Scientific Programme

**Wednesday, 11 September 2019**

**Hot Topic, Hall B**

08:00 - 08:45 **Hot Topic 1: Is MS becoming a milder disease, and, if so, why?**

*Chairs*
- O. Andersen (Gothenburg, SE)
- A. Scalfari (London, UK)

08:00 - 08:15 1 **Trend for decreasing MS disability with increasing calendar year**
- I. Kister (New York, US)

08:15 - 08:30 2 **Slower MS disability progression than previously reported**
- H. Tremlett (Vancouver, CA)

08:30 - 08:45 3 **Increasing incidence of RRMS, decreasing incidence of PPMS, changing gender ratio and decreasing mortality**
- M.-L. Sumelahti (Tampere, FI)

**Educational Session, Hall C**

08:00 - 09:30 **Educational Session 4: Disease modifying treatments in MS**

*Level: Basic*
(Basic = neurologists in training, non MS-specialists / Intermediate = board examined neurologists / Advanced = MS specialists)

*Chairs*
- A. Green (San Francisco, US)

08:00 - 08:30 13 **Title to be announced**

08:30 - 09:00 14 **Title to be announced**

09:00 - 09:30 15 **Title to be announced**

**Educational Session, Hall D**

08:00 - 09:30 **Educational Session 2: Paediatric MS**

*Level: Basic*
(Basic = neurologists in training, non MS-specialists / Intermediate = board examined neurologists / Advanced = MS specialists)

*Chairs*
- J. Gärtner (Göttingen, DE)
- C. Hemingway (London, UK)
Scientific Programme

08:00 - 08:30  7  The management of anti-MOG positive ADS
R. Neuteboom (Rotterdam, NL)

08:30 - 09:00  8  How to prevent secondary progression in children with MS
J. Gärtner (Göttingen, DE)

09:00 - 09:30  9  Differential diagnosis
C. Hemingway (London, UK)

Educational Session, Hall F

08:00 - 09:30  Educational Session 3: B cell therapy of MS – pathology, immunology, clinical effects

Level: Basic
(Basic = neurologists in training, non MS-specialists / Intermediate = board examined neurologists / Advanced = MS specialists)

Chairs
C. Stadelmann (Göttingen, DE)
K. Schmierer (London, UK)

08:00 - 08:30  10  Insights from pathology underpinning B cell-targeted therapy
C. Stadelmann (Göttingen, DE)

08:30 - 09:00  11  Are B cells all that matters?
D. Baker (London, UK)

09:00 - 09:30  12  Relapses, inflammation, progression: mind our life-changing language
K. Schmierer (London, UK)

Educational Session, Hall G

08:00 - 09:30  Educational Session 1 (MAGNIMS): Update on MAGNIMS guidelines on the use of MRI in the diagnosis and monitoring of multiple sclerosis

Level: Basic
(Basic = neurologists in training, non MS-specialists / Intermediate = board examined neurologists / Advanced = MS specialists)

Chairs
A. Rovira (Barcelona, ES)

08:00 - 08:30  4  How and when to obtain brain MRI in the diagnosis and monitoring of multiple sclerosis?
M. Wattjes (Hannover, DE)

08:30 - 09:00  5  Value of spinal cord MRI
O. Ciccarelli (London, UK)
Scientific Programme

09:00 - 09:30  6  When and how to use gadolinium?
A. Rovira (Barcelona, ES)

08:00 - 09:30  Educational Session 5 (RIMS): Rehabilitation in progressive MS
Level: Basic
(Basic = neurologists in training, non MS-specialists / Intermediate = board examined neurologists / Advanced = MS specialists)

Chairs
J. Freeman (Plymouth, UK)
P.L. Eelen (Melsbroek, BE)

08:00 - 08:30  16  Rehabilitation approaches in progressive MS
J. Freeman (Plymouth, UK)

08:30 - 09:00  17  Bladder and bowel in progressive MS
P.L. Eelen (Melsbroek, BE)

09:00 - 09:30  18  Caregiver burden in progressive MS
V. Matthews (Herts, UK)

08:55 - 09:40  Hot Topic 2: MS Pregnancy in the treatment era

Chairs
M.P. Amato (Florence, IT)
T. Kümpfel (Munich, DE)

08:55 - 09:10  19  The maternal perspective – when to stop/resume treatment and risks for progression
E. Portaccio (Florence, IT)

09:10 - 09:25  20  The fetal/child perspective – risks related drug exposure of the child, breastfeeding and when to reassume medication
K. Hellwig (Bochum, DE)

09:25 - 09:40  21  Patient awareness about family planning represents a major knowledge gap in multiple sclerosis
M. D’Hooghe (Melsbroek, BE)
## Scientific Programme

### Young Scientific Investigators' Session 1 - Biomarkers

**09:00 - 10:15**

**09:00 - 09:15**  
**22**  
**Serum neurofilament light chain levels are increased within three months of new gadolinium enhancing lesions in multiple sclerosis**  
M. Rosso (Brookline, US)

**09:15 - 09:30**  
**23**  
**Serum neurofilament light chain is associated with MS outcomes and comorbidity in a large population of people with multiple sclerosis**  
K. Fitzgerald (Baltimore, US)

**09:30 - 09:45**  
**24**  
**Neurofilament light chains in serum in biopsied multiple sclerosis patients**  
A.-S. Beutler (Göttingen, DE)

**09:45 - 10:00**  
**25**  
**The extent and distribution of fibrinogen deposition in progressive MS correlate with meningeal and choroid plexus inflammation**  
A. Poli (Verona, IT)

**10:00 - 10:15**  
**26**  
**Polygenic risk for multiple sclerosis and multi-modal brain imaging among 8-12 year old children in the general population**  
C.L. de Mol (Rotterdam, NL)

### Hot Topic: Should we recommend vitamin D supplementation to our MS patients?

**09:45 - 10:30**

**09:45 - 10:00**  
**27**  
**MS patients should be advised to take vitamin D for MS**  
A. Ascherio (Boston, US)

**10:00 - 10:15**  
**28**  
**Why vitamin D supplementation is not a general advice in MS**  
J. Smolders (Nijmegen, NL)

**10:15 - 10:30**  
**29**  
**Comments on the use of vitamin D in clinical practice, pros and cons**  
E. Mowry (Baltimore, US)

### Hot Topic: HSCT and stem cell treatment in MS

**09:45 - 10:30**

**09:45 - 10:30**  
**29**  
**Hot Topic 4: HSCT and stem cell treatment in MS**

**Chairs**  
P.A. Muraro (London, UK)  
J. Oh (Toronto, CA)
Scientific Programme

09:45 - 10:00  30  HSCT for MS - we are ready for prime time  
J. Burman (Uppsala, SE)
10:00 - 10:15  31  Hold your horses - HSCT is still an experimental treatment  
S. Hauser (San Francisco, US)
10:15 - 10:30  32  Mesenchymal stem cell treatment in MS  
A. Uccelli (Genoa, IT)

Hot Topic, Hall D

09:45 - 10:30  Hot Topic 5: Imaging: lesion formation and assessment

Chairs
M.A. Rocca (Milan, IT)
A. Rovira (Barcelona, ES)

09:45 - 10:00  33  Evolution of white matter in MS and the role of gadolinium-based contrast agents  
D.S. Reich (Bethesda, US)
10:00 - 10:15  34  Evolution of cortical lesions in MS  
J. Geurts (Amsterdam, NL)
10:15 - 10:30  35  A place for PET imaging in MS  
B. Bodini (Paris, FR)

Educational Session, Meeting Room T3

09:45 - 10:30  Case-based Educational Session 6: How to manage urogenital problems and spasticity

Chairs
P. Flachenecker (Bad Wildbad, DE)
I. Kleiter (Berg, DE)

09:45 - 10:05  36  Case #1: Multimodal management of spasticity  
P. Flachenecker (Bad Wildbad, DE)
10:05 - 10:25  37  Case #2: Diagnosis and therapy of voiding difficulties  
I. Kleiter (Berg, DE)
Scientific Programme

Educational Session, Meeting Room T4

09:45 - 10:30  Case-based Educational Session 7: How to manage non response to induction therapies?

Chairs
A.J. Coles (Cambridge, UK)
J. Sastre-Garriga (Barcelona, ES)

09:45 - 10:05  38  Case #1
A.J. Coles (Cambridge, UK)

10:05 - 10:25  39  Case #2
J. Sastre-Garriga (Barcelona, ES)

Educational Session, Meeting Room T5

09:45 - 10:30  Case-based Educational Session 8: Progressive MS: who should be treated and what should patients expect?

Chairs
J. Chataway (London, UK)
R.J. Fox (Cleveland, US)

09:45 - 10:05  40  Case #1
J. Chataway (London, UK)

10:05 - 10:25  41  Case #2
R.J. Fox (Cleveland, US)

Plenary Session, Hall A

11:00 - 12:15  Plenary Session 1: Welcome and ECTRIMS Lecture

Chairs
M.P. Amato (Florence, IT)
B. Hemmer (Munich, DE)
J. Hillert (Stockholm, SE)

11:00 - 11:30  42  Welcome to ECTRIMS 2019
B. Hemmer (Munich, DE)
J. Hillert (Stockholm, SE)

11:30 - 12:15  43  ECTRIMS Lecture: Beyond RCTs – why and how observational studies will guide the future of MS treatment
M. Trojano (Bari, IT)

Satellite Symposium, Hall A

12:30 - 13:30  Satellite Symposium 1
Scientific Programme

Satellite Symposium, Hall C

12:30 - 13:30  Satellite Symposium 2

Scientific Session, Hall B

13:45 - 15:15  Scientific Session 1: Remyelination in the course of MS

Chairs
L. Brundin (Stockholm, SE)
R. Franklin (Cambridge, UK)

13:45 - 14:05  55  Is remyelination possible in MS?
J. Frisen (Stockholm, SE)

14:05 - 14:25  56  Remyelination from cell based screening to clinical trial
A. Green (San Francisco, US)

Platform presentations of related original papers

14:25 - 14:37  57  Single nuclei transcriptomics of human white matter oligodendroglia in multiple sclerosis
E. Agirre (Stockholm, SE)

14:37 - 14:49  58  Microglial interaction with nodes of Ranvier: a role in repair?
T. Roux (Paris, FR)

14:49 - 15:01  59  Periventricular remyelination is associated with grey matter atrophy in MS
M. Tonietto (Paris, FR)

15:01 - 15:13  60  A Phase 1b, open-label study to evaluate the safety and tolerability of the putative remyelinating agent, liothyronine, in individuals with multiple sclerosis
S.D. Newsome (Baltimore, US)

Scientific Session, Hall C

13:45 - 15:15  Scientific Session 2: Safety assessment in the post-approval phase - real world evidence

Chairs
O. Gray (Dundonald, UK)
C. Pozzilli (Rome, IT)

13:45 - 14:05  61  To use clinical registries in the phase 4 of disease modifying treatment
S. Vukusic (Lyon, FR)

14:05 - 14:25  62  Genes, environment and safety monitoring in using registries
T. Olsson (Stockholm, SE)

Platform presentations of related original papers
Scientific Programme

14:25 - 14:37  63  Determinants of clinical outcomes for patients with natalizumab-associated progressive multifocal leukoencephalopathy
L. Kappos (Basel, CH)

14:37 - 14:49  64  Risk of hypogammaglobulinemia in long-term treatment with rituximab in multiple sclerosis
S. Hallberg (Stockholm, SE)

14:49 - 15:01  65  Serum immunoglobulin levels and risk of serious infections in the pivotal phase III trials of ocrelizumab in multiple sclerosis and their open-label extensions
T. Derfuss (Basel, CH)

15:01 - 15:13  66  Incidence of any malignancies in patients treated for multiple sclerosis. A Danish registry-based cohort
M. Magyari (Copenhagen, DK)

Educational Session, Hall F

13:45 - 15:15  Educational Session 9: Neurofilament light chains and other fluid biomarkers in MS
Level: Intermediate
(Basic = neurologists in training, non MS-specialists / Intermediate = board examined neurologists / Advanced = MS specialists)

Chairs
J. Kuhle (Basel, CH)
F. Piehl (Stockholm, SE)

13:45 - 14:15  67  Setting the scene: the relevance of conventional CSF and imaging biomarkers in MS
F. Piehl (Stockholm, SE)

14:15 - 14:45  68  Assay stability and preanalytics of neurofilament determinations.
E. Willemse (Amsterdam, NL)

14:45 - 15:15  69  Blood neurofilament light chain: ready for the clinic?
J. Kuhle (Basel, CH)

Educational Session, Hall G

Level: Intermediate
(Basic = neurologists in training, non MS-specialists / Intermediate = board examined neurologists / Advanced = MS specialists)

Chairs
J. Palace (Oxford, UK)
F. Paul (Berlin, DE)
Scientific Programme

13:45 - 14:15  70  NMOSD: an update  
J. Palace (Oxford, UK)

14:15 - 14:45  71  Making the diagnosis in challenging cases with case studies  
K. Fujihara (Sendai, JP)

14:45 - 15:15  72  Treatment challenges in NMOSD with case studies  
F. Paul (Berlin, DE)

Educational Session, Hall H

13:45 - 15:15  Educational Session 11: Getting it right – accurate diagnosis and avoiding misdiagnosis of MS  
Level: Basic  
(Basic = neurologists in training, non MS-specialists / Intermediate = board examined neurologists / Advanced = MS specialists)

Chairs  
G. Arrambide (Barcelona, ES)
W. Brownlee (London, UK)

13:45 - 14:05  73  MS: What’s typical, what’s not?  
W. Brownlee (London, UK)

14:05 - 14:25  74  Applying the 2017 McDonald criteria to make an accurate diagnosis  
G. Arrambide (Barcelona, ES)

14:25 - 14:45  75  Tips for avoiding misdiagnosis  
A. Solomon (Burlington, US)

14:45 - 15:15  76  Interactive case presentations for discussion  
G. Arrambide (Barcelona, ES)
W. Brownlee (London, UK)
A. Solomon (Burlington, US)

Satellite Symposium, Hall A

14:00 - 15:00  European Charcot Foundation Symposium: Explaining environmental impact in MS  
Chairs  
G. Comi (Milan, IT)
M.P. Amato (Florence, IT)

14:00 - 14:15  77  New epidemiological evidence of the role of environment on MS risk and evolution  
A. Ascherio (Boston, US)

14:15 - 14:30  78  Role of intestinal microbiome  
H. Wekerle (Martinsried, DE)
Scientific Programme

14:30 - 14:45  79  Smoke and air pollution exposure: impact on MS
L. Alfredsson (Stockholm, SE)

14:45 - 15:00  80  Discussion

Young Scientific Investigators' Session, Hall D

14:00 - 15:15  Young Scientific Investigators' Session 2 - Clinical

Chairs
L. Airas (Turku, FI)
D. Ontaneda (Cleveland, US)

14:00 - 14:15  81  Supra- and infratentorial atrophy following clinically isolated syndromes: a 30-year follow-up study
L. Haider (London, UK)

14:15 - 14:30  82  Evaluating the risk of macrovascular events and mortality in individuals with multiple sclerosis in England: a population-based nested case-control study
R. Palladino (London, UK)

14:30 - 14:45  83  Infusion-related events during natalizumab: no need for post-infusion monitoring
F.C. Loonstra (Amsterdam, NL)

14:45 - 15:00  84  IFNβ is NOT effective in MOG-IgG+ disease: a study in 26 MOG-IgG+ Japanese patients
K. Kaneko (Miyagi, JP)

15:00 - 15:15  85  Inflammatory activity associated with increased rate of retinal and brain neuro-axonal injury in early MS: results from dynamic evolution in Barcelona MS-Visualpath cohort study
I. Pulido-Valdeolivas (Barcelona, ES)

Nurses' Session, Hall E

14:00 - 15:15  Nurses' Session 1

14:00 - 14:25  86  Title to be announced

14:25 - 14:50  87  Title to be announced

14:50 - 15:15  88  Title to be announced
Scientific Programme

**Scientific Session, Hall A**

**15:45 - 17:15**

**Scientific Session 3: DMT in RRMS**

**Chairs**
F. Sellebjerg (Copenhagen, DK)
E. Kubala Havrdová (Prague, CZ)

**15:45 - 16:05**

99  
DMTs in RRMS 2019 - what remains to be achieved
G. Giovannoni (London, UK)

**16:05 - 16:25**

90  
Comparative effectiveness studies in RRMS in the real world
T. Spelman (Melbourne, AU)

**Platform presentations of related original papers**

**16:25 - 16:37**

91  
A Bayesian design to increase the power of multiple sclerosis clinical trials
L. Carmisciano (Genoa, IT)

**16:37 - 16:49**

92  
Effect of ocrelizumab versus interferon β-1a on retinal thinning and association with brain volume loss in the OPERA I and OPERA II phase III trials in relapsing multiple sclerosis
A. Green (San Francisco, US)

**16:49 - 17:01**

93  
Efficacy and safety of ponseimod compared to teriflunomide in patients with relapsing multiple sclerosis: results of the randomized, active-controlled, double-blind, parallel-group phase 3 OPTIMUM study
L. Kappos (Basel, CH)

**17:01 - 17:13**

94  
Big multiple sclerosis data network: marginal structural models confirm the long-term impact of DMTs on disability progression
P. Iaffaldano (Bari, IT)

**Scientific Session, Hall B**

**15:45 - 17:15**

**Scientific Session 4: What determines the long-term outcome of MS?**

**Chairs**
M. Magyari (Copenhagen, DK)
K. Fujihara (Sendai, JP)

**15:45 - 16:05**

95  
Course of MS in the era of disease modification
A. Manouchehrinia (Stockholm, SE)

**16:05 - 16:25**

96  
Co-morbidities and the course of MS
R.A. Marrie (Winnipeg, CA)

**Platform presentations of related original papers**

**16:25 - 16:37**

97  
Radiologically Isolated Syndrome: a 10-year follow-up study to identify factors predicting a clinical event
C. Lebrun-Frenay (Nice, FR)
Scientific Programme

16:37 - 16:49  98  Long term outcomes. Changes in MS prognosis through the CIS Barcelona cohort: a 25-year tale
M. Tintoré (Barcelona, ES)

16:49 - 17:01  99  Introduction of new diagnostic criteria for multiple sclerosis and time interval between disease onset and MS diagnosis
L. Stawiarz (Stockholm, SE)

17:01 - 17:13  100  Spectral-domain optical coherence tomography predicts disability in multiple sclerosis up to 10 years later
J. Lambe (Baltimore, US)

Scientific Session, Hall C

15:45 - 17:15  Burning Debate: It is inappropriate to prescribe interferon-beta and glatiramer acetate for active relapsing MS

This burning debate will address the topical motion: From a healthcare provider perspective, it is now inappropriate to prescribe 1st generation injectables (interferon-beta and glatiramer acetate) to newly diagnosed patients with active relapsing MS.

The live audience are encouraged to participate in the session by tweeting comments and questions using #burningdebate. At the end of the two presentations, the audience can vote on who should win the debate through twitter.

Chairs
J. Palace (Oxford, UK)

15:45 - 15:50  101  Introduction
J. Palace (Oxford, UK)

15:50 - 16:10  102  Against
M. Zakaria (Cairo, EG)

16:10 - 16:30  103  For
G. Kobelt (Stockholm, SE)

16:30 - 17:15  104  Discussion
J. Palace (Oxford, UK)
M. Zakaria (Cairo, EG)
G. Kobelt (Stockholm, SE)

Young Scientific Investigators' Session, Hall D

15:45 - 17:00  Young Scientific Investigators' Session 3 - MRI

Chairs
A. Oturai (Copenhagen, DK)
G. Comi (Milan, IT)
Scientific Programme

15:45 - 16:00  105  Subtyping and staging progressive MS using MRI  
A. Eshaghi (London, UK)

16:00 - 16:15  106  Manganese-enhanced magnetic resonance imaging of multiple sclerosis: a case series  
D. Suto (Bethesda, US)

16:15 - 16:30  107  Functional imaging biomarkers of cognitive impairment in multiple sclerosis: a resting-state magnetoencephalography study  
S.D. Kulik (Amsterdam, NL)

16:30 - 16:45  108  The central vein sign and iron rings: insights from a large cohort of patients with multiple sclerosis and mimicking disorders  
M. Clarke (Barcelona, ES)

16:45 - 17:00  109  Hippocampal regional vulnerability to damage differs between MS and neuromyelitis optica  
L. Cacciaguerra (Milan, IT)

Nurses' Session, Hall E

15:45 - 17:00  Nurses' Session 2

15:45 - 16:10  110  Title to be announced

16:10 - 16:35  111  Title to be announced

16:35 - 17:00  112  Title to be announced

Educational Session, Hall F

15:45 - 17:15  Educational Session 12 (MAGNIMS): Big data and deep learning: new avenues for MRI research in MS?

Level: Advanced  
(Basic = neurologists in training, non MS-specialists / Intermediate = board examined neurologists / Advanced = MS specialists)

Chairs
M.A. Rocca (Milan, IT)  
H. Vrenken (Amsterdam, NL)

15:45 - 16:15  113  Big data in MRI research in MS  
M.A. Rocca (Milan, IT)

16:15 - 16:45  114  Collaborative research environments and crowd-sourced science in MRI in MS  
H. Vrenken (Amsterdam, NL)

16:45 - 17:15  115  Machine learning in MRI research in MS  
D. Pareto (Barcelona, ES)
Educational Session, Hall G

15:45 - 17:15

**Educational Session 13: Pregnancy management in MS**

Level: Basic
(Basic = neurologists in training, non MS-specialists / Intermediate = board examined neurologists / Advanced = MS specialists)

**Chairs**
M.K. Houtchens (Brookline, US)
K. Hellwig (Bochum, DE)

15:45 - 16:15 116

*Reproductive counseling in MS: guidance and guidelines in 2019*
M.K. Houtchens (Brookline, US)

16:15 - 16:45 117

*Disease modifying medications in women with MS planning a pregnancy: 2019 update*
K. Hellwig (Bochum, DE)

16:45 - 17:15 118

*Postpartum management in women with MS*
R. Bove (San Francisco, US)

Educational Session, Hall H

15:45 - 17:15

**Educational Session 14: Diagnosis and management of other neuroinflammatory diseases (CLIPPERS, anti-GFAP, neurosarcooidosis, other systemic autoimmune diseases with CNS involvement)**

Level: Basic
(Basic = neurologists in training, non MS-specialists / Intermediate = board examined neurologists / Advanced = MS specialists)

**Chairs**
D.M. Wingerchuk (Scottsdale, US)
E. Flanagan (Rochester, US)

15:45 - 16:15 119

*Autoimmune GFAP astrocytopathy: characteristics and comparison to AQP4 and MOG-related disease*
E. Flanagan (Rochester, US)

16:15 - 16:45 120

*Neurosarcooidosis, CNS vasculitis, and Behcet’s disease*
J. Gelfand (San Francisco, US)

16:45 - 17:15 121

*CLIPPERS and other rare CNS inflammatory syndromes*
D.M. Wingerchuk (Scottsdale, US)

Poster Sessions, Poster Exhibition

17:15 - 19:15

**Poster Session 1**
Scientific Programme

P347  Optic nerve topography in CIS: does the use of visual evoked potentials improve the diagnosis of MS?
A. Vidal-Jordana (Barcelona, ES)

P348  The MAGNIMS dissemination in space criteria: do they improve the 2017 McDonald criteria?
V. Camera (Modena, IT)

P349  Factors influencing patient satisfaction with the first diagnostic consultation in multiple sclerosis: a Swiss Multiple Sclerosis Registry (SMSR) study
C.P. Kamm (Lucerne, CH)

P350  A Fully Automated Approach for Differential Diagnosis Support in Multiple Sclerosis Based on the Central Vein Sign
M.J. Fartaria (Lausanne, CH)

P351  Differential distribution of oligoclonal bands in CSF of MS patients compared to other demyelinating diseases and vasculitis
L. Negrotto (Buenos Aires, AR)

P352  Application of the 2017 McDonald Criteria for the diagnosis of multiple sclerosis to patients with clinically isolated syndromes
A. Barros (Lisboa, PT)

P353  Diagnostic value of McDonald 2017 criteria for fulfilling the diagnosis of Remittent-Relapsing Multiple Sclerosis (RRMS) in clinically isolated syndromes (CIS)
P. Baena Palomino (Seville, ES)

P354  Tumefactive inflammatory leuкоencephalopathy in cocaine users: report of three cases
L.M. Pessini Ferreira (Barcelona, ES)

P355  The Central Vein Sign identifies patients diagnosed with multiple sclerosis probably carrying different diseases and showing milder disease course
F. Azzolini (Florence, IT)

P356  Is the neuroradiological differentiation between Fabry disease and multiple sclerosis possible?
P. Rommer (Vienna, AT)

P357  Clinical features and prognosis of patients with late-onset neuromyelitis optica spectrum disorders in a Latin American population
E. Carnero Contentti (Buenos Aires, AR)

P358  Diagnosis, Severity, and Recovery of Attacks in the N-MOmentum Study of Inebilizumab in Neuromyelitis Optica Spectrum Disorder
B. Weinshenker (Rochester, US)

P359  Influence of migration on the prognosis of neuromyelitis optica spectrum disorder in non-Caucasian patients
R. Soares dos Reis (Porto, PT)
Scientific Programme

P360  Prodomal headache in MOG-Antibody positive Optic Neuritis  
S. Asseyer (Berlin, DE)

P361  Clinical phenotypes, predictors of relapse, and response to treatment in children and adults with myelin oligodendrocyte glycoprotein-antibody associated disorders: analysis from two large multiple sclerosis centers  
W. Vargas (New York, US)

P362  HLA association in MOG-IgG and AQP4-IgG related inflammatory diseases of the CNS in the Dutch Caucasian population  
A. Bruijstens (Rotterdam, NL)

P363  A 28-year observational study of disease activities in a Japanese cohort of neuromyelitis optica spectrum disorders  
E. Saji (Niigata, JP)

P364  Does isolated area postrema syndrome occur in Myelin oligodendrocyte Glycoprotein-IgG Associated Disorders (MOGAD)? A systematic analysis of the clinical and radiological associations of intractable nausea, vomiting or hiccups in 171 MOGAD patients  
A. Kunchok (Rochester, US)

P365  Poor visual outcome in neuromyelitis optica is associated with early disease onset and use of first-line oral therapy  
G. Macaron (Cleveland, US)

P367  MS patient journey from first symptoms to SPMS diagnosis in the Netherlands  
C. van Munster (Breda, NL)

P368  Anxiety, Depression and Fatigue in Youth with MOG-Associated Neuroinflammation: A Preliminary Report  
B. Ciftci-Kavaklıoglu (Toronto, CA)

P369  Seroprevalence of myelin oligodendrocyte glycoprotein antibodies in unselected patients with CNS inflammatory demyelinating disease according to recent clinical attacks  
E.-J. Lee (Seoul, KR)

P370  Characterization of inflammatory axis of CNS lesions in neuromyelitis optica spectrum disorders  
F. Yanagimura (Niigata, JP)

P371  Increased disability in late-onset multiple sclerosis  
S. Duarte (Porto, PT)

P372  Urogenital dysfunction in myelin oligodendrocyte glycoprotein (MOG) antibody-associated disease  
V. Li (London, UK)

P373  Quality of Life in Pediatric Patients with Anti-MOG Demyelinating Disease versus Multiple Sclerosis  
M. Parker (Washington, US)
P374  Relevance of Timing of Mog Serum Testing: Does Positivity Always Signal Recurrence?
G. Longoni (Toronto, CA)

P375  Long-term Safety and Efficacy of Delayed-Release Dimethyl Fumarate in Paediatric Patients With Relapsing-Remitting Multiple Sclerosis: a Long-term Extension of the FOCUS Study
R. Alroughani (Dasman, KW)

P376  Prevalence of paediatric-onset multiple sclerosis in France, disease management and use of disease-modifying therapies in this specific population
E. Leray (Rennes, FR)

P377  Use of disease-modifying therapies in paediatric relapsing remitting multiple sclerosis in the UK: A multi-centre retrospective study
O. Abdel-mannan (London, UK)

P378  Employment outcomes in paediatric onset MS
J. Haas (Berlin, DE)

P379  Sleep Quality and Physical Activity in Youth with Multiple Sclerosis
E.A. Yeh (Toronto, CA)

P380  Natalizumab treatment of patients with pediatric-onset multiple sclerosis in Portugal: results from the observational, retrospective TyPed study
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Educational Session 15: How do our treatments impact the immune system?

Level: Basic
(Basic = neurologists in training, non MS-specialists / Intermediate = board examined neurologists / Advanced = MS specialists)

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R. Liblau (Toulouse, FR)
L. Klotz (Münster, DE)

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L. Klotz (Münster, DE)

08:30 - 09:00  134 Migration-targeting therapies in MS: impact on immune responses
R. Liblau (Toulouse, FR)

09:00 - 09:30  135 Cell-depleting strategies in MS: impact on immune responses
A. Bar-Or (Philadelphia, US)

Educational Session, Hall F

08:00 - 09:30  Educational Session 16 (IMSCOGS): Cognitive dysfunction in MS

Level: Basic
(Basic = neurologists in training, non MS-specialists / Intermediate = board examined neurologists / Advanced = MS specialists)

Chairs
R.H. Benedict (Buffalo, US)
M.P. Amato (Florence, IT)

08:00 - 08:30  136 Epidemiology and risk factors: an update
M.P. Amato (Florence, IT)

08:30 - 09:00  137 How to diagnose and monitor in clinical practice
R.H. Benedict (Buffalo, US)

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J. DeLuca (West Orange, US)
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**Chairs**
J. Palace (Oxford, UK)
S. Khoury (Beirut, LB)

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B.A. Cree (San Francisco, US)

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F.-D. Shi (Tianjin, CN)

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J.L. Bennett (Aurora, US)

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**Long-term safety and effectiveness of eculizumab in neuromyelitis optica spectrum disorder**
D.M. Wingerchuk (Scottsdale, US)

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**Autologous Hematopoietic Stem Cell Transplant in Patients with Severe Refractory Neuromyelitis Optica Spectrum Disease: The Ottawa Experience**
J. Brooks (Ottawa, CA)

Free Communications, Hall B

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**Chairs**
A.J. Thompson (London, UK)
E. Gulowsen Celius (Oslo, NO)

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M. Kürtüncü (Istanbul, TR)

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F. Piehl (Stockholm, SE)

**08:30 - 09:30**  
Free Communications, Hall C

**08:30 - 09:30**  
**Free Communication 3: Pathology, pathogenesis and biomarkers**

**Chairs**  
A. Achiron (Tel Aviv, IL)  
C. Lebrun (Nice, FR)

**08:30 - 08:42**  
**149**  
**Gut microbiota-reactive IgA plasma cells traffic to the CNS in multiple sclerosis**  
A.-K. Pröbstel (San Francisco, US)

**08:42 - 08:54**  
**150**  
**Iron rim lesions in Multiple Sclerosis at 7 Tesla Magnetic Resonance Imaging: a 7 year prospective longitudinal study**  
A. Dal-Bianco (Vienna, AT)

**08:54 - 09:06**  
**151**  
**Paramagnetic phase rims and serum neurofilaments in relapsing-remitting and progressive multiple sclerosis patients: a combined laboratory-imaging marker of chronic inflammation**  
P. Maggi (Lausanne, CH)

**09:06 - 09:18**  
**152**  
**Blood neurofilament light levels are lowered to a healthy donor range in patients with RMS and PPMS following ocrelizumab treatment**  
A. Bar-Or (Philadelphia, US)

**09:18 - 09:30**  
**153**  
**Elevated body mass index is associated with accelerated ganglion cell + inner plexiform layer atrophy in multiple sclerosis**  
A.G. Filippatou (Baltimore, US)

**10:00 - 11:30**  
Scientific Session, Hall A

**10:00 - 11:30**  
**Scientific Session 5: DMT in progressive MS**

**Chairs**  
R.J. Fox (Cleveland, US)  
B. Bielkova (Bethesda, US)

**10:00 - 10:20**  
**154**  
**DMTs in progressive MS 2019 - what remains to be achieved**  
X. Montalban (Toronto, CA)

**10:20 - 10:40**  
**155**  
**How to design RCTs for SPMS**  
J. Chataway (London, UK)

Platform presentations of related original papers
### Scientific Programme

#### 10:40 - 10:52  156
Defining the risk factors for the conversion to secondary progressive multiple sclerosis: a retrospective cohort study of the Italian MS register
P. Iaffaldano (Bari, IT)

#### 10:52 - 11:04  157
Indications of neuroprotective effects in progressive multiple sclerosis following autologous mesenchymal stem cells (MSC) transplantation: report of a randomised phase IIb double blind trial
P. Petrou (Jerusalem, Ein-Kerem, IL)

#### 11:04 - 11:16  158
Siponimod delays the time to wheelchair in patients with SPMS: results from the EXPAND study
P. Vermersch (Lille, FR)

#### 11:16 - 11:28  159
Sustained reduction in confirmed disability progression in patients with primary progressive multiple sclerosis treated with ocrelizumab in the open-label extension period of the Phase III ORATORIO trial: 6.5-study year follow-up data
J.S. Wolinsky (Houston, US)

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#### Scientific Session, Hall B

### 10:00 - 11:30

#### 10:00 - 10:20  160
In search of genetic regulation of progression and severity of MS
I. Kockum (Stockholm, SE)

#### 10:20 - 10:40  161
HLA variation and MS
L. Fugger (Oxford, UK)

#### Platform presentations of related original papers

#### 10:40 - 10:52  162
Post-mortem multiple sclerosis lesion pathology is influenced by single nucleotide polymorphisms
N.L. Fransen (Amsterdam, NL)

#### 10:52 - 11:04  163
RNA-sequencing of leukocortical lesions from multiple sclerosis patients reveals little overlap in gene expression between white and grey matter demyelination
T.A. van Wageningen (Amsterdam, NL)

#### 11:04 - 11:16  164
Utilizing epigenetics to understand mechanisms underlying primary progressive multiple sclerosis
M. Pahlevan Kakhki (Stockholm, SE)

#### 11:16 - 11:28  165
Influence of ultraviolet radiation and diminished-function melanocortin 1 receptor variants on multiple sclerosis disease severity in two large multicenter cohort studies
P. Ostkamp (Münster, DE)
Scientific Programme

10:00 - 11:30
Scientific Session, Hall C

Scientific Session 7: How to achieve a structured assessment and quality assurance in MS care

Chairs
K. Fink (Stockholm, SE)
P. Matthews (London, UK)

10:00 - 10:20 166
Patient monitoring by wearable devices integrated in MS care
T. Chitnis (Boston, US)

10:20 - 10:40 167
To design, implement and sustain big data collection in MS
H. Butzkueven (Melbourne, AU)

10:40 - 10:52
Platform presentations of related original papers

10:52 - 11:04 169
The progressive multiple sclerosis score: a prognostic assistant tool in multiple sclerosis disease
A.I. Pisani (Verona, IT)

11:04 - 11:16 170
The relationship of change in neuro-QoL to change in neuroperformance tests and MRI
M. McGinley (Cleveland, US)

11:16 - 11:28 171
Introducing machine learning for full MS patient trajectories improves predictions for disability score progression
L. Peeters (Diepenbeek, BE)

10:00 - 11:30
Scientific Session, Hall D

Scientific Session RIMS 1: How can rehabilitation influence the progression of MS?

Chairs
S. Johansson (Stockholm, SE)
J. Freeman (Plymouth, UK)

10:00 - 10:20 172
Exercise therapy in MS - a disease modifying role?
U. Dalgas (Aarhus, DK)

10:20 - 10:40 173
Coping strategies when living with MS progression
L.B. Strober (East Hanover, US)

10:40 - 10:52
Platform presentations of related original papers

10:40 - 10:52 174
Multiple sessions of transcranial direct current stimulation (tDCS) combined with aerobic physical activity improves walking speed
G. Pilloni (Cagliari, IT)
Scientific Programme

10:52 - 11:04  175  Virtual Reality(VR)-based cognitive rehabilitation: cognitive games are complementary to physical training for an optimum rehabilitation strategy in patients with multiple sclerosis (MS)
M. Sadeghi (Tehran, IR)

11:04 - 11:16  176  Effects of PR-fampridine on gait pattern and patient-reported outcomes: a cross-over, randomized, placebo-controlled trial
M. Valet (Bruxelles, BE)

11:16 - 11:28  177  Detection of subtle gait disturbance and future fall risk in early multiple sclerosis
R. Brandstadter (New York, US)

Educational Session, Hall E

10:00 - 11:30  Educational Session 17: Pharmacovigilance and multiple sclerosis in the post-marketing setting: opportunity and lessons learned
Level: Advanced
(Basic = neurologists in training, non MS-specialists / Intermediate = board examined neurologists / Advanced = MS specialists)

Chairs
H. Tremlett (Vancouver, CA)
M. Magyari (Copenhagen, DK)

10:00 - 10:30  178  Using linked health administrative and clinical data to investigate drug safety in MS
H. Tremlett (Vancouver, CA)

10:30 - 11:00  179  Using registry data to investigate drug safety in MS
M. Magyari (Copenhagen, DK)

11:00 - 11:30  180  Evolution of biological agents: how established drugs can become less safe
D. Hunt (Edinburgh, UK)

Educational Session, Hall F

10:00 - 11:30  Educational Session 18: Antibodies and Complement in MS Spectrum Disorders
Level: Intermediate
(Basic = neurologists in training, non MS-specialists / Intermediate = board examined neurologists / Advanced = MS specialists)

Chairs
J.L. Bennett (Aurora, US)
J. Lünemann (Münster, CH)
Scientific Programme

10:00 - 10:30  181  Antibody- and complement-mediated effector functions
J. Lünemann (Münster, CH)

10:30 - 11:00  182  Antibody-mediated pathogenesis in central and peripheral neuroinflammatory disorders
J.L. Bennett (Aurora, US)

11:00 - 11:30  183  Therapeutic complement inhibition in neuroinflammatory diseases
R. Mantegazza (Milan, IT)

Meet the Expert, Hall G

10:00 - 11:00  Meet the Expert 1 - NMO / MOG

Meet the Expert Sessions are the ideal opportunity to meet with some of the biggest names in the field of MS in an interactive setting driven by audience participation. The experts will provide answers to cases and challenging questions on four different topics.

Chairs
J. de Seze (Strasbourg, FR)
H.J. Kim (Goyang, KR)

Hot Topic, Hall A

11:45 - 12:30  Hot Topic 6: B-cells in the pathogenesis of MS

Chairs
A. Svenningsson (Stockholm, SE)
R. Magliozzi (Verona, IT)

11:45 - 12:00  184  Rationale of B-cell therapy in MS
D. Baker (London, UK)

12:00 - 12:15  185  Rituximab is a reasonable alternative in MS treatment
F. Piehl (Stockholm, SE)

12:15 - 12:30  186  Rituximab is not a reasonable alternative in MS treatment
M.T. Wallin (Washington, US)

Hot Topic, Hall B

11:45 - 12:30  Hot Topic 7: Symptomatic treatment

Chairs
A.-M. Landtblom (Uppsala, SE)
R. Papais-Alvarenga (Rio de Janeiro, BR)

11:45 - 12:00  187  Main challenges in symptomatic MS treatment
E. Maillart (Paris, FR)
Scientific Programme

12:00 - 12:15  188  Neuromodulation: a potential approach to management of symptoms in MS
L. Leocani (Milan, IT)

12:15 - 12:30  189  Symptomatic pharmacotherapy and patient education strategies in progressive MS - an inventory
J. Sastre-Garriga (Barcelona, ES)

Hot Topic, Hall C

11:45 - 12:30  Hot Topic 8: Neuromyelitis optica spectrum disorders

Chairs
R. Marignier (Lyon, FR)
A. Bar-Or (Philadelphia, US)

11:45 - 12:00  190  New emerging treatments in NMOSD
B. Weinshenker (Rochester, US)

12:00 - 12:15  191  The spectrum of demyelinating diseases in children
B. Banwell (Philadelphia, US)

12:15 - 12:30  192  Pathogenesis of human antibodies against MOG
E. Meinl (Martinsried, DE)

Hot Topic, Hall D

11:45 - 12:30  Hot Topic 9: Patients' voice to develop MS care: MS PROMs

Chairs
J. Cohen (Cleveland, US)
P.F. Zaratin (Genoa, IT)

11:45 - 12:00  193  20 years of MSIS-29 – importance of an MS specific QoL scale
J. Hobart (Plymouth, UK)

12:00 - 12:15  194  PROMS: Supporting patient-centred care
M. Finlayson (Kingston, CA)

12:15 - 12:30  195  PROMS in standardized MS care
A. Solari (Milan, IT)
Scientific Programme

Meet the Expert, Hall G

**11:45 - 12:45**

**Meet the Expert 2 - Differential diagnosis**

Meet the Expert Sessions are the ideal opportunity to meet with some of the biggest names in the field of MS in an interactive setting driven by audience participation. The experts will provide answers to cases and challenging questions on four different topics.

**Chairs**

B. Stankoff (Paris, FR)
M. Tintoré (Barcelona, ES)

Educational Session, Meeting Room T3

**11:45 - 12:45**

**Case-based Educational Session 19: When to stop treatment?**

**Chairs**

G. Edan (Rennes, FR)
E. Le Page (Rennes, FR)

11:45 - 12:15 196

**Case #1: When to stop in relapsing remitting multiple sclerosis (RRMS) patient**

E. Le Page (Rennes, FR)

12:15 - 12:45 197

**Case #2: When to stop in secondary progressive multiple sclerosis (SPMS) patient**

G. Edan (Rennes, FR)

Satellite Symposium, Hall A

**13:00 - 14:00**

**Satellite Symposium 6**

Satellite Symposium, Hall B

**13:00 - 14:00**

**Satellite Symposium 7**

Scientific Session, Hall A

**14:15 - 15:45**

**Scientific Session 8: Pathological correlates of progression in MS**

**Chairs**

L. Bø (Bergen, NO)
C. Stadelmann (Göttingen, DE)

14:15 - 14:35 207

**Multiple sclerosis pathogenesis: what are the missing pieces?**

W. Brück (Göttingen, DE)
Scientific Programme

14:35 - 14:55  208  Potential biological mechanisms behind MS progression
J. Van Horssen (Amsterdam, NL)

Platform presentations of related original papers

14:55 - 15:07  209  Long-term follow-up on clinical, radiographic and cognitive outcomes in pathologically confirmed CNS inflammatory demyelinating disease
A. Kalinowska-Lyszczarz (Rochester, US)

15:07 - 15:19  210  Inflammatory lesion activity in chronic progressive MS is related to the accumulation and infiltration of tissue resident memory T cells
N.L. Fransen (Amsterdam, NL)

15:19 - 15:31  211  Molecular signatures of different lesions types in the white matter of SPMS
M.L. Elkjaer (Odense C, DK)

15:31 - 15:43  212  High levels of perivascular inflammation and active white matter lesions at time of death are associated with rapidly progressive multiple sclerosis
D. Marastoni (London, UK)

Scientific Session, Hall B

14:15 - 15:45  Scientific Session 9: Beyond EDSS - towards a comprehensive assessment of MS course

Chairs
S. Fredrikson (Stockholm, SE)
A. Langer-Gould (Pasadena, US)

14:15 - 14:35  213  Cognitive assessment in MS - rationale and tools
D. Langdon (London, UK)

14:35 - 14:55  214  Neuro-QoL in MS - tomorrow’s standard outcome?
D. Miller (Cleveland, US)

Platform presentations of related original papers

M. Sokolowski (Cleveland, US)

15:07 - 15:19  216  Advancing walking measurement in multiple sclerosis clinical trials: a new patient-reported outcome measure
J. Hobart (Plymouth, UK)

15:19 - 15:31  217  Remotely monitored ambulatory activity correlates with MS disability not only for ambulation but also for MRI atrophy metrics, cognition and quality of life: baseline analysis from the SPI2 clinical trial of MD1003 in progressive MS
V. Block (San Francisco, US)
Scientific Programme

15:31 - 15:43  218  A multiple sclerosis disease progression measure based on rate of cumulative disability
R. Ramanujam (Stockholm, SE)

Scientific Session, Hall C

14:15 - 15:45  Scientific Session 10: Infections and the pathogenesis of MS

Chairs
A. Fogdell-Hahn (Stockholm, SE)
R. Hohlfeld (Munich, DE)

14:15 - 14:35  219  A role for HHV-6 in MS is still a valid hypothesis
S. Jacobson (Bethesda, US)

14:35 - 14:55  220  The role of EBV in MS immunology?
C. Münz (Zurich, CH)

Platform presentations of related original papers

14:55 - 15:07  221  MS risk loci are underrepresented in EBV induced DNA hypomethylation
L. Ong (Westmead, AU)

15:07 - 15:19  222  Serological response against HHV-6A is associated with increased risk for multiple sclerosis
A. Fogdell-Hahn (Stockholm, SE)

X. Zhou (San Francisco, US)

15:31 - 15:43  224  A large case-control study on vaccination as risk factor of multiple sclerosis
C. Gasperi (Munich, DE)

Scientific Session, Hall D

14:15 - 15:45  Scientific Session RIMS 2: Challenges in cognitive rehabilitation

Chairs
A. Solari (Milan, IT)
C. Dettmers (Konstanz, DE)

14:15 - 14:35  225  Cognitive strategy training - a curse or blessing?
P. Hämäläinen (Masku, FI)

14:35 - 14:55  226  Cognitive rehabilitation for attention and memory in multiple sclerosis: results of the CRAMMS trial
R. Dasnair (Nottingham, UK)
Scientific Programme

Platform presentations of related original papers

14:55 - 15:07  227  Memory improvement after a cognitive rehabilitation program in multiple sclerosis
H. Brissart (Nancy, FR)

S.E. Prouskas (Amsterdam, NL)

15:19 - 15:31  229  Study of mental rotation in a cohort of patients with relapsing remitting multiple sclerosis: case control study
M. Fratino (Roma, IT)

R. Bove (San Francisco, US)

Educational Session, Hall E

14:15 - 15:45  Educational Session 20: Immunisation in MS
Level: Basic
(Basic = neurologists in training, non MS-specialists / Intermediate = board examined neurologists / Advanced = MS specialists)

Chairs
S. Vukusic (Lyon, FR)
J. Correale (Buenos Aires, AR)

14:15 - 14:45  231  Vaccines and the risk of MS
J. Correale (Buenos Aires, AR)

14:45 - 15:15  232  Vaccines and the risk of relapses
J. Frederiksen (Copenhagen, DK)

15:15 - 15:45  233  Vaccines and DMTs
S. Vukusic (Lyon, FR)

Educational Session, Hall F

14:15 - 15:45  Educational Session 21: Comprehensive appraisal of MS studies
Level: Advanced
(Basic = neurologists in training, non MS-specialists / Intermediate = board examined neurologists / Advanced = MS specialists)

Chairs
M.P. Sormani (Genoa, IT)
F. Deisenhammer (Innsbruck, AT)
Scientific Programme

14:15 - 14:45 234  How to assess and summarize study
E. Hernández Martínez-Lapiscina (Barcelona, ES)

14:45 - 15:15 235  Data analyses, interpretation, misinterpretation, and biases
M.P. Sormani (Genoa, IT)

15:15 - 15:45 236  Interpretation of analytical/deductive statistics
F. Deisenhammer (Innsbruck, AT)

Meet the Expert, Hall G

14:15 - 15:15  Meet the Expert 3 - Treatment
Meet the Expert Sessions are the ideal opportunity to meet with some of the biggest names in the field of MS in an interactive setting driven by audience participation. The experts will provide answers to cases and challenging questions on four different topics.

Chairs
K. Selmaj (Lodz, PL)
R. Gold (Bochum, DE)

Free Communications, Hall A

16:15 - 17:15  Free Communication 4: Clinical aspects, neuroprotection and repair

Chairs
M. Tintoré (Barcelona, ES)
M. Pugliatti (Ferrara, IT)

16:15 - 16:27 237  Higher efficacy therapies appear to have a disproportionately larger effect in younger patients
B. Vollmer (Aurora, US)

16:27 - 16:39 238  Population-based head-to-head comparative studies of the epidemiology of neuromyelitis optica spectrum disorder (NMOSD) in Europe
V. Papp (Aabyhøj, DK)

16:39 - 16:51 239  A large international aquaporin-4 antibody data set: combines individual factors to predict prognosis, identifies the risk of post-onset attack disability and calculates the power for future clinical trials
I. Nakashima (Sendai, JP)

16:51 - 17:03 240  Environmental enrichment induces microglia polarization and neurotrophin production in a focal chronic cortical model of multiple sclerosis
B.A. Silva (Buenos Aires, AR)

17:03 - 17:15 241  Oxcarbazepine as a neuroprotective agent in MS: a phase IIa trial (PROXIMUS)
M. Marta (London, UK)
Scientific Programme

Free Communications, Hall B

16:15 - 17:15  
**Free Communication 5: MOG**

**Chairs**
P.S. Sørensen (Copenhagen, DK)  
D. Horáková (Prague, CZ)

16:15 - 16:27  
242  
**MOG-antibodies and multiple sclerosis in adults: a large multicentre cross-sectional study**  
A. Cobo-Calvo (Lyon, FR)

16:27 - 16:39  
243  
**Myelin Oligodendrocyte Glycoprotein-IgG Associated Disorders (MOGAD) Co-existing autoimmunity study: Sero-prevalence of coexisting glial (aquaporin-4), neuronal and non-organ specific autoantibodies**

A. Kunchok (Rochester, US)

16:39 - 16:51  
244  
**Perivenous inflammatory demyelination with MOG-dominant myelin loss is a characteristic feature of MOG antibody-associated disease**  
Y. Takai (Sendai, JP)

16:51 - 17:03  
245  
**Peripheral nervous system involvement in MOG antibody-associated demyelination**  
S. Ramanathan (Sydney, AU)

17:03 - 17:15  
246  
**A study of MRI cortical lesions in myelin oligodendrocyte glycoprotein antibody associated disease**  
R. Cortese (London, UK)

Free Communications, Hall C

16:15 - 17:15  
**Free Communication 6: Paediatric MS - Memorial Session to honor Rogier Hintzen**

**Chairs**
H.F. Harbo (Oslo, NO)  
J. Correale (Buenos Aires, AR)

16:15 - 16:27  
247  
**Everything is Possible: a memorial honoring a pioneer in pediatric multiple sclerosis**  
B. Banwell (Philadelphia, US)

16:27 - 16:39  
248  
**Anti-AQP4 antibodies positive neuromyelitis optica syndrome in children: an European-Brazilian collaborative study**  
K. Deiva (Paris, FR)

16:39 - 16:51  
249  
**Real-world effectiveness of initial treatment with newer versus injectable disease-modifying therapies in pediatric multiple sclerosis in the US**  
K.M. Krysko (San Francisco, US)

16:51 - 17:03  
250  
**Cognitive processing speed in pediatric-onset MS: Baseline characteristics of impairment and predictors of decline**  
L. Krupp (Stony Brook, US)
Scientific Programme

17:03 - 17:15  251  School performance and psychiatric morbidity 6 years after paediatric acute disseminated encephalomyelitis: A nationwide population-based cohort study
M.S. Boesen (Herlev, DK)

Hot Topic, Hall D

16:15 - 17:00  Hot Topic 10: Epigenetics in MS: implications for pathogenesis and disease management
Chairs
J. Lechner-Scott (Newcastle, AU)
G. Castelo-Branco (Stockholm, SE)

16:15 - 16:30  252  Can we learn about MS brain from epigenetic changes?
M. Jagodic (Stockholm, SE)

16:30 - 16:45  253  Epigenetics as a therapeutic/environmental mediator in MS
A. Ntranos (New York, US)

16:45 - 17:00  254  Non-invasive blood epigenetic biomarkers of CNS cell loss
E. Akirav (Stony Brook, US)

Meet the Expert, Hall G

16:15 - 17:15  Meet the Expert 4 - Pregnancy
Details will follow shortly.

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Chairs
S. Vukusic (Lyon, FR)
K. Hellwig (Bochum, DE)

Educational Session, Meeting Room T3

16:15 - 17:15  Case-based Educational Session 22 (RIMS): Progressive MS: losing mobility
Chairs
V. de Groot (Amsterdam, NL)
A. Guldhammer Skjerbaek (Ry, DK)

16:15 - 16:35  255  Diagnosing and treating gait problems using gait analysis
V. de Groot (Amsterdam, NL)
Scientific Programme

16:35 - 16:55  256  Ensuring an effective training to deal with mobility loss
A. Guldhammer Skjerbæk (Ry, DK)

Poster Sessions, Poster Exhibition

Poster Session 2

P714  The diagnostic value of susceptibility-weighted imaging in multiple sclerosis: the central vein sign and iron rings are specific markers of multiple sclerosis lesions
M. Clarke (Barcelona, ES)

P715  Misdiagnosis of Multiple Sclerosis
L. Midaglia (Barcelona, ES)

P716  The role of pons lesion location in differentiating multiple sclerosis from vascular risk factor related cerebral small vessel disease
R. Geraldes (Oxford, UK)

P717  Impact of the McDonald 2017 vs. the McDonald 2010 criteria in patients with a first demyelinating event - a retrospective study
M. Pawlitzki (Münster, DE)

P718  Relevance of antibodies to Myelin Oligodendrocyte Glycoprotein in CSF of seronegative cases
S. Mariotto (Verona, IT)

P719  Checkpoint Inhibitor-Induced Longitudinally Extensive Transverse Myelitis: A Report on Two Cases
S. Makkawi (Calgary, CA)

P720  Cranial Nerve Enhancement in Multiple Sclerosis is Associated with Younger Age at Onset and More Severe Disease
L. Haider (London, UK)

P721  Clinical And Paraclinical Markers Of Disability Progression After A First Neurological Event: A Long Term Follow-Up Study
G. Dalla Costa (Milan, IT)

P722  Subtyping lymphocytes in cerebrospinal fluid helps to differentiate inflammatory from non-inflammatory CNS disorders
A. Wallach (New York, US)

P723  Diagnostic relevance of free light chain indices and their relation to the clinical presentation of multiple sclerosis
J. Magdic (Maribor, SI)

P724  Kynurenine in cerebrospinal fluid as a biomarker in differential diagnosis of Multiple Sclerosis
K.-W. Sühs (Hannover, DE)

P725  An experimental model of Neuromyelitis Optica Spectrum Disorder (NMOSD)-Optic Neuritis: Insights into disease mechanisms
S. Forsberg Soerensen (Odense, DK)
Scientific Programme

P726  Is benign MS ,benign’?
D. Ellenberger (Hannover, DE)

P727  Associations between neuropathic pain and thalamic ventral posterior nucleus volume in neuromyelitis optica spectrum disorders
S. Asseyer (Berlin, DE)

P728  Long term outcomes in Myelin Oligodendrocyte Glycoprotein-IgG (MOG-IgG) Associated Disorders
A.S. Lopez-Chiriboga (Rochester, US)

P729  Efficacy and Safety of Tocilizumab for the Treatment of Refractory Neuromyelitis Optica
G. Dalla Costa (Milan, IT)

P730  Recurrence within the same anatomical location in patients with MOG antibody associated disease
J.-W. Hyun (Goyang, KR)

P731  Aggressive and refractory MOG IgG associated encephalomyelitis treated with autologous hematopoetic stem cell transplantation : first case worldwide
C. Rush (Ottawa, CA)

P732  Neuromyelitis optica and the puerperal gravid cycle
R. Alvarenga (Rio De Janeiro, BR)

P733  Opticspinal MS is a Neuromyelitis Optica spectrum disorder, a MS phenotype or a oligodendrocyte glycoprotein anti myelin antibody syndrome?
R. Alvarenga (Rio De Janeiro, BR)

P734  Intravenous Immunoglobulin as a maintenance Immunotherapy in refractory Myelin Oligodendrocyte Glycoprotein-Antibody Associated Disorder
V. Karthikeayan (Liverpool, UK)

P735  Treatment of MOG antibody associated disorders: results of an international survey
D.H. Whittam (Liverpool, UK)

P736  Neuromyelitis spectrum disorders in Argentina: baseline data from the Argentinean MS Registry (RelevarEM)
J.I. Rojas (Buenos Aires, AR)

P737  Histopathological patterns of Multiple Sclerosis and characteristics from cerebrospinal fluid analysis
R. Dersch (Freiburg, DE)

P738  The absence of cortical lesions after a partial myelitis with CSF-restricted IgG0B reduces the probability of Multiple Sclerosis as final diagnosis
A. De Zanet (Padova, IT)

P739  Clinical characteristics of neuromyelitis optica spectrum disorders in Polish population
A. Podlecka-Pietowska (Warsaw, PL)
P740  Myelin oligodendrocyte glycoprotein-IgG-positive disease associated with herpes simplex virus infection to central nervous system: distinct clinical and radiological features in 2 cases  
K. Kaneko (Miyagi, JP)

P741  Long term effect of delayed treatment on disability in patients with paediatric onset multiple sclerosis: A prospective Danish cohort study  
T.I. Kopp (Copenhagen, DK)

P742  ATOMIC feasibility study: Using wearable technology with a theory-informed physical activity promotion program in youth with MS  
E.A. Yeh (Toronto, CA)

P743  Determinants of quality of life in paediatric- and adult-onset multiple sclerosis: A nationwide cohort study  
K.A. McKay (Stockholm, SE)

P744  Paediatric Patients with Multiple Sclerosis: Effect of Fingolimod on Lymphocyte Counts and its Relationship with Infection from the PARADIGMS Study  
T. Chitnis (Boston, US)

P745  Advanced MRI to Evaluate Remyelination in Pediatric Multiple Sclerosis by Q-Space Myelin Map - an exploratory study  
D.K. Sato (Porto Alegre, BR)

P746  Paediatric primary progressive multiple sclerosis: fact or fiction?  
O. Abdel-mannan (London, UK)

P747  Alemtuzumab as exit strategy of choice for natalizumab-treated pediatric onset multiple sclerosis patients  
M. Margoni (Padua, IT)

P748  Demographic and clinical aspects of pediatric-onset multiple sclerosis in Turkey  
Y. Şimşek (Izmir, TR)

P749  The MS Atlas - A molecular map of brain lesion stages in secondary progressive MS  
T. Frisch (Odense, DK)

P750  Efficacy of Siponimod in Secondary Progressive Multiple Sclerosis Patients with Active Disease: The EXPAND Study Subgroup Analysis  
R. Gold (Bochum, DE)

P751  Progression Independent of Relapse Activity (PIRA) in relapsing-remitting multiple sclerosis patients on first-line immunomodulatory treatment with fingolimod vs. platform injectables  
V. von Wyl (Zurich, CH)

P752  Disease activity has a significant impact in progression of Primary Progressive Multiple Sclerosis  
M. Marrodan (Buenos Aires, AR)
Scientific Programme

P753  The Canadian Prospective Cohort (CanProCo) Study to Understand Progression in Multiple Sclerosis: Rationale, Aims, and Study Design
J. Oh (Toronto, CA)

P754  Patient Reported Outcomes and Performance Measures at Secondary Progressive Multiple Sclerosis Diagnosis
D. Conway (Cleveland, US)

P755  Systematic mapping of the global educational offerings for multiple sclerosis patients on the topic of disease progression
T. Bharadia (London, UK)

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<td>Neurovascular reactivity after Fingolimod treatment in patients with MS</td>
<td>G. Tekgol (Eskişehir, TR)</td>
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<td>Cladribine tablets versus other disease-modifying oral treatments in multiple sclerosis (MS) in achieving no evidence of radiological and clinical disease activity (NEDA) - network meta-analysis (NMA)</td>
<td>H. Bartosik-Psujek (Rzeszow, PL)</td>
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<td>P1071</td>
<td>Nurse-led immunotreatment DEcision Coaching In people with Multiple</td>
<td>A.C. Rahn (Hamburg, DE)</td>
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<td>Sclerosis (DECIMS) - cluster randomised controlled trial and process</td>
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<td>P1072</td>
<td>Evaluation of a comprehensive rehabilitative programme on quality of</td>
<td>V. Karthikeayan (Liverpool, UK)</td>
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<td>life, disease impact and symptomatic control in Persons with Multiple</td>
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<td>P1073</td>
<td>Deteriorations in trunk control, dexterity and functionality in patients with multiple sclerosis: A 3 years follow-up study</td>
<td>N. Cetisli Korkmaz (Denizli, TR)</td>
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<td>P1074</td>
<td>Goals set by people with multiple sclerosis participating in fatigue</td>
<td>S. Askari (Kingston, CA)</td>
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<td>P1075</td>
<td>Cognitive Estimation Test and abstract reasoning in mild MS patients:</td>
<td>M. Fratino (Roma, IT)</td>
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<td>P1076</td>
<td>'It's like a disconnect'- Understanding sensorimotor integration as an</td>
<td>M.C. Kirkland (St. John's, CA)</td>
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<td>invisible impairment in people with multiple sclerosis with low disability</td>
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<td>P1077</td>
<td>Greater trochanteric pain syndrome and multiple sclerosis: prevalence</td>
<td>C. Donzé (Lille, FR)</td>
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<td>P1078</td>
<td>MRI-based measures of motor system explain clinical measures of limb</td>
<td>R. Bonacchi (Milan, IT)</td>
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<td>P1079</td>
<td>The impact of cortical sensorimotor white matter lesions on hand</td>
<td>W.O. Laslisi (St. John's, CA)</td>
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<td>P1080</td>
<td>Computer-assisted cognitive rehabilitation increases regulatory B cell</td>
<td>E. Tuzun (Istanbul, TR)</td>
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<td>ratios in the peripheral blood</td>
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<td>P1031</td>
<td>Long-term safety and efficacy of ozanimod in relapsing multiple</td>
<td>L. Steinman (Standford, US)</td>
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<td>sclerosis: results from the DAYBREAK open-label extension study</td>
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Satellite Symposium, Hall A

18:15 - 19:15

Satellite Symposium 8
Scientific Programme

18:15 - 19:15 Satellite Symposium 9
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Friday, 13 September 2019

07:30 - 08:30  Satellite Symposium, Hall D

Satellite Symposium 10

08:30 - 10:00  Scientific Session, Hall A

Scientific Session 11: Registry-based MS research

Chairs
K.-M. Myhr (Bergen, NO)
M. Trojano (Bari, IT)

08:30 - 08:50  270  Infection studies in registry-based MS research
S. Montgomery (Stockholm, SE)

08:50 - 09:10  271  What registries reveal on child onset MS
M. Magyari (Copenhagen, DK)

Platform presentations of related original papers

F. Piehl (Stockholm, SE)

09:22 - 09:34  273  Disability progression unrelated to relapses in relapsing-remitting multiple sclerosis: Insights from the Swiss multiple sclerosis cohort study
J. Lorscheider (Basel, CH)

09:34 - 09:46  274  Excess mortality in patients with relapsing-onset multiple sclerosis depends on age rather than disease duration: new insights from an innovative flexible model applied on French OFSEP data ('Observatoire Français de la Sclérose en Plaques')
E. Leray (Rennes, FR)

09:46 - 09:58  275  Excess mortality of people suffering from multiple sclerosis in Germany
P. Albrecht (Düsseldorf, DE)

08:30 - 10:00  Scientific Session, Hall B

Scientific Session 12: Immunopathogenesis and antigen-specific therapies

Chairs
E. Iacobaeus (Stockholm, SE)
F. Zipp (Mainz, DE)
## Scientific Programme

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<td>08:30 - 08:50</td>
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<td>Antigenspecific MS treatment revisited - recent development and prospects</td>
<td>R. Martin (Zurich, CH)</td>
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<td>08:50 - 09:10</td>
<td>277</td>
<td>A future for antigenspecific immunotherapy for multiple sclerosis</td>
<td>D. Wraith (Birmingham, UK)</td>
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<td>09:10 - 09:22</td>
<td>278</td>
<td>Specialized pro-resolving lipid mediator production in the cerebrospinal fluid is impaired in multiple sclerosis: implications for its pathogenesis and therapy</td>
<td>G. Kooij (Amsterdam, NL)</td>
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<td>09:22 - 09:34</td>
<td>279</td>
<td>Arginase 1- expressing myeloid cells regulate Th17- mediated EAE</td>
<td>J. Atkinson (Ann Arbor, US)</td>
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<td>09:34 - 09:46</td>
<td>280</td>
<td>Myelin-specific CD8+ T cells exhibit a unique activated phenotype and are depleted by anti-CD20 therapy</td>
<td>J. Sabatino (San Francisco, US)</td>
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<td>09:46 - 09:58</td>
<td>281</td>
<td>High dose vitamin D worsens experimental CNS autoimmune disease by raising T cell- excitatory calcium</td>
<td>D. Häusler (Goettingen, DE)</td>
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**Scientific Session, Hall C**

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<tr>
<td>08:30 - 08:50</td>
<td>282</td>
<td>Moving from CSF to blood: monitoring disease activity in MS using serum neurofilament light protein</td>
<td>J. Lycke (Gothenburg, SE)</td>
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<td>08:50 - 09:10</td>
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<td>OCT as a prognostic marker</td>
<td>P. Calabresi (Baltimore, US)</td>
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<td>09:10 - 09:22</td>
<td>284</td>
<td>Serum neurofilament light chain as a presymptomatic biomarker in multiple sclerosis</td>
<td>K. Bjornevik (Boston, US)</td>
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<td>09:22 - 09:34</td>
<td>285</td>
<td>Serum neurofilament light chain levels correlate with peripapillary retinal nerve fibre layer thinning as measured by optical coherence tomography in multiple sclerosis</td>
<td>G. Bsteh (Vienna, AT)</td>
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</table>
Markers of glial processes and axonal damage in CSF and serum help to differentiate between relapsing-remitting and progressive forms of MS
A. Huss (Ulm, DE)

Soluble CD27 a biomarker of T cell activity in intrathecal inflammation in patients with relapsing-remitting multiple sclerosis
M.T. Cencioni (London, UK)

Scientific Session, Hall D
08:30 - 10:00
Scientific Session 14: Socioeconomic outcomes in MS

Burden and cost of multiple sclerosis
G. Kobelt (Stockholm, SE)

Socioeconomy - accessible and valid outcome measures in MS
J. Hillert (Stockholm, SE)

The economic impact of multiple sclerosis: a preliminary look at the North American registry for care and research in multiple sclerosis
Y. Mao-Draayer (Ann Arbor, US)

Real-world evidence on the influence of relapses and relapse associated progression on societal economic costs in patients with multiple sclerosis
N.-H. Ness (Dresden, DE)

Health service utilization in immigrants compared to long-term residents with MS in Ontario, Canada
D. Rotstein (Toronto, CA)

Identifying disability level in multiple sclerosis patients in a U.S.-based health plan claims database
R. Berkovich (Los Angeles, US)

Educational Session, Hall E
08:30 - 10:00
Educational Session 23: Radiologically Isolated Syndrome (RIS): incidental MRI findings or subclinical MS?

Level: Basic
(Basic = neurologists in training, non MS-specialists / Intermediate = board examined neurologists / Advanced = MS specialists)

Chairs
N. De Stefano (Siena, IT)
C. Lebrun (Nice, FR)
Scientific Programme

08:30 - 09:00  294  RIS: just incidental MRI findings or a real disease entity?
D. Okuda (Dallas, US)

09:00 - 09:30  295  Can we diagnose subclinical MS?
N. De Stefano (Siena, IT)

09:30 - 10:00  296  The management of RIS
C. Lebrun (Nice, FR)

Educational Session, Hall F

08:30 - 10:00  Educational Session 24: Pathology of MS
Level: Advanced
(Basic = neurologists in training, non MS-specialists / Intermediate = board examined neurologists / Advanced = MS specialists)

Chairs
H. Lassmann (Wien, AT)
O. Howell (Swansee, UK)

08:30 - 09:00  297  The inflammatory response in the MS brain: implications for pathogenesis and therapy
H. Lassmann (Wien, AT)

09:00 - 09:30  298  The spectrum of cortical pathology in the MS brain: when, where and why
O. Howell (Swansee, UK)

09:30 - 10:00  299  Pathological correlates of 7T MRI: how far can we image MS pathology in the living patient
S. Hametner (Vienna, AT)

Scientific Session, Hall A

10:30 - 12:00  Scientific Session 15: How to optimise long term benefit of MS treatment, therapeutic strategy

Chairs
T. Ziemssen (Dresden, DE)
E. Kingwell (Vancouver, CA)

10:30 - 10:50  300  Why induction therapy is the preferred principle over treatment escalation
A.J. Coles (Cambridge, UK)

10:50 - 11:10  301  Why escalation therapy is the preferred principle over treatment induction
E. Waubant (San Francisco, US)

platform presentations of related original papers
Scientific Programme

11:10 - 11:22  302  Age at disease onset and clinical outcomes in patients with multiple sclerosis on immunomodulatory treatment
V. von Wyl (Zurich, CH)

11:22 - 11:34  303  Exposure to disease modifying drugs reduces disability progression in pediatric-, adult- and late-onset relapsing multiple sclerosis: real world data from the early multiple sclerosis Italian cohort (E-MUSIC)
M. Fonderico (Florence, IT)

11:34 - 11:46  304  Predicting long-term sustained disability progression in multiple sclerosis
S. Sharmin (Melbourne, AU)

11:46 - 11:58  305  Treatment response scoring systems to assess long term prognosis in relapsing-remitting multiple sclerosis patients
J. Rio (Barcelona, ES)

10:30 - 12:00  Scientific Session, Hall B
Scientific Session 16: Quantitative imaging biomarkers
Chairs
T. Granberg (Stockholm, SE)
C. Granziera (Basel, CH)

10:30 - 10:50  306  Quantification and interpretation of brain atrophy in MS
N. De Stefano (Siena, IT)

10:50 - 11:10  307  Quantitative MRI and imaging biomarkers of the spinal cord in MS
O. Ciccarelli (London, UK)

11:10 - 11:22  308  Can post-mortem MRI be used as a proxy for in-vivo?
M.D. Steenwijk (Amsterdam, NL)

11:22 - 11:34  309  Modeling the effect of white matter lesions on grey matter atrophy in MS based on data from the human connectome project
M. Bussas (München, DE)

11:34 - 11:46  310  In vivo characterization of cortical lesion demyelination and remyelination in early multiple sclerosis by quantitative 7 Tesla MRI
V. Barletta (Boston, US)

11:46 - 11:58  311  In-vivo mapping of thalamic pathological mechanisms in pediatric patients with MS
E. De Meo (Milan, IT)
Scientific Programme

Scientific Session, Hall C

10:30 - 12:00

**ECTRIMS - EAN Session: Emerging concepts of relapsing and progressive MS**

**Chairs**
C. Enzinger (Graz, AT)
M.P. Amato (Florence, IT)

10:30 - 11:00

312  The contribution of relapses to progression - what do we learn from biomarker studies?
L. Kappos (Basel, CH)

11:00 - 11:30

313  Assessing and understanding relapse independent progression in different disease stages
G. Comi (Milan, IT)

11:30 - 12:00

314  MRI measures of neuroinflammation and neurodegeneration
M.A. Rocca (Milan, IT)

Scientific Session, Hall D

10:30 - 12:00

**Scientific Session RIMS 3: Rehabilitation: one size doesn’t fit all**

**Chairs**
S. Coote (Limerick, IR)
V. de Groot (Amsterdam, NL)

10:30 - 10:50

315  Patient centered approach in rehabilitation
D. Kos (Leuven, BE)

10:50 - 11:10

316  Wearable technology: how can we use it to measure and improve functioning in MS
G. Brichetto (Genoa, IT)

11:10 - 11:22

317  Perceived fatigue is a barrier to physical activity participation in people with multiple sclerosis and minimal disability
L. Frid (Tel-Hashomer, IL)

11:22 - 11:34

318  Effect of continuous positive airway pressure treatment of obstructive sleep apnea-hypopnea on fatigue in multiple sclerosis: a randomized, placebo-controlled trial (SAMS-PAP study)
D. Trojan (Montreal, CA)

11:34 - 11:46

319  Psychosocial explanatory factors of balance confidence in persons with multiple sclerosis
Z. Abasiyanik (Izmir, TR)

11:46 - 11:58

M. Wilski (Poznan, PL)
Scientific Programme

Educational Session, Hall E

10:30 - 12:00

**Educational Session 25: Preventing, monitoring and managing infectious complications of MS therapies**

Level: Basic
(Basic = neurologists in training, non MS-specialists / Intermediate = board examined neurologists / Advanced = MS specialists)

**Chairs**
A. Vidal-Jordana (Barcelona, ES)
L. Prosperini (Rome, IT)

10:30 - 11:00  321  Prevention of infectious complications of MS therapies
A. Vidal-Jordana (Barcelona, ES)

11:00 - 11:30  322  Monitoring MS therapies to rapidly detect infectious complications
L. Prosperini (Rome, IT)

11:30 - 12:00  323  Managing infectious complications of MS therapies
E. Ciampi (Santiago, CL)

Educational Session, Hall F

10:30 - 12:00

**Educational Session 26: Which remyelination strategies are most promising?**

Level: Advanced
(Basic = neurologists in training, non MS-specialists / Intermediate = board examined neurologists / Advanced = MS specialists)

**Chairs**
M. Simons (Munich, DE)
G. Castelo-Branco (Stockholm, SE)

10:30 - 11:00  324  Remyelination: insights from mouse models and transcriptomic studies
G. Castelo-Branco (Stockholm, SE)

11:00 - 11:30  325  Remyelination: insights from human neuropathology
C. Stadelmann (Göttingen, DE)

11:30 - 12:00  326  Remyelination: molecular mechanisms and therapeutic developments
M. Simons (Munich, DE)
Scientific Programme

12:00 - 13:00

Google Hangout

A google hangout broadcast from ECTRIMS with Barts MS researchers with people with MS sharing highlights from the meeting.

View the livestream on the BartsMS YouTube page!

Chairs
R. Aldam (London, UK)
M. Marta (London, UK)

12:00 - 13:00

ECTRIMS 2019 Highlights

D. Baker (London, UK)
S. Gnanapavan (London, UK)

12:15 - 14:15

Poster Sessions, Poster Exhibition

Poster Session 3

P1081 Validation of the multiple sclerosis diagnosis codes of patients aged 16-64 years recorded in the Swedish National Patient Register in 2001-2013 by two sequential register-based case-definition algorithms
C. Murley (Stockholm, SE)

P1082 Visual Evoked Potentials Improve the Prediction of Multiple Sclerosis in Patients with Clinically Isolated Syndromes
G. Dalla Costa (Milan, IT)

P1083 Multiple sclerosis misdiagnosis in a reference MS center in Argentina
M.I. Gaitán (Buenos Aires, AR)

P1084 Screening for differential diagnoses in MS: evaluation of inclusion criteria for extensive diagnostic workup
R. Schmidt (Leipzig, DE)

P1085 18F-3,4-dihydroxyphenylalanine positron emission tomography features in brain tumefactive demyelinating lesions
E. Sbragia (Genoa, IT)

P1086 CSF kappa free light chains detection: comparison with oligoclonal bands in Multiple Sclerosis diagnosis
A. Sala (Orbassano (TO), IT)

P1087 Should we systematically test patients with clinically isolated syndrome for HIV, borrelia and syphilis?
B. Rodríguez-Acevedo (Barcelona, ES)

P1088 Multiple sclerosis and fabry Disease, overlooked in the differential diagnosis of multiple sclerosis? in Turkish population
S. Guler (Edirne, TR)

P1089 Hemorrhagic Longitudinally Extensive Transverse Myelitis: Characteristic Features and Long-term Follow-up
E. Yilmaz (Ankara, TR)
P1090  Physicians’ perspectives on the identification and diagnosis of secondary progressive multiple sclerosis during the clinical encounter  
T. Vollmer (Denver, US)

P1091  Long-term outcome of pregnant women with neuromyelitis optica spectrum disorder  
S.-H. Kim (Goyang, KR)

P1092  Distinction of double seronegative neuromyelitis optica spectrum disease from AQP4-IgG seropositive and MOG-IgG seropositive cases in Asian patients  
H.W. Kim (Seoul, KR)

P1093  Cervical Cord Atrophy in AQP4-Ab NMOSD, MOG-Ab Disease & MS  
R. Mariano (Oxford, UK)

P1094  Causes of death in AQP4-IgG neuromyelitis optica spectrum disorder (NMOSD) in the United Kingdom NMOSD Service  
E. Gibbons (Liverpool, UK)

P1095  The emerging role of T cells in NMOSD disease pathogenesis  
M. Lindner (Münster, DE)

P1096  Blood-brain barrier-activation in anti-myelin oligodendrocyte glycoprotein antibody associated disorders  
F. Shimizu (Ube, JP)

P1097  Characterization of B cell subset changes following treatment of Neuromyelitis Optica Spectrum Disorder with inebilizumab: Results from the N-MOmentum study randomized control period  
J.L. Bennett (Aurora, US)

P1098  Late-onset multiple sclerosis: is it a rare entity?  
I. Sereike (Vilnius, LT)

P1099  Brain histopathological study and prognosis in two patients with MOG-antibody-associated demyelinating pseudotumor  
Y. Shu (Guangzhou, CN)

P1100  Stroke-like presentation of Baló’s Concentric Sclerosis and fatal outcome in a patient with Common Variable Immunodeficiency  
R.B. Thomaz (São Paulo, BR)

P1101  Brain magnetic resonance imaging features in MS and neuromyelitis optica spectrum disorders (NMOSD) patients with or without aquaporin-4 antibody in a Latin American population  
F. Silveira (Buenos Aires, AR)

P1102  Retrospective analysis of chronic relapsing inflammatory optic neuropathy  
A. Thuringer (Kansas City, US)

P1103  Diagnostic procedures in suspected attacks in patients with neuromyelitis optica spectrum disorders: results of an international survey  
M. D'Souza (Basel, CH)
P1104  Clinicoradiological features of the cerebellum in Japanese cohorts of MS and NMOSD  
T. Wakasugi (Niigata, JP)

P1105  Children with a first demyelination syndrome: the importance of applying the 2017 McDonald criteria together with biomarkers  
T. Armangue (Barcelona, ES)

P1106  Recovery of pediatric patients after first multiple sclerosis relapse is associated with suppression of antigen presenting mechanism  
M. Gurevich (Ramat-Gan, IL)

P1107  Contribution of Age to Severity of First Multiple Sclerosis Relapse and Short-term Clinical Outcome  
M. Gurevich (Ramat-Gan, IL)

P1108  Long-term follow up of an Italian cohort of pediatric Multiple Sclerosis patients: real world data from San Raffaele Hospital  
C. Zanetta (Milan, IT)

P1109  No evidence of disease activity including cognitive evaluation (NEDA-3 plus status) in naïve pediatric multiple sclerosis patients treated with natalizumab for 2-years: a longitudinal prospective study  
M. Margoni (Padua, IT)

P1110  White matter lesion volume is correlated with changes in thalamic volume in proximity to the white matter interface but not in proximity to the CSF interface in pediatric MS  
G. Fadda (Philadelphia, US)

P1111  Clinical predictors of relapse in children with the first demyelinating event  
K. Nevmerzhitskaya (Ekaterinburg, RU)

P1112  Seamless phase II-III adaptive trial design elements for progressive MS: Neurofilament light chain (phase II/interim endpoint), phase III endpoints and patient populations  
D.R. Lieberman (London, UK)

P1113  Microglial activation associates with previous relapse activity in a cohort of relapsing-remitting multiple sclerosis patients at risk of progression  
S. Laaksonen (Turku, FI)

P1114  A Population-based Comparison of Cervical Spine Corticospinal Tract Lesions in Benign and Secondary Progressive MS  
E. Sechi (Rochester, US)

P1115  Positive behavioral impact of high dose Pharmaceutical grade Biotin, MD1003, in mitochondrial mutant mice with neuron-specific respiratory deficiency  
D.J. Mahad (Edinburgh, UK)

P1116  Leptomeningeal enhancement is common in progressive Multiple Sclerosis patients in 1.5T MRI and correlates with age and disease progression  
M. Vercellino (Torino, IT)
Scientific Programme

P1117  The Delay In Diagnosing Secondary Progressive Multiple Sclerosis (SPMS) in Relapsing Remitting Multiple Sclerosis (RRMS) Patients Who Show Potential Signs Of Progression in Europe and the United States
J. White (London, UK)

P1118  The impact of pain and lower limb spasticity to functionality and quality of life in patients with progressive forms of Multiple Sclerosis
S. Rodic (Belgrade, RS)

P1119  Thirty years outcomes of 2295 patients with relapsing at onset multiple sclerosis and low disability ten years after diagnosis: a population-based observational study
G. Mathey (Nancy, FR)

P1120  Understanding disability trajectories in a contemporary multiple sclerosis cohort using multistate models
K. Harding (Newport, UK)

P1121  Aging with MS - physical and mental function in women with MS compared to non-affected peers in two US cohorts
M. Cortese (Boston, US)

P1122  Aggressive form of multiple sclerosis can be predicted early after disease onset
C.B. Malpas (Melbourne, AU)

P1123  Ageing with MS: a cross sectional study
D. Michelis (Genova, IT)

P1124  Fatigue, sleep disorders, anaemia and pain in the five years preceding the first demyelinating event or onset of multiple sclerosis
F. Yusuf (Vancouver, CA)

P1125  Comparing DMT and non-DMT adherence in a population-based multiple sclerosis cohort
C. Evans (Saskatoon, CA)

P1126  Epidemiology of multiple sclerosis and neuromyelitis optica spectrum disorder in South Korea
J.-H. Min (Seoul, KR)

P1127  Relationship between environment and genetic factors with MS risk in Spain
P. Urbaneja-Romero (Málaga, ES)

P1128  Description of the living population with multiple sclerosis in the Danish Multiple Sclerosis Registry
M. Magyari (Copenhagen, DK)

P1129  Multiple Sclerosis and awareness In Turkey
S. Demir (Istanbul, TR)

P1130  Temporal trends in the diagnosis of neuromyelitis optica spectrum disorder in US claims databases from 2001-2017
C. Costantino (Basel, CH)
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<td>The North American Registry for Care and Research in Multiple Sclerosis</td>
<td>K. Rammohan (Miami, US)</td>
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<td>P1132</td>
<td>Who are we missing? Barriers to recruitment and participation in MS physical rehabilitation research</td>
<td>R. Pretty (St. John’s, CA)</td>
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<td>P1133</td>
<td>Positive history of diseases and risk factors in neuromyelitis optica spectrum disorder: a case-control study</td>
<td>A.N. Moghadasi (Tehran, IR)</td>
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<td>Economic sanctions threaten MS patient’s health in Iran</td>
<td>A.N. Moghadasi (Tehran, IR)</td>
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<td>P1135</td>
<td>Hormonal and delivery risk factors among females in neuromyelitis optica spectrum disorder: case-control study</td>
<td>A.N. Moghadasi (Tehran, IR)</td>
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<td>P1136</td>
<td>Multiple sclerosis clinic utilization is associated with reduced emergency department visits in Alberta</td>
<td>J.I. Roberts (Calgary, CA)</td>
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<td>P1137</td>
<td>Demographics and clinical characteristics of Neuromyelitis Optica and Neuromyelitis Optica Spectrum Disorder in Egypt: First retrospective longitudinal study in a tertiary referral centre</td>
<td>N. Kishk (Cairo, EG)</td>
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<td>False fear from Influenza vaccine complications contributes to vaccine hesitancy and requires urgent attention in Multiple Sclerosis patients. A case-control study</td>
<td>M. Quezada (Leon, MX)</td>
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<td>Clinical factors of conversion to progressive phase in relapsing-remitting multiple sclerosis patients within 11 years</td>
<td>N. Derache (Caen Cedex 9, FR)</td>
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<td>Baseline and longitudinal sex differences in 2465 patients in the placebo arms of pivotal trials for MS (MSOAC)</td>
<td>R. Bove (San Francisco, US)</td>
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<td>Early menopause or being nulligravid is associated with earlier evolution of progressive MS</td>
<td>B. Zeydan (Rochester, US)</td>
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K. Kapica-Topczewska (Bialystok, PL)

P1413 Extended interval dosing and reduced dose of natalizumab in a Portuguese population
P. Marques (Coimbra, PT)

P1414 Optimizing a Center’s post-marketing experience with an infusible treatment: ocrelizumab for MS
R. Bove (San Francisco, US)

P1415 Disease control beyond NEDA: The value of non-clinical disease activity measures to determine treatment response to natalizumab
P. Calabresi (Baltimore, US)

P1416 Assessment and follow-up of the response to disease modifying treatments in Multiple Sclerosis: Spanish expert consensus
J. Rio (Barcelona, ES)

P1417 Effect of Interferon β-1a Treatment on Serum Neurofilament Light Chain Levels in Patients with a First Clinical Demyelinating Event in the REFLEX trial
J. Kuhle (Basel, CH)

P1418 Comparative effectiveness of natalizumab and fingolimod in different subgroups of patients with relapsing-remitting multiple sclerosis
S. Sharmin (Melbourne, AU)

P1419 Personalizing treatment effect based on patient’s baseline profile: A statistical modelling approach applied to randomized clinical trial and observational study data
F. Bovis (Genoa, IT)

P1420 Assessing the duration of EDSS improvement after a therapy start: a new statistical approach applied to the long term extension of the PRISMS study
A. Signori (Genoa, IT)

P1421 Modifiers of the effectiveness of MS immunotherapies
T. Kalincik (Melbourne, AU)

P1422 Prognostic parameters of medium-term response to fingolimod treatment in Relapsing Remitting Multiple Sclerosis patients
L. Ferrè (Milan, IT)

P1423 Higher Sensitivity of Quantitative Reverse Transcriptase Polymerase Chain Reaction Compared to Flow Cytometry for Quantification of B cells after Anti-CD20 Monoclonal Antibody Therapy
I. Touil Allaoui (Basel, CH)

P1424 Phase 3 randomized, controlled trial of methylphenidate, modafinil and amantadine for MS fatigue (TRIUMPHANT-MS): Baseline data
B. Nourbakhsh (Baltimore, US)
Scientific Programme

P1425 Use and perceived benefit of complementary and alternative therapies for multiple sclerosis in the Western United States: a 17-year update
E. Silbermann (Portland, US)

P1426 Non-pharmacological intervention trial for the management of neuropsychological deficits in patients with progressive multiple sclerosis
S.J. Baetge (Düsseldorf, DE)

P1427 Use and impacts of cannabis for therapeutic purposes by patients with multiple sclerosis in France and Spain - Results from an online patient community
T. Verjus (Paris, FR)

P1428 A real-world study of Alemtuzumab in a cohort of Italian patients
F. Saccà (Napoli, IT)

P1429 Therapeutic plasma exchange in steroid refractory MS relapses. A retrospective multicenter cohort study
S. Blechinger (Vienna, AT)

P1430 Computer Assisted Cognitive training improves neuropsychological functions and cognitive fatigue in patients with Secondary Progressive Multiple Sclerosis: A randomized controlled trial
C. Bakirtzis (Thessaloniki, GR)

P1431 PHREND©: external validation of model to predict individual efficacy of disease modifying therapies (DMT) in relapsing-remitting multiple sclerosis (RRMS)
S. Braune (Prien, DE)

P1432 Gene expression profiles of proteins involved in Cladribine metabolism in peripheral blood of multiple sclerosis patients
R. Mechelli (Rome, IT)

P1433 High-efficacy disease-modifying therapies despite clinical stability: the role of patients on treatment decisions (PERCEPTIONS-MS Study)
G. Saposnik (Toronto, CA)

P1434 Evaluation of a shared decision-making process in MS
I. González-Suárez (Vigo, ES)

P1435 Intravenous Transplantation of autologous Bone Marrow Derived Mesenchymal stromal cell (BM-MSCs) in Patients with Multiple Sclerosis, A Phase I/II, Double Blinded, Randomized, Cross Clinical Trial
S.M. Nabavi (Tehran, IR)

P1436 Frequency and pitfalls of the use of vitamins and dietary supplements in MS patients
K. Pape (Mainz, DE)

P1437 Examining the relationship between Communicative Participation & psycho-social outcomes in adults with MS
A. Flaster (Seattle, US)
Scientific Programme

P1438 How gait abilities impact amount and intensity of physical activity in people with Multiple Sclerosis? A quantitative study
M. Pau (Cagliari, IT)

P1439 Memory retraining in MS: lessons from healthy aging, MCI and Alzheimer's disease
P.M. Bouman (Amsterdam, NL)

P1440 Improvements in balance control for multiple sclerosis patients with vibro-tactile biofeedback of trunk sway
Ö. Yaldızlı (Basel, CH)

P1441 Use of cannabis based products in patients with progressive multiple sclerosis in South West Wales
G. Ingram (Swansea, UK)

P1442 Motor Skill Acquisition through Virtual Reality in People with Multiple Sclerosis: The Impact of Subjective and Objective Sleep Quality measures
A. Al-Sharman (Irbid, JO)

P1443 Cortical M1 plasticity and metaplasticity in patients with Multiple Sclerosis
M. Tartaglia (Rome, IT)

Satellite Symposium, Hall A
13:00 - 14:00
Satellite Symposium 11

Satellite Symposium, Hall C
13:00 - 14:00
Satellite Symposium 12

Scientific Session, Hall A
14:15 - 15:30
Scientific Session 17: Late Breaking News

Chairs
T. Derfuss (Basel, CH)
M. Zeineddine (Beirut, LB)

14:15 - 14:27 336 Title to be announced
14:27 - 14:39 337 Title to be announced
14:39 - 14:51 338 Title to be announced
14:51 - 15:03 339 Title to be announced
15:03 - 15:15 340 Title to be announced
15:15 - 15:27 341 Title to be announced
Scientific Programme

Plenary Session, Hall A

16:00 - 18:00

**Plenary Session 2 - ECTRIMS Awards, ECTRIMS Honorary Members, Charcot Lecture and ECTRIMS 2019 Highlights**

**Chairs**
- M.P. Amato (Florence, IT)
- B. Hemmer (Munich, DE)
- J. Hillert (Stockholm, SE)

16:00 - 16:45

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Presentation of selected poster awards, awards for best oral presentations by young researchers, awards for best RIMS poster and best RIMS oral presentation, the MSIF award as well announcement of ECTRIMS Honorary Members

16:45 - 17:15

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Charcot Lecture

17:15 - 17:35

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**Scientific highlights**
- A.E. Miller (New York, US)
- C. Lubetzki (Paris, FR)

17:35 - 17:55

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**Clinical highlights**
- C.A. Young (Liverpool, UK)
- A. Şiva (Istanbul, TR)

17:55 - 18:00

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**Welcome to MSWashingtonDC2020**