequate response to prior therapy (CARE-MS II)
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Serious adverse events (SAE), autoimmunity (AI), and infections following alemtuzumab (ALE) therapy in a large, high disability, treatment-refractory MS clinic cohort
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A real life monocentric study on efficacy and tolerability of dimetilfumarate
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Patient real-world clinical, neurological, tolerability, and safety outcomes for dimethyl fumarate and interferon beta-1a 44 µg subcutaneously three times weekly: A retrospective study using propensity score stratification and matching (PROTRACT)
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Peginterferon beta-1a is effective in RRMS regardless of pretreatment expression of interferon signature genes: Results from a sub-study of ADVANCE
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Effect of the human recombinant sIFNAR2 protein on the patterns of expression of cytokines in Multiple Sclerosis patients
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Comparing rituximab induction therapy followed by glatiramer acetate therapy to glatiramer acetate monotherapy in MS patients on clinical and imaging

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Rebound of disease activity after discontinuation of natalizumab or fingolimod can be successfully treated with autologous haematopoietic stem cell transplantation

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Changes of cerebrospinal fluid cytokine profile as a result of switching from first line MS-therapies to rituximab

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Efficacy and safety of alemtuzumab in 104 patients with active relapsing-remitting MS: one-year follow-up in France

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Analysis of B cell trafficking in multiple sclerosis patients receiving natalizumab and fingolimod immunomodulatory therapy

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Phase 1b, open label study of ublituximab in acute relapses of neuromyelitis optica spectrum disorder

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Intense immunosuppression followed by co-transplantation of hematopoietic and mesenchymal cells for multiple sclerosis

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Lower relapse rates with natalizumab as compared with fingolimod as second-line treatment in relapsing-remitting multiple sclerosis

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Mitoxatrone treatment in MS patients with Secondary Multiple Sclerosis. A six-year follow-up. Evaluation of adverse effects and impact on disability

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Treatment of refractory tumefactive multiple sclerosis with high-dose iv methotrexate with leucovorin rescue

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Mesenchymal stem cells induce the acquisition of neuroprotective and reparative traits by cortical astrocytes
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Revealing neuroprotective properties of axon-myelin interactions: Its impact on glutamate-mediated axonal damage in MS
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MS-SMART trial design and recruitment status: a multi-arm phase IIIB randomised double blind placebo-controlled clinical trial comparing the efficacy of three repositioned neuroprotective drugs in secondary progressive multiple sclerosis
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Mixed-lineage kinase 3 inhibitor URMC-099 protects hippocampal synapses in experimental autoimmune encephalomyelitis
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Regenerative potential of fumarate treatment and its impact on Nrf2-downstream signaling: crosstalk of immune and degenerative mechanism
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Impact of dimethylfumarate on cognitive dysfunction and its correlates in the EAE mouse model
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Randomized controlled pilot trial of domperidone in relapsing remitting multiple sclerosis
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ABT-555, a potential neurorestorative treatment in multiple sclerosis: pharmacokinetic, pharmacodynamic and safety results from phase 1 studies in healthy volunteers and multiple sclerosis patients
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Voluntary physical activity enhances remyelination in mice after spinal cord demyelination: mechanisms of benefit of exercise for repair
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Long-term efficacy of fingolimod treatment in relapsing-remitting patients who did not respond to interferon treatment
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Impact of continuous fingolimod therapy and switching to fingolimod on relapse severity in patients with relapsing-remitting multiple sclerosis
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The potential of individualized patient coaching to optimize treatment with delayed-release dimethyl fumarate: a retrospective analysis of patients with multiple sclerosis treated in a real-world setting
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The ACROSS study: long-term efficacy of fingolimod in patients with RRMS (Follow-up at 10 years)
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Implementing quality recommendations in multiple sclerosis care - a strategic approach to improve brain health
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NEDA as a predictor of conversion to secondary progressive multiple sclerosis in patients with relapsing-remitting multiple sclerosis
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COPAXONE® active registry - documentation of efficacy, tolerability and quality of life in outpatients with relapsing remitting multiple sclerosis (RRMS) treated with glatiramer acetate
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Real-life long-term effectiveness of fingolimod in a Swiss relapsing-remitting multiple sclerosis cohort
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A low percentage of CD4+ T-cells can predict disease reactivation after natalizumab discontinuation
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Alemtuzumab suppresses MRI disease activity over 6 years in patients with active relapsing-remitting multiple sclerosis and an inadequate response to prior therapy (CARE-MS II)
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Importance of early treatment initiation in the clinical course of multiple sclerosis
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4 years PANGAEA: effectiveness update of a 5 year non-interventional study on the daily use of fingolimod in Germany
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Discontinuation of disease-modifying therapies in relapsing remitting multiple sclerosis - outcome and prognostic factors
G. Bsteh (Innsbruck, Austria)
Effect of exposure to branded glatiramer acetate during pregnancy on rates of pregnancy loss
O. Neudorfer (Petach Tikva, Israel)

Effect of fingolimod on multiple sclerosis severity score (MSSS) in patients with relapsing multiple sclerosis
X. Montalban (Barcelona, Spain)

Long-term real-world effectiveness of natalizumab: treatment outcomes from the Tysabri® observational program (TOP) stratified by baseline disability
L. Kappos (Basel, Switzerland)

Long-term safety of natalizumab treatment in multiple sclerosis (MS) in clinical practice: results from the tysabri global observational program in safety (TYGRIS)
J. Foley (Salt Lake City, United States)

Real world experience of fingolimod after switching multiple sclerosis (MS) therapy; focus on natalizumab naive and experienced persons with MS, respectively
L. Forsberg (Stockholm, Sweden)

National, real-time monitoring of MS-immunotherapy patterns with visualisation and analysis platform (VAP) implemented in Swedish MS-registry
L. Stawiarz (Stockholm, Sweden)

Durable improvement in clinical outcomes in treatment-naive patients with relapsing-remitting multiple sclerosis who switched from SC IFNB-1a to alemtuzumab (care-MS I extension study 4-year follow-up)
C. Oreja-Guevara (Madrid, Spain)

Efficacy and safety of Natalizumab treatment for relapsing-remitting multiple sclerosis: results from a retrospective French cohort
R. Beyrouti (mulhouse, France)

Long-term efficacy, safety, tolerability and quality of life with fingolimod treatment in patients with multiple sclerosis in real-world settings in France: VIRGILE one-year results
C. Papeix (Paris, France)

Long-term follow-up of patients treated with natalizumab: results from a single centre cohort
L. Midaglia (Barcelona, Spain)

Lymphopenia and eosinophilia in dimethyl fumarate treated patients
A. Vinagre Aragón (Madrid, Spain)

The value of PASAT short-term training: Only a ‘practice effect’ or does it tell us more about MS?
M.P. Sormani (Genoa, Italy)

Anti-JCV antibody serostatus in a long-term natalizumab infusing population
T. Hoyt (Salt Lake City, United States)
TRUST-Study: methods of an optional MRI-safety surveillance for progressive multifocal leukoencephalopathy (PML) in relapsing remitting multiple sclerosis patients treated with Natalizumab
A. Gass (Mannheim, Germany)

Rituximab as an effective treatment option after natalizumab withdrawal
M. Capobianco (Orbassano, Italy)

Infection prevention protocols in the monographic alemtuzumab unit: towards improving safety
A. Domínguez Mayoral (Sevilla, Spain)

Prospective, multicentric study of using JCV serology and L-selectin for PML risk assessment
N. Schwab (Muenster, Germany)

Very early immune thrombocytopenia (ITP) 2 months after first dosing in a patient treated with alemtuzumab for relapsing remitting MS - are our clinical vigilance methods adequate?
J. Haartsen (Melbourne, Australia)

The influence of information presentation formats on treatment understanding and decision-making in MS patients
G. Reen (Egham, United Kingdom)

Is Maraviroc useful in immune competent patients? Clinical and radiological features of four Natalizumab-related PML cases
N. De Rossi (Brescia, Italy)

Effect of aspirin on flushing in relapsing-remitting multiple sclerosis patients receiving delayed-release dimethyl fumarate
D. Rog (Manchester, United Kingdom)

CD62L and prediction of progressive multifocal leukoencephalopathy: the controversy might be time-and technology-related
D. Brassat (Toulouse, France)

Infections and serious infections with ocrelizumab in relapsing multiple sclerosis and primary progressive multiple sclerosis
H.-P. Hartung (Düsseldorf, Germany)

New algorithm to estimate risk of natalizumab-associated progressive multifocal leukoencephalopathy (PML) in anti-JCV antibody positive patients: analyses of clinical trial data to provide further temporal precision and inform clinical practice
H. Koendgen (Cambridge, United States)

Quantitative electroencephalography supports the diagnosis and predicts the functional outcome in natalizumab associated progressive multifocal leukoencephalopathy
G. Classen (Bielefeld, Germany)

Natalizumab extended interval dosing reduces serum trough natalizumab concentrations and α4 integrin receptor occupancy
J. Foley (Salt Lake City, United States)
Efficacy and safety of fingolimod 0.5 mg every-other-day in multiple sclerosis patients who presented severe adverse events during conventional fingolimod treatment
A. Merlini (Milan, Italy)

Use of AAN PML diagnostic criteria in dutch-belgian natalizumab-associated PML cohort
M.T. Wijburg (Amsterdam, Netherlands)

An observational, multicentre, one-day study to assess demographic, clinical and neurovegetative characteristics of patients requiring extended cardiac monitoring following administration of the first dose of fingolimod
G.L. Mancardi (Genoa, Italy)

Inflammatory natalizumab-associated PML: baseline characteristics, lesion evolution and relation with PML-IRIS
M.T. Wijburg (Amsterdam, Netherlands)

Analysis of CD4+CD62L+ peripheral blood T-cells in patients with multiple sclerosis - correlation with disease modifying treatment and anti-JCV antibody index
M.K. Boziki (Thessaloniki, Greece)

Nail loss: a new adverse event of teriflunomide treatment?
L. Mancinelli (Chieti, Italy)

Multiple sclerosis disease rebound after treatment switch from fingolimod to alemtuzumab
M. Willis (Cardiff, United Kingdom)

Progressive multifocal leukoencephalopathy in a JCV seronegative patient treated by natalizumab: a new case report
N. Hadhoum (Lille, France)

Alemtuzumab-induced idiopathic thrombocytopenic purpura in three regional UK MS treatment centres
A. Pace (Salford, United Kingdom)

Transgenic overexpression reveals a direct dose-dependent role for interferon in the pathogenesis of thrombotic microangiopathy, with implications for risk mitigation
D. Hunt (Edinburgh, United Kingdom)

Ambulatory motor dysfunction in MS assessed by wearable inertial sensor metrics during the timed-up-and-go task (TUG)
H.J. Witchel (Brighton, United Kingdom)

INSPIRATION-MRI: standardized acquisition and centralized quantitative reading of MRI scans of RRMS patients in German daily clinical practice
A. Gass (Mannheim, Germany)

Usefulness in clinical practice of 1-year magnims scoring system to predict response to glatiramer acetate
M. Romeo (Milan, Italy)
Improved cerebral blood flow after natalizumab treatment in multiple sclerosis
C. Record (London, United Kingdom)

Permeability of the blood-brain barrier in normal appearing white and grey matter predicts early inadequate treatment response to fingolimod and natalizumab
S.P. Cramer (Glostrup, Denmark)

Observational study to identify biomarkers for treatment response in dimethylfumarate treated MS patients
M. Diebold (Basel, Switzerland)

Plasma cytokine concentration changes in multiple sclerosis patients after treatment with dimethyl fumarate
A.R. Gafson (London, United Kingdom)

Differential effects of fingolimod on NKs and B cells subsets of relapsing-remitting multiple sclerosis patients
I. Moreno Torres (Majadahonda, Spain)

Sustained disability improvement in patients with secondary progressive multiple sclerosis (SPMS) assessed by a multicomponent endpoint: a post hoc analysis from the ASCEND study
G. Giovannoni (London, United Kingdom)

High sensitivity measurement of neurofilament-light levels in plasma demonstrates a significant reduction in multiple sclerosis patients starting fingolimod
F. Piehl (Stockholm, Sweden)

Adding brain volume changes to Non-evidence of Disease Activity (NEDA) criteria and to Rio score for predicting treatment response after interferon-beta therapy
F. Pérez-Miralles (Barcelona, Spain)

Treatment response to dimethyl fumarate is characterized by CD8+ T cell reduction in multiple sclerosis
F. Luessi (Mainz, Germany)

Deploying the MS Bioscreen in the clinic: towards real-world precision medicine
R. Bove (Brookline, United States)

Therapeutic use of anti-α4 integrin antibodies in Rasmussen’s encephalitis
H. Kebir (Montreal, Canada)

Increased IFN-beta binding antibody levels in non-responding MS patients - a Hungarian multicentre study
C. Rajda (Szeged, Hungary)

Importance of upper limb function in advanced multiple sclerosis
A. Thomson (London, United Kingdom)
Baseline assessment of fatigue and health-related quality of life in patients with primary progressive multiple sclerosis in the ORATORIO study
J.S. Wolinsky (Houston, United States)

Patient-reported outcomes in the phase III double-blind, placebo-controlled ORATORIO study of ocrelizumab in primary progressive multiple sclerosis
J. de Seze (Strasbourg, France)

A small molecule therapy for MS patients appears to override inhibitors of oligodendrogenesis to induce remyelination
S.H. Nye (Mequon, United States)

Effectiveness of autologous bone marrow mesenchymal stem cells intrathecal transplantation in patients with secondary progressive multiple sclerosis
M. Swiderek-Matysiak (Lodz, Poland)

Results of a pilot trial of lithium in progressive multiple sclerosis
J.R. Rinker (Birmingham, United States)

Fingolimod effect on disability progression in primary progressive multiple sclerosis patients with inflammatory activity: A post-hoc subgroup analysis of the INFORMS study
J.S. Wolinsky (Houston, United States)

Risk perception and propensity and its influences on treatment of Italian Multiple Sclerosis patients
F. Sangalli (Milano, Italy)

Non-interventional post-authorization safety study to prospectively evaluate the safety and tolerability profile of Rebif® HSA-free scIFNβ-1a in naive relapsing remitting multiple sclerosis subjects: STEP study
A. Bertolotto (Orbassano, Italy)

DEcision Coaching In Multiple Sclerosis (DECIMS) - pilot randomised controlled trial and process evaluation
A.C. Rahn (Hamburg, Germany)

Tuberculosis pachymeningitis during natalizumab therapy for multiple sclerosis
A.C. Piccolo (Sao Paulo, Brazil)

Subgroup analyses in phase III trials of therapeutics for multiple sclerosis: a closer look
A. Shirani (Dallas, United States)

Phase II double blind trial to investigate the efficacy and the optimal way of administration (clinical, neurophysiological and neuroradiological effects) of autologous mesenchymal bone marrow stem cells in active and progressive Multiple Sclerosis
P. Petrou (Jerusalem, Israel)

Comparison of clinical characteristics of patients in NMO &NMOSD
E. Yilmaz (Ankara, Turkey)
Nabiximols has a beneficial effect on self report of MS related spasticity
S. De Trane (London, United Kingdom)

Long-term efficacy of intrathecal baclofen to manage severe spasticity in MS patients
Y. Sammaraiée (London, United Kingdom)

The Effects of modified-release fampridine on upper limb impairment in multiple sclerosis
R. Macdonell (Melbourne, Australia)

Lack of improvement in quantitative gait analysis after Botulinum toxin injection in patients with multiple sclerosis
G. Coghe (Cagliari, Italy)

The use of medical-grade Cannabis (Bedrocan®) in patients non-responders to nabiximols (sativex®)
F. Saccà (Napoli, Italy)

Nabixol (Sativex) in spasticity responders multiple sclerosis patients is effective on subjective but not on objective measures of walking ability
C. Solaro (Genova, Italy)

Comparative effectiveness of natalizumab and fingolimod treatment on cognitive functions in relapsing multiple sclerosis
P. Iaffaldano (Bari, Italy)

Gait kinematic changes after fampridine therapy in primary progressive multiple sclerosis
D. Gómez-Andrés (Madrid, Spain)

The impact of fampridine treatment on fatigue, quality of life and mood in patients with multiple sclerosis
A. Barros (Lisboa, Portugal)

Phase II, placebo-controlled, double-blinded, crossover study of extended-release dalfampridine in monophasic transverse myelitis
K. Schwartz (Baltimore, United States)

Experience of fampridine treatment in a cohort of 167 Portuguese MS patients
J. Ferreira (Lisboa, Portugal)

A survey of risk tolerance to multiple sclerosis therapies
R.J. Fox (Cleveland, United States)

Development of a conceptual framework for daily life activities in patients with early stage relapsing-remitting multiple sclerosis
S.-Y. Chen (Cambridge, United States)

Well-being, health, and adjustment in early onset multiple sclerosis (MS): the role of personality
L. Strober (West Orange, United States)
Longitudinal study of the effect of PR-fampridine walking and quality of life in people with severe MS-related walking impairment
R.A.L. Ewe (London, United Kingdom)

Using social media to communicate with people affected by multiple sclerosis
A. Thomson (London, United Kingdom)

Evaluation of e-learning tools for MS patients - mymsmagazin.com
G. Winkler (Hamburg, Germany)

Nutrition is of great concern for people newly diagnosed with multiple sclerosis
G. von Geldern (Seattle, United States)

Comparison of quality of life in autoimmune diseases of the spinal cord
M.A. Mealy (Baltimore, United States)

Benefits of a mindfulness-based intervention compared to psychoeducation among multiple sclerosis patients
I. González-Suárez (Madrid, Spain)

Brain activations during the kinetic scenes perception and their changes after physiotherapy in patients with multiple sclerosis
I. Stetkarova (Prague, Czech Republic)

Integrated assessment of handwriting movement in people with multiple sclerosis
L. Pedullà (Genoa, Italy)

Kinematic evaluation of handwriting movement in people with multiple sclerosis
A. Bisio (Genoa, Italy)

Both anticipatory and compensatory postural adjustments are altered during external perturbations in multiple sclerosis individuals with a previous fall history
S. Tajali (khuzestan, Iran, Islamic Republic of)

Effects of core stability on functional capacity in patients with multiple sclerosis
C. İrkeç (Ankara, Turkey)

Physiotherapy and steroids in the management of motor relapses in multiple sclerosis: a combined therapy
S. Sánchez (Barcelona, Spain)

The effect of vibrotactile biofeedback of trunk sway on balance control in multiple sclerosis
H.M. Rust (Basel, Switzerland)

Prolonged-release fampridine and active motor training in MS patients: a Phase IV, double-blind, placebo-controlled
F. Jacques (Gatineau, Canada)
Predicting multiple sclerosis disease course with patient centred outcomes (PCOs): a machine learning approach
G. Brichetto (Genova, Italy)

Adaptive conflict resolution: Structural variability in regions that trigger adaptation is related to cognitive performance
S.A. Holmes (Montreal, Canada)

Are coping strategies related to negative work events in multiple sclerosis patients?
K. van der Hiele (Rotterdam, Netherlands)

Patient education for people with multiple sclerosis-associated fatigue: a systematic review
M.J. Wendebourg (Hamburg, Germany)

Is empathy related to work participation, work role functioning and productivity in multiple sclerosis patients?
D.A.M. van Gorp (Rotterdam, Netherlands)

Randomized, blinded, controlled study to assess the efficacy of a cognitive training program in patients with multiple sclerosis (MS)
M. González Platas (La Laguna, Spain)

Facilitating the use of an alternative pointing system for patients with Multiple Sclerosis with motor and cognitive impairments through procedural learning
N. Moyano (Fraiture-en-Condroz, Belgium)

Attenuated salivary cortisol and cardiovascular-autonomic response to aerobic exercise in people with multiple sclerosis
M.S. Pedersen (Århus C, Denmark)

Exercise: finding the good in inflammation using models of MS
B.T. Lund (Los Angeles, United States)

Objectively measured physical activity and sedentary behaviour profiles of people moderately affected by Multiple Sclerosis
E.H. Coulter (Glasgow, United Kingdom)

Changes in resting-state functional connectivity of the caudate following resistance exercise training in persons with MS: A preliminary report
N. Akbar (West Orange, United States)

A six-week intensive treadmill training improves walking ability in MS patients with moderate disability
M.A. Biancu (Sassari, Italy)

The effect of Mediterranean diet and exercise as a complementary therapy in fatigue of patients with relapsing remitting MS (RRMS)
M. Abolhasani (Tehran, Iran, Islamic Republic of)

Use of pedometer based internet mediated intervention for adults with multiple sclerosis to increase physical activity level
K. Novotna (Prague, Czech Republic)
Genome-wide scan identifies association between an interferon regulatory factor-related variant and interferon-beta induced liver injury in multiple sclerosis patients
K. Kowalec (Vancouver, Canada)

Evaluation of the effect of fingolimod on microglia using serial PET imaging in multiple sclerosis
M. Sucksdorff (Turku, Finland)

The role of oligoclonal bands in the diagnosis of multiple sclerosis
G. Arrambide (Barcelona, Spain)

Contribution of clinical and MRI to evaluation of NEDA (No Evidence of Disease Activity) from the pivotal trial of interferon beta-1b in multiple sclerosis
D.S. Goodin (San Francisco, United States)

NEDA epoch analysis of patients with relapsing multiple sclerosis treated with ocrelizumab: Results from OPERA I and OPERA II, phase III studies
G. Giovannoni (London, United Kingdom)

Pathological cut-offs of whole and regional brain volume loss rates in multiple sclerosis
T. Uher (Prague, Czech Republic)

Meta-study of 17 independent patient cohorts shows consistently high anti-John Cunningham polyoma virus seroconversion rates under natalizumab treatment and differences between technical and biological converters
N. Schwab (Muenster, Germany)

Creating a consensus evaluation and expert opinion reporting platform for brain MRI in Multiple Sclerosis with higher increased risk of Progressive Multifocal Leukoencephalopathy
F. Barkhof (Amsterdam, Netherlands)

SIENA-XL for the assessment of gray matter and white matter volume changes in clinical studies of patients with multiple sclerosis
M. Battaglini (Siena, Italy)

Age at natalizumab start as risk cofactor for developing early onset progressive multifocal leukoencephalopathy
L. Prosperini (Rome, Italy)

Influence of 25(OH)D levels and genetic variants on disease severity in MS
T.F. Andlauer (Munich, Germany)

High sensitivity serum neurofilament-light chain measurements correlate with disease activity and disability in multiple sclerosis and are reduced after immunomodulatory treatment intervention
C. Barro (Basel, Switzerland)

Anti-aquaporin-4 titer is not predictive of disease course in neuromyelitis optica spectrum disorder
R.A. Kessler (Baltimore, United States)
Scientific Programme

Serum neurofilament light chain levels in MS: a promising biomarker of clinical and subclinical disease severity
G. Disanto (Lugano, Switzerland)

3-dimensional shape and surface characteristics differentiate multiple sclerosis lesions from other etiologies
D.T. Okuda (Dallas, United States)

The genetic map of multiple sclerosis unravels a fine interplay between immune cells and brain repair mechanisms
N. Patsopoulos (Boston, United States)

Computing spinal cord atrophy using the Boundary Shift Integral: a more powerful outcome measure for clinical trials?
F. Prados (London, United Kingdom)

Direct interaction of Th17 lymphocytes with oligodendrocytes in EAE and MS
C. Larochelle (Montreal, Canada)

The effect of smoothened-agonist on remyelination in the rat central nervous system
S. Kodali (Cambridge, United Kingdom)

Histopathological characteristics of cavitary multiple sclerosis
E. Bahn (Göttingen, Germany)

Mutations in the gene tripeptidyl peptidase II (TPP2) and multiple sclerosis
A. Zimprich (Vienna, Austria)

Development of ARN-6039, an RORγt/IL-17-TH17 specific agent for treatment of multiple sclerosis and evaluation of phase 1 trials in normal controls
J.W. Rose (Salt Lake City, United States)

The effect of body mass index on disease outcomes in neuromyelitis optica spectrum disorder with aquaporin4-IgG
S.-M. Kim (Seoul, Korea, Republic of)

Comorbidities affect treatment choice and persistence in RRMS: a multicenter study
A. Laroni (Genova, Italy)

RGC-32 promotes Th17 cell differentiation and enhances experimental autoimmune encephalomyelitis
A. Tatomir (Baltimore, United States)

A placebo randomized controlled study to test the efficacy and safety of GNbAC1, a monoclonal antibody for the treatment of multiple sclerosis - rationale and design
R. Glanzman (Plan les Ouates, Switzerland)
A comparison of seropositive and seronegative patients in the Collaborative International Research in Clinical and Longitudinal Experience for NMOSD Studies (CIRCLES) registry
L.J. Cook (Salt Lake City, United States)

ib-monthly decreases disability progression in patients with progressive forms of multiple sclerosis. A double blind placebo controlled study
C. Carcamo (Santiago, Chile)

Preferential deregulation of microRNAs in the cerebrospinal fluid rather than in peripheral compartments of MS patients. Analysis of miRNA expression levels according to disease activity
V. van Pesch (Brussels, Belgium)

The effects of mechanical focal vibration (Equistasi®) on walking impairment in multiple sclerosis patients: a randomized, double-blinded vs placebo study
E. Spina (Naples, Italy)

Neurofilament results for the phase II neuroprotection study of phenytoin in optic neuritis
S. Gnanapavan (London, United Kingdom)

Anti-JCV IgG sero-conversion during treatment with natalizumab (especially to high JCV index values) coincides with presence of anti-JCV IgM antibodies
T. Schneider-Hohendorf (Muenster, Germany)

Opinions on physician-assisted death: NARCOMS preliminary results
S.S. Cofield (Birmingham, United States)

Improved clinical and radiological outcomes associated with reduced absolute lymphocyte counts at 3 and 6 months post-Tecfidera treatment initiation
K. Wright (Dallas, United States)

Central nervous system intrinsic effects of Laquinimod in vivo are not mediated via the aryl hydrocarbon receptor
W. Brück (Göttingen, Germany)

The integrated imaginative distention, an effective self-managed tool to cope with fatigue in Multiple Sclerosis
A. Protti (Milano, Italy)

Longitudinal changes in metabolic neuroimaging markers linked to the clinical decline in patients with secondary progressive multiple sclerosis
I.-Y. Choi (Kansas City, United States)

Infliximab treatment improves PML in sarcoidosis patients with T cell dysregulation
S.C. Rosenkranz (Hamburg, Germany)

Serological response against an immediately early protein 1 (IE1) protein sequence from HHV-6A, but not HHV-6B, is positively associated with multiple sclerosis
A. Fogdell-Hahn (Stockholm, Sweden)
Gender effect on neuromyelitis optica spectrum disorder with aquaporin4-immunoglobulin G
S.-M. Kim (Seoul, Korea, Republic of)

Studies of circumpapillary retinal nerve fiber layer and macular ganglion cell-inner plexiform layer thickness losses in multiple sclerosis, neuromyelitis optica, and anti-myelin oligodendrocyte glycoprotein positive patients
N. Mekhasingharak (Phitsanulok, Thailand)

Patterns of ocular motor fatigue in internuclear ophthalmoparesis due to multiple sclerosis
A. Serra (Cleveland, United States)

Head circumference is decreased in MS patients with clinical disease onset in adulthood: a cross-sectional study
C.S. Casserly (Toronto, Canada)

Case series of three patients with multiple sclerosis showing severe activation of disease during immunotherapy with alemtuzumab
T. Wehrum (Freiburg im Breisgau, Germany)

Fingolimod (Gilenya) therapy: Next generation sequencing of the immune repertoire reveals the temporal stability of expanded T cell clones in peripheral blood
N. Goebels (Duesseldorf, Germany)

The use of digital media/telemedicine to aid urine monitoring for multiple sclerosis (MS) patients treated with Alemtuzumab
O.R. Pearson (Swansea, United Kingdom)

Profile of HERV-W expression in multiple sclerosis patients
L.H. Nali (São Paulo, Brazil)

Polygraphic evaluation of dysphagia in multiple sclerosis
Y. Beckmann (Izmir, Turkey)

Randomised, double-blind, phase 2, multicentre study of once daily oral CHS131 in treatment-naive subjects with relapsing-remitting Multiple Sclerosis
D. Weinstein (Dobbs Ferry, United States)

Quality of life and cost effectiveness following the use of Functional Electrical Stimulation (FES) of the peroneal nerve for people with multiple sclerosis
T. Street (Salisbury, United Kingdom)

The Aryl Hydrocarbon Receptor in the Peripheral Immune System is the Molecular Target of Laquinimod in MOG induced Experimental Autoimmune Encephalomyelitis
J. Kaye (Netanya, Israel)

Evaluation of oxygen uptake kinetic asymmetries: A pilot study
R.D. Larson (Norman, United States)
Brain atrophy by automated MRI reading in long-term natalizumab treated patients: Real world data suggests brain atrophy rates in range of healthy individuals
D. Horáková (Prague, Czech Republic)

Dissociation between lesion volume accumulation and brain volume loss occurs in only small proportion of multiple sclerosis patients over long-term follow-up
T. Uher (Prague, Czech Republic)

Low levels of vitamin D in neuromyelitis optica and neuromyelitis optica spectrum: association with quality of life
Y. Beckmann (Izmir, Turkey)

Comparison of the prevalence and the clinical characteristics of NMOSD and MS in northern Japan.
H. Houzen (Obihiro, Japan)

Effects of teriflunomide treatment on the CD4+ T-cell receptor repertoire in patients with relapsing-remitting MS
L. Klotz (Münster, Germany)

Identifying exercise promotion strategies for individuals with MS that can be delivered through healthcare providers
Y.C. Learmonth (Urbana, United States)

Efficacy and safety of first line oral therapies in relapsing-remitting multiple sclerosis: Dimethyl fumarate vs teriflunomide in the Chieti experience
L. Mancinelli (Chieti, Italy)

Adverse events of rituximab in a Swedish MS population sample
I. Boström (Linköping, Sweden)

LSD1 inhibition, a potential epigenetic therapeutic approach for the treatment of multiple sclerosis
T. Maes (Cornella de Li., Spain)

An integrated molecular landscape of multiple sclerosis (MS) yields novel clues for diagnosis and treatment
M.B. Martens (Nijmegen, Netherlands)

Multi-category machine learning methods to identify diagnostic gene expression patterns consistent with multiple sclerosis in peripheral whole blood
C.F. Spurlock (Nashville, United States)

Use of patient-reported and performance-based tests to predict falls in multiple sclerosis patients
S. Tajali (Khuzestan, Iran, Islamic Republic of)

Highly effective treatment of multiple sclerosis by blocking the lipid metabolism
A.S. Mørkholt (Aalborg, Denmark)
A novel assay for natalizumab dose optimization
B.T. Messmer (San Diego, United States)

Subgroup analyses of natalizumab treatment response in ASCEND, a multicenter, double-blind, placebo-controlled, randomized phase 3 clinical trial in patients with secondary progressive multiple sclerosis (SPMS)
R. Kapoor (London, United Kingdom)

The influence of psychomotor therapy on cognitive and motor functioning in MS patients
A.J. Mielnik (Borne Sulinowo, Poland)

Efficacy of SFX-01, a sulforaphane-based drug, in experimental autoimmune encephalomyelitis
I. Galea (Southampton, United Kingdom)

IL-11 induces autoreactive CD4+ cell migration to the CNS in experimental autoimmune encephalomyelitis (EAE) and relapsing remitting multiple sclerosis (RRMS)
S. Markovic-Plese (Chapel Hill, United States)

White matter integrity and processing speed function in secondary progressive multiple sclerosis
M.R. Stabile (Venice, Italy)

Apelin 13: A promising biomarker for multiple sclerosis
M. Alpua (Kirikkale, Turkey)

24S-, 25- and 27-hydroxycholesterol levels in the serum and cerebrospinal fluid of patients with neuromyelitis optica revealed by LC-Ag+CIS/MS/MS and LC-ESI/MS/MS with picolinic derivatization
S.-M. Kim (Seoul, Korea, Republic of)

Incidence and mitigation of gastrointestinal events in patients with relapsing-remitting multiple sclerosis receiving dimethyl fumarate - a German phase IV study (TOLERATE)
R. Gold (Bochum, Germany)

In-depth Immunophenotyping of newly diagnosed Relapsing Remitting Multiple Sclerosis (RRMS) patients and Patients treated with dimethyl fumarate
M. Nakhaei-Nejad (Edmonton, Canada)

Cognitive impairment in patients with primary and progressive forms of multiple sclerosis
L. Sokolova (Kiev, Ukraine)

 Neurofilament light, anti-ganglioside M3 antibody and interleukin 18 in relapsing-remitting and primary progressive multiple sclerosis
P. Iwanowski (Poznan, Poland)

Emotion recognition and its association to quality of life in patients with multiple sclerosis
M. Grothe (Greifswald, Germany)
Number needed to treat (NNT) analysis of confirmed disability improvement across multiple sclerosis monoclonal antibody disease modifying agents clinical trials
D. Kantor (Parkland, United States)

Modulation of monocytes by bioactive lipid anandamide in multiple sclerosis involves distinct Toll-like receptors
A. Leuti (Rome, Italy)

Expression profile of pro-inflammatory cytokines in memory T cells of pediatric demyelinating patients
S. Saxena (Boston, United States)

Early activation of proinflammatory cytokines in cerebrospinal fluid of multiple sclerosis patients
T. Khaybullin (Kazan, Russian Federation)

Population pharmacokinetic modeling of natalizumab efficacy using body weight as a classification factor for extended interval dosing
K.K. Muralidharan (Cambridge, United States)

Peripheral blood CCR5+ effector gamma/delta T cells decreased in multiple sclerosis relapse
A. Monteiro (Covilha, Portugal)

Low prevalence of anti-NMO-IgG in Tunisian patients with suspicion of optico-spinal demyelination
S. Feki (Sfax, Tunisia)

Social Media Session, Hall C

15:45 - 16:45
Google Hangout: Meeting Highlights
A google hangout broadcast from ECTRIMS with Barts MS researchers sharing highlights from the meeting.
This session is an online session. Visit https://www.youtube.com/channel/UCyTAs55E__NuUmDeWs66jeg to watch.

Chairs
A. Thomson (London, United Kingdom)

15:45 - 16:45
ECTRIMS Highlights
S. Gnanapavan (London, United Kingdom)
D. Baker (London, United Kingdom)

Hot Topic Sessions, Hall A

17:00 - 17:45
Hot Topic 5 B-cell depletion therapy: a panacea for MS?

Chairs
R. Hohlfeld (Munich, Germany)
C. Hemingway (London, United Kingdom)
Scientific Programme

17:00 - 17:15  B-cell mediated pathogenic mechanisms in MS  
A. Bar-Or (Montreal, Canada)

17:15 - 17:30  Clinical trials and role of B-cell depletion therapy in relapsing-remitting MS  
S. Hauser (San Francisco, United States)

17:30 - 17:45  Clinical trials and role of B-cell depletion therapy in progressive MS  
B. Hemmer (Munich, Germany)

Hot Topic Sessions, Hall B

17:00 - 17:45  Hot Topic 6 Recent advances in imaging MS  
Chairs  
P. Matthews (London, United Kingdom)  
M.A. Rocca (Milan, Italy)

17:00 - 17:15  Network analysis in MS through in vivo imaging  
P. Tewarie (Amsterdam, Netherlands)

17:15 - 17:30  PET imaging of cellular and molecular abnormalities in MS  
B. Stankoff (Paris, France)

17:30 - 17:40  Distinguishing the brain MRI features of MS, AQP4- and MOG-antibody disease  
M. Jurynczyk (Oxford, United Kingdom)

17:40 - 17:45  Summary  
P. Matthews (London, United Kingdom)

Hot Topic Sessions, Hall C

17:00 - 17:45  Hot Topic 7 CSF biomarkers can predict the course of MS and response to treatment  
Chairs  
T. Olsson (Stockholm, Sweden)  
J. Correale (Buenos Aires, Argentina)

17:00 - 17:15  For  
G. Giovannoni (London, United Kingdom)

17:15 - 17:30  CSF biomarkers can predict the course of MS and response to treatment: against  
A.E. Miller (New York, United States)

17:30 - 17:40  High cerebrospinal fluid chitinase-3 like protein 1 levels increase the risk of conversion from radiologically isolated syndrome to clinically definite multiple sclerosis  
E. Thouvenot (Nîmes, France)
Scientific Programme

17:40 - 17:45
Summary
T. Olsson (Stockholm, Sweden)

Satellite Symposia, Hall A

18:00 - 19:00
Satellite Symposium - Optimising MS care: daclizumab as a new treatment option
Supported by Biogen
A case-based exploration of evidence-based decision making in MS, with integrated panel discussion and audience interaction throughout

Chairs
R. Gold (Bochum, Germany)

18:00 - 18:10
Chair’s welcome and introduction
R. Gold (Bochum, Germany)

18:10 - 18:20
Modulating IL-2 signalling pathways: a unique therapeutic approach
R. Martin (Zurich, Switzerland)

18:20 - 18:30
Translating the science into medicine: evaluating clinical efficacy
G. Giovannoni (London, United Kingdom)

18:30 - 18:40
Patient monitoring: optimising the approach in practice
T. Ziemssen (Dresden, Germany)

18:40 - 18:50
Considering what matters most: the patient perspective
E. Havdova (Czech Republic)

18:50 - 19:00
Audience Q and A and chair’s closing remarks

Satellite Symposia, Hall A

19:15 - 20:15
Satellite Symposium - B cell biology in NMOSD: from pathology to innovative therapeutics
Supported by MedImmune

Chairs
B.A. Cree (San Francisco, United States)
F. Paul (Berlin, Germany)

19:15 - 19:30
B cell basics and the pathogenesis of NMO
B. Hemmer (Munich, Germany)

19:30 - 19:45
Targeting pathogenic B cells and antibodies in NMOSD
J.L. Bennett (Aurora, United States)

19:45 - 20:00
Regulatory B cell immunotherapy for inflammation and autoimmunity
T. F. Tedder (Durham, United States)
Scientific Programme

20:00 - 20:15  Open round table discussion
Parallel Sessions, Hall B

08:30 - 10:00  Parallel Session 14 Late Breaking News

Chairs
H.-P. Hartung (Düsseldorf, Germany)
S. Dhib Jalbut (New Brunswick, United States)

08:30 - 08:42  Blood neurofilament light chain levels are elevated in multiple sclerosis and correlate with disease activity
J. Kuhle (Basel, Switzerland)

08:42 - 08:54  Efficacy and safety of siponimod in secondary progressive multiple sclerosis - results of the placebo controlled, double-blind, Phase III EXPAND study
L. Kappos (Basel, Switzerland)

08:54 - 09:06  Comparison of 5-year treatment outcomes between alemtuzumab versus natalizumab, fingolimod and interferon β-1a
T. Kalincik (Melbourne, Australia)

09:06 - 09:18  Severe vitamin D deficiency and smoking increases the risk of multiple sclerosis and disability accumulation in clinically isolated syndromes
M.I. Zuluaga (Barcelona, Spain)

09:18 - 09:30  Fluoxetine in progressive multiple sclerosis (FLUOX-PMS)
M. Cambron (Brussels, France)

09:30 - 09:42  Sustained clinically meaningful improvements in walking ability with prolonged-release fampridine: results from the placebo-controlled ENHANCE study
J. Hobart (Plymouth, United Kingdom)

09:42 - 09:54  ECTRIMS-EAN clinical practice guideline on pharmacological management of multiple sclerosis
S. Otero-Romero (Barcelona, Spain)

Plenary Sessions, Hall B

10:30 - 12:30  Plenary Session 2

Chairs
D. Miller (London, United Kingdom)
X. Montalban (Barcelona, Spain)

10:30 - 11:00  Confavreux Lecture: Where do we go from here with imaging in clinical trials for MS?
J.S. Wolinsky (Houston, United States)
Scientific Programme

11:00 - 11:20  Scientific highlights  
E. Meinl (Munich, Germany)

11:20 - 11:40  Clinical highlights  
M. Hutchinson (Dublin, Ireland)

11:40 - 12:25  Presentation of selected ECTRIMS poster awards, awards for best ECTRIMS oral presentations by young researchers, awards for best RIMS poster and best RIMS oral presentation, the MSIF award as well as announcement of ECTRIMS Honorary Members

12:25 - 12:30  Welcome to Paris  
C. Lubetzki (Paris, France)