30th International Symposium on ALS/MND

Perth Australia
4 – 6 December 2019

Programme

Hosts:
MND Australia, in partnership with MND WA

Organised by the Motor Neurone Disease Association in co-operation with the International Alliance of ALS/MND Associations
CME Accreditation

The 30th International Symposium on ALS/MND has been approved by the Federation of the Royal College of Physicians of the United Kingdom for 18 category 1 (external) CPD credit(s).

The 30th International Symposium on ALS/MND, Perth, Australia, 4 December 2019 – 6 December 2019 has been accredited by the European Accreditation Council for Continuing Medical Education (EACCME®) with 13 European CME credits (ECMEC®s). Each medical specialist should claim only those hours of credit that he/she actually spent in the educational activity.

Through an agreement between the Union Européenne des Médecins Spécialistes and the American Medical Association, physicians may convert EACCME® credits to an equivalent number of AMA PRA Category 1 Credits™. Information on the process to convert EACCME® credit to AMA credit can be found at www.ama-assn.org/education/earn-credit-participation-international-activities.

Live educational activities, occurring outside of Canada, recognised by the UEMS-EACCME® for ECMEC®s are deemed to be Accredited Group Learning Activities (Section 1) as defined by the Maintenance of Certification Program of the Royal College of Physicians and Surgeons of Canada.
Welcome

On behalf of MND Australia and MND Western Australia, I extend a warm welcome to delegates of the 30th International Symposium on ALS/MND, the 27th meeting of the International Alliance of ALS/MND Associations and the 17th Allied Professionals Forum. Much has changed over the last 30 years. The number of people attending the Symposium and the number of platform and poster presentations have increased dramatically, demonstrating a sustained growth in interest and investment in ALS/MND research globally. The breadth of meetings has also grown in response to the urgent need to improve care and support and accelerate access to clinical trials as the search for an end to ALS/MND continues.

MND Australia and its members, the State MND Associations, form the only national network focused on improving the lives of all Australians living with motor neurone disease (MND). For over 35 years this national network has helped increase understanding of the disease and advocate for improvements in its treatment and care to ensure people living with MND have the best quality-of-life possible. Investment in research is a priority, and through the MND Research Institute of Australia, the research arm of MND Australia, over the last 32 years more than $32 million donated by the Australian community has been invested in research with the greatest chance of realising our collective vision of a world without MND.

This year’s program clearly demonstrates the fruits of investment in research, the commitment to improving the lives of people living with ALS/MND and the depth and breadth of research efforts globally. Now is a time of great hope for the ALS/MND community and it is with this in mind that we extend a special welcome to people living with ALS/MND to the meetings in Perth and look forward to their contributions, questions and insights.

The International Symposium on ALS/MND is quite unique in bringing together researchers, clinicians, health professionals, ALS/MND associations and people living with ALS/MND. We hope that the Perth sunshine and Aussie hospitality will foster further collaborations, sharing of knowledge, innovations and new ideas. We hope that you will be inspired and motivated to continue the work you do to improve the lives of people living with ALS/MND and to share what you have learned with your colleagues on your return home. Together we will defeat ALS/MND.

Perth is Australia’s sunniest city and easy to get around so please enjoy your time with us and take time out of the busy schedule to explore and experience all Perth, and its surrounds, has to offer.

Carol Birks
CEO, MND Australia

Foreword

A warm welcome to the 30th International Symposium on ALS/MND, in the wonderful city of Perth, for what has become the most important event of the year for researchers and clinicians working in the field of motor neuron disease.

The most notable scientific discovery to have come out of Western Australia is the famous Nobel Prize winning observation by Barry Marshall and Robin Warren that peptic ulcers are caused by a bacterium, H pylori. The story demonstrates the importance of how radical new hypotheses can change medicine, but also the importance of rigorous scientific methods to overcome established orthodoxy. Finding effective treatments for ALS/MND is a challenging problem but we are making progress through science.

Each year the Program Committee has the difficult task of selecting invited speakers and choosing platform presentations from the submitted abstracts. The good news is that the task gets more difficult each year, because the quality of scientific work in ALS/MND is increasing dramatically. Nowhere is this more evident than in Australia, a country that consistently achieves more platform presentations than would be expected on the basis of population size.

Many areas of medicine have progressed to a phase of personalised therapeutics, where treatment is based on stratification by individual risk factors. At this meeting we have plenary sessions on design of precision DNA-based therapies and platform presentations on antisense and viral mediated reduction in SOD1 levels, demonstrating that precision medicine is now beginning in ALS. There are also several sessions highlighting the key developments in care that are changing practice and improving the wellbeing of people living with the disease. As always, the Symposium provides renewed hope to bring home to our clinics and laboratories.

Kevin Talbot
Programme Committee Chair
Wednesday 4 December 2019

SESSION 1
RIVERSIDE THEATRE

JOINT OPENING SESSION

Chairs: S Light (UK) K Talbot (UK)

08.30 – 08.35
Welcome – S Light (UK) and K Talbot (UK)

08.35 – 08.45
Welcome from Host Association/Welcome to Country ceremony
D Ali/O Whalley

08.45 – 09.20
C1 Glymphatic system dysfunction as a driver of protein mis-aggregation in neurodegenerative disease
J Iliff (USA)

09.20 – 09.55
C2 The biomarker challenge: What is it and are we nearly there?
M Turner (UK)

09.55 – 10.05
International Alliance Humanitarian Award

10.05 – 10.25
IPG Award and winner’s research presentation

10.30 – 11.00
REFRESHMENTS, NETWORKING AND EXHIBITORS:
Riverside Theatre Foyer
### SESSION 2A
**BELLEVUE BALLROOM 2**

#### PROTEOSTASIS / PROTEOTOXICITY

**Chairs:** J Atkin (Australia) J Robertson (Canada)

**11.00 – 11.30**
**C3** The fine balance of proteostasis and its implications for ALS  
J Yerbury (Australia)

**11.30 – 11.45**
**C4** Cytoplasmic TDP-43 alters the solubility and abundance of numerous proteins in ALS/FTD pathology  
T Hedl (Australia)

**11.45 – 12.00**
**C5** Monitoring autophagy dynamics in motor neurons in vivo using a novel reporter mouse model of ALS shows early impairment of autophagy flux  
N Perera (Australia)

**12.00 – 12.15**
**C6** Selective clearance of misfolded SOD1 delays disease onset in animal models of ALS  
J Kong (Canada)

**12.15 – 12.45**
**C7** Non-protein amino acids and neurodegenerative disease  
K Rodgers (Australia)

### SESSION 2B
**RIVERSIDE THEATRE**

#### CLINICAL TRIALS

**Chairs:** L van den Berg (Netherlands) D Rowe (Australia)

**11.00 – 11.30**
**C8** The ALS Platform Trial: Design considerations and statistical efficiencies  
B Saville (USA) and S Paganoni (USA)

**11.30 – 11.50**
**C9** A phase Ib/IIa Open Label trial of MN-166 (ibudilast) in ALS: A biomarker endpoint-based clinical trial  
S Babu (USA)

**11.50 – 12.10**
**C10** Modulation of innate immunity by MSC-NTF cells (NurOwn) correlates with ALS clinical outcomes  
R Kern (Israel)

**12.10 – 12.30**
**C11** Safety, PK, PD and exploratory efficacy in single and multiple dose study of a SOD1 antisense oligonucleotide (tofersen) in participants with ALS  
T Miller (USA)

### SESSION 2C
**MEETING ROOMS 1-3**

#### CLINICAL ELECTROPHYSIOLOGY

**Chairs:** S Vucic (Australia) M de Carvalho (Portugal)

**11.00 – 11.15**
**C12** Novel threshold tracking TMS assessment of trancallosal inhibition identifies potential mechanism for interhemispheric disease spread  
M van den Bos (Australia)

**11.15 – 11.30**
**C13** Cortical hyperexcitability and cognitive dysfunction in ALS  
M Higashihara (Australia)

**11.30 – 11.45**
**C14** Spinal hyperexcitability in ALS is extrinsic to motoneurons  
V Marchand-Pauvert (France)

**11.45 – 12.00**
**C15** Asymmetry of cortical dysfunction identifies regions of onset and relates to clinical heterogeneity in ALS  
T Dharmadasa (Australia)

**12.00 – 12.15**
**C16** Neurophysiological index is associated with the survival of patients with ALS  
B Cao (China)

**12.15 – 12.30**
**C17** The split hand in ALS: A possible role for the neuromuscular junction  
M de Carvalho (Portugal)

**12.30 – 12.45**
**C18** The rise and fall of fasciculations in amyotrophic lateral sclerosis  
J Bashford (UK)

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**12.30 – 14.00**
**LUNCH AND NETWORKING:** Bellevue Ballroom 1/Bellevue Foyer

**EXHIBITORS:** Riverside Theatre Foyer
SESSION 3A
BELLEVUE BALLROOM 2

SYNAPTIC PATHOLOGY
Chairs: L Greensmith (UK)  T Dickson (Australia)

14.00 – 14.30
C19 Neuromuscular degeneration in ALS and SMA
H Nishimune (USA)

14.30 – 14.50
C20 Modeling ALS: Human neuromuscular junctions in a dish
K Dittlau (Belgium)

14.50 – 15.10
C21 Loss of c9orf72: A problem at the synapse?
J Robertson (Canada)

15.10 – 15.30
C22 Can oestrogen protect against the synaptic plasticity deficits that underlie motor cortex dysfunction in ALS?
C Blizzard (Australia)

SESSION 3B
RIVERSIDE THEATRE

DEMOGRAPHICS AND CLINICAL FEATURES
Chairs: C Armon (Israel)  A Chio (Italy)

14.00 – 14.30
C23 ALS: Phenotypes, demographics and clinical management in Asia
N Shahrizaila (Malaysia)

14.30 – 14.50
C24 Prognosis and clinical features of ALS patients in Japan
N Atsuta (Japan)

14.50 – 15.10
C25 ALS in Latin America: A population-based incidence study in three countries
O Hardiman (Ireland)

15.10 – 15.30
C26 How frequent are pauses in ALS progression? Results from a population-based cohort
A Calvo (Italy)

SESSION 3C
MEETING ROOMS 1-3

GENOMICS
Chairs: N Wray (Australia)  A Al-Chalabi (UK)

14.00 – 14.30
C27 Future directions in ALS genomics
N Wray (Australia)

14.30 – 14.45
C28 GWAS in ALS identifies novel loci and insight into the genetic architecture
J Veldink (Netherlands)

14.45 – 15.00
C29 Genome-wide meta-analysis identifies new loci associated with ALS and links body mass index with disease genetics
A Iacoangeli (UK)

15.00 – 15.15
C30 Unbiased genome-wide screen identifies new ALS risk variants within gene-regulatory elements
J Cooper-Knock (UK)

15.15 – 15.30
C31 Computational efficient method to detect genetic interactions associated with age of onset in an ALS genome-wide association study
J Gui (USA)

15.30 – 16.00 REFRESHMENTS, NETWORKING AND EXHIBITORS: Riverside Theatre Foyer

Welcome to Perth
Global Walk to D’Feet:

- 5km walk (wheelchair accessible) along Perth’s picturesque Swan River
- Meet at 18:00 for an 18:15 start at the carousel in Elizabeth Quay

Following the walk, Cytokinetics warmly invites all delegates to join them as they honour and recognise the contributions of advocacy groups worldwide.

Local Australian barbecue and refreshments will be served in the Summer Garden at the Perth Convention and Exhibition Centre from 19:00

- a t-shirt representing your country’s ALS/MND association or your institution (MNDAWA t-shirts will be available to purchase on the day)
- a hat (it’s summer in Perth)
- comfortable walking shoes

18:00 – 20:30 GLOBAL WALK TO D’FEET FOLLOWED BY BARBECUE RECEPTION
Thursday 5 December 2019

SESSION 5A
BELLEVUE BALLROOM 2

TDP-43

Chairs: C Shaw (UK) P Wong (USA)

08.30 – 08.50
C47 Validation of TDP-43 splicing repression as a therapeutic target for ALS-FTD
P Wong (USA)

08.50 – 09.10
C48 Targeting the nucleocytoplasmic transport machinery: Why does TDP-43 mislocalise?
M Morsch (Australia)

09.10 – 09.30
C49 TDP-43 triggers mitochondrial DNA release to activate cGAS/STING in ALS
A Yu (Australia)

09.30 – 09.45
C50 Detection and quantification of pathological C-terminal TDP-43 fragments in post mortem brain tissue
E Feneberg (UK)

09.45 – 10.00
C51 Super-resolution characterisation of TDP-43 aggregation in ALS
O Kantelberg (UK)

SESSION 5B
RIVERSIDE THEATRE

CARER AND FAMILY SUPPORT

Chairs: M O’Brien (UK) S Aoun (Australia)

08.30 – 09.00
C52 Supporting MND family carers from diagnosis to bereavement: The palliative approach to care
S Aoun (Australia)

09.00 – 09.30
C53 Research and support for young caregivers in families with ALS
M Kavanaugh (USA)

09.30 – 09.45
C54 When the shared journey ends: The enduring impact of ALS on bereaved caregivers
M Galvin (Ireland)

09.45 – 10.00
C55 Individual quality of life among spousal ALS patient-caregiver dyads
M Galvin (Ireland)

SESSION 5C
MEETING ROOMS 1-3

THE SPECTRUM OF MOTOR NEURON DISORDERS

Chairs: P Shaw (UK) H Mitsumoto (USA)

08.30 – 09.00
C56 Lessons from SBMA: Pathophysiology, clinical characteristics and treatment strategies
G Sobue (Japan)

09.00 – 09.30
C57 ALS-PDC of the Kii Peninsula, Japan: Clinical and neuropathological features and epidemiology
S Kuzuhara (Japan)

09.30 – 09.45
C58 Genotype phenotype correlation and longitudinal study of hereditary spastic paraplegia and primary lateral sclerosis
J Statland (USA)

09.45 – 10.00
C59 Infant with MND caused by homozygosity for a SOD1 mutation and no SOD1 enzymatic activity: Implications for clinical trials to depress the level of SOD1
P Andersen (Sweden)

10.00 – 10.30 REFRESHMENTS, NETWORKING AND EXHIBITORS: Riverside Theatre Foyer/Pavilion 1
SESSION 6A
BELLEVUE BALLROOM 2
HUMAN CELL BIOLOGY AND PATHOLOGY

Chairs: M-L Rogers (Australia) J Prehn (Ireland)

10.30 – 11.30
Theme 1 (EPI): Epidemiology and informatics
Theme 3 (IVT): In vitro experimental models
Theme 5 (HCB): Human cell biology and pathology
Theme 7 (TST): Pre-clinical therapeutic strategies

11.30 – 12.30
Theme 9 (CLT): Clinical trials and trial design
Theme 11 (COG): Cognitive and psychological assessment and support
Theme 13 (CMS): Clinical management and support
Theme CP: Care practice

12.30 – 14.00
LUNCH AND NETWORKING: Bellevue Ballroom 1/Bellevue Foyer
EXHIBITORS: Riverside Theatre Foyer

SESSION 6B
RIVERSIDE THEATRE
PALLIATIVE CARE

Chairs: D Oliver (UK) S Feldman (USA)

14.00 – 14.40
C65 Palliative care and healthcare utilization at the end of life in people with ALS
L Deliens (Belgium)

14.40 – 15.10
C66 Positive impact of physical exercise on ALS patients’ QoL and effective state
D Lulé (Germany) TBC

15.10 – 15.30
C67 A trial of suprascapular nerve block for shoulder pain in motor neuron disease
P Allcroft (Australia)

15.30 – 16.00
REFRESHMENTS, NETWORKING AND EXHIBITORS Riverside Theatre Foyer

SESSION 6C
MEETING ROOMS 1-3
NEUROIMAGING

Chairs: N Atassi (USA) P-F Pradat (France)

14.00 – 14.30
C68 Is ALS a network disease?
J Grosskreutz (Germany)

14.30 – 15.00
C69 Disruptions in cortical structures and pathways precede the development of ALS in asymptomatic C9orf72 familial ALS
N Geevasinga (Australia)

15.00 – 15.30
C70 Spinal cord MRI for early detection of presymptomatic pathology in C9orf72 mutation carriers: A longitudinal neuroimaging study
G Querin (France)

15.10 – 15.30
C71 Next generation cervical cord MRI in ALS reveals marked atrophy and corticospinal tract degeneration
P Nestor (Australia)
### SESSION 7A
**BELLEVUE BALLROOM 2**

**GENETICS**

**Chairs:** G Nicholson (Australia) P Andersen (Sweden)

<table>
<thead>
<tr>
<th>Time</th>
<th>Presentation</th>
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<tbody>
<tr>
<td>16.00 – 16.20</td>
<td>C72 Association of a poly-T structural variant within the SCAF4 gene and ALS  J Pytte (Australia)</td>
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<tr>
<td>16.20 – 16.40</td>
<td>C73 Intrinsic structural variant within stathmin 2 gene (STMN2) impacts disease duration in sporadic ALS  F Theunissen (Australia)</td>
</tr>
<tr>
<td>16.40 – 17.00</td>
<td>C74 Correlating survival by SOD1 variant in global ALS cohort identifies variants with a strong effect on prognosis  S Opie-Martin (UK)</td>
</tr>
<tr>
<td>17.00 – 17.20</td>
<td>C75 Novel software ‘TRIBES’ enables distant relationship and disease variant discovery in Australian ALS  N Twine (Australia)</td>
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<td>17.20 – 17.40</td>
<td>C76 Relatedness mapping and IBD analysis of Australian sporadic ALS/FTD identifies distantly related sALS cases with a mutation in FIG4 and implicates two new genome-wide loci linked to sALS and FTD  K Williams (Australia)</td>
</tr>
<tr>
<td>17.40 - 17.50</td>
<td><strong>Late breaking news:</strong> Exome sequencing in ALS implicates a novel gene, DNAJC7, encoding a heat-shock protein  A Iacoangeli (UK)</td>
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### SESSION 7B
**RIVERSIDE THEATRE**

**IMPROVING CARE PRACTICE**

**Chairs:** M Ogino (Japan) M Galvin (Ireland)

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<tr>
<th>Time</th>
<th>Presentation</th>
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<tbody>
<tr>
<td>16.00 – 16.30</td>
<td>C77 Progressive neurological diseases: Modelling care  S Mathers (Australia)</td>
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<td>16.30 – 16.45</td>
<td>C78 Breaking the news of the MND diagnosis: The gap between standards and actual practice  S Aoun (Australia)</td>
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<td>16.45 – 17.00</td>
<td>C79 Development of the MiND Toolkit for management of cognitive and behavioural impairment in MND: A modified Delphi method  R Radakovic (UK)</td>
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<td>17.00 – 17.15</td>
<td>C80 Terminal Care in patients with MND: A clinical audit of inpatient and community patients  A Kulkarni (Australia)</td>
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<td>17.15 – 17.30</td>
<td>C81 Telehealth provides meaningful contributions to patient care in ALS  K Atkins (Australia)</td>
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<tr>
<td>17.30 – 17.45</td>
<td>C82 The impact of mental health on acute health service provision in MND: A big data study  J Trollor (Australia)</td>
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### SESSION 7C
**MEETING ROOMS 1-3**

**BIOENERGETICS AND METABOLISM**

**Chairs:** J-P Loeffler (France) S Ngo (Australia)

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<th>Time</th>
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<tr>
<td>16.00 – 16.15</td>
<td>C83 Metabolic rewiring in ALS  D Zarnescu (USA)</td>
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<td>16.15 – 16.30</td>
<td>C84 Manipulation of bioenergetic pathways in motor neuron diseases  H Chaytow (UK)</td>
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<td>16.30 – 16.45</td>
<td>C85 Mitochondrial bioenergetic profile in platelets as a biomarker for ALS  M Kazamel (USA)</td>
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<tr>
<td>16.45 – 17.00</td>
<td>C86 Altered skeletal muscle glucose-fatty acid flux in ALS  S Kirk (Australia)</td>
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<td>17.00 – 17.15</td>
<td>C87 Metabolic dysfunction in MND: A 31-phosphorous magnetic resonance spectroscopy study  M Sassani (UK)</td>
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<td>17.15 – 17.30</td>
<td>C88 Brain metabolic correlates of King’s staging system in ALS: A 18F-FDG-PET study  A Chio (Italy)</td>
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<tr>
<td>17.30 – 17.45</td>
<td>C89 Lipids, apolipoproteins and prognosis of ALS  C Ingre (Sweden)</td>
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### LOCATION: PAVILION 1

**POSTER SESSION B: 18.00 – 20.00**

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<tr>
<th>Time</th>
<th>Activities</th>
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<tbody>
<tr>
<td>18.00 – 19.00</td>
<td>All themes</td>
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<tr>
<td>19.00 – 20.00</td>
<td>Free flow for all delegates around posters</td>
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Friday 6 December 2019

SESSION 8A
BELLEVUE BALLROOM 2

DISEASE MODELS

Chairs: L Ferraiuolo (UK) B Turner (Australia)

08.30 – 09.00
C90 Mouse models of ALS: Past, present and future
B Turner (Australia)

09.00 – 09.15
C91 Longitudinal quantitative proteomics reveals distinct biochemical signatures of cortical and spinal cord neurodegeneration and recovery in TDP-43 transgenic mice
A Walker (Australia)

09.15 – 09.30
C92 Golgi dysfunction is an early event associated with TDP-43 pathology formation in ALS
B Berning (Australia)

09.30 – 09.45
C93 Antioxidant drugs reveal the potential for patient stratification in motor neuron disease
C Allen (UK)

09.45 – 10.00
C94 Intrathecal AAV9-SOD1-shRNA administration for ALS
P Allred (USA)

SESSION 8B
RIVERSIDE THEATRE

DYSPHAGIA AND NUTRITIONAL MANAGEMENT

Chairs: F Steyn (Australia) C McDermott (UK)

08.30 – 08.50
C95 Loss of appetite is associated with a loss of weight and fat mass in patients with ALS
F Steyn (Australia)

08.50 – 09.10
C96 Dietary intake in patients with MND: Assessment relative to disease severity and resting energy expenditure
V Chachay (Australia)

09.10 – 09.30
C97 A multidisciplinary pilot study to trial the feasibility and effect of swallowing exercises and diet among people with ALS
V Flood (Australia)

09.30 – 09.50
C98 Validation of the Physiologic Risk Index for Swallowing Impairment (PRISM) in ALS
E Plowman (USA)

10.00 – 10.30
REFRESHMENTS, NETWORKING AND EXHIBITORS: Riverside Theatre Foyer

Join us in Montreal, Canada
9-11 December 2020
## SESSION 9A
**BELLEVUE BALLROOM 2**

### IMMUNITY AND INFLAMMATION

**Chairs:** K Yamanaka (Japan) L Barbeito (Uruguay)

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<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Speaker</th>
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<tbody>
<tr>
<td>10.30</td>
<td>C99</td>
<td>The role of innate and acquired immunity in neuroinflammation of ALS mice</td>
<td>K Yamanaka (Japan)</td>
</tr>
<tr>
<td>10.50</td>
<td>C100</td>
<td>Immunosuppressive functions of M2 macrophages derived from iPSC of ALS patients</td>
<td>W Zhao (USA)</td>
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<tr>
<td>11.10</td>
<td>C101</td>
<td>MCP1-CCR2 and neuroinflammation in the ALS motor cortex with TDP-43 pathology</td>
<td>H Ozdinler (USA)</td>
</tr>
<tr>
<td>11.30</td>
<td>C102</td>
<td>Microglial galectin-3 in the spinal white matter is a key molecule for motor neuron degeneration in ALS</td>
<td>S Hayashi (Japan)</td>
</tr>
<tr>
<td>11.50</td>
<td>C103</td>
<td>Using patient-derived microglia to investigate neuroinflammation in MND and provide a platform suitable for patient-specific drug screening</td>
<td>H Quek (Australia)</td>
</tr>
<tr>
<td>12.10</td>
<td>C104</td>
<td>A nanoparticle-based strategy for treating neuroinflammation in MND</td>
<td>A Wright (Australia)</td>
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### 12.30 – 14.00

**LUNCH AND NETWORKING:** Bellevue Ballroom 1/Bellevue Foyer

**EXHIBITORS:** Riverside Theatre Foyer

## SESSION 9B
**RIVERSIDE THEATRE**

### RESPIRATORY SUPPORT

**Chairs:** J Andrews (USA) E Pioro (USA)

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<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Speaker</th>
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<tbody>
<tr>
<td>10.30</td>
<td>C105</td>
<td>The multidimensional nature of respiratory failure in ALS</td>
<td>M Morélot-Panzini (France)</td>
</tr>
<tr>
<td>11.00</td>
<td>C106</td>
<td>The management of disordered breathing in MND</td>
<td>D Berlowitz (Australia)</td>
</tr>
<tr>
<td>11.30</td>
<td>C107</td>
<td>Slow vital capacity as a prognostic factor in ALS: A population-based study</td>
<td>A Colvo (Italy)</td>
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<tr>
<td>11.50</td>
<td>C108</td>
<td>A feasibility study of an ambulatory non-invasive ventilation set-up model using intelligent volume assured pressure support mode in MND</td>
<td>W Chow (Australia)</td>
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<tr>
<td>12.10</td>
<td>C109</td>
<td>The physiological effects of a single session of lung volume recruitment in people with MND</td>
<td>N Sheers (Australia)</td>
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## SESSION 10
**RIVERSIDE THEATRE**

### JOINT CLOSING SESSION

**Chairs:** K Talbot (UK) M Kiernan (Australia)

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<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Speaker</th>
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<tbody>
<tr>
<td>14.00</td>
<td>C110</td>
<td>The dawn of brain computer interfaces</td>
<td>T Oxley (Australia)</td>
</tr>
<tr>
<td>14.50</td>
<td>C110</td>
<td>The dawn of brain computer interfaces</td>
<td>T Oxley (Australia)</td>
</tr>
<tr>
<td>15.10</td>
<td>C110</td>
<td>The dawn of brain computer interfaces</td>
<td>T Oxley (Australia)</td>
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### 12.30 – 14.00

**LUNCH AND NETWORKING:** Bellevue Ballroom 1/Bellevue Foyer

**EXHIBITORS:** Riverside Theatre Foyer
**Epidemiology and informatics**

**EPI-01** Applying Mendelian Randomization methods to investigating risk factors and causes for ALS: promises and pitfalls
Armon C

**EPI-02 WITHDRAWN**

**EPI-03** Determining environmental risk factors for ALS using large claims and environmental pollutant databases

**EPI-04** Cyanobacterial exposure and neurodegenerative disease at autopsy

**EPI-05** Residential history of volatile solvent exposure and ALS risk: an interdisciplinary GIS-based spatiotemporal approach
Andrew A S, Shi X, Guetti B, Butt T, Piepart D, Pioro E, Stormmell E, Bradley W

**EPI-06** Incidence of MND/ALS in the Western Cape province of South Africa

**EPI-07** Epidemiological study of MND in India

**EPI-08 WITHDRAWN**

**EPI-09** MND Register for England, Wales and Northern Ireland
Opie-Martin S, Ossher L, Bredin A, Kulka A, Kelly K, Talbot K, Al-Chalabi A

**EPI-10** Machine learning model using insurance claims data to help predict future ALS diagnosis
Grabowsky T, Miller C, Folta T, Shukla O, Merrill C, Agnese W

**EPI-11** Googling global burden of motor neuron diseases
Phan T G, Beare R, Srikanth V, Ma H

**EPI-12** Assessing the impact of genetic information on the accuracy of machine learning based survival analyses in ALS

**EPI-13** Evidence for generalizability ofedaravone efficacy using a novel machine-learning (ML) risk-based analysis tool

**EPI-14** Functional impairment and survival prediction in ALS patients: a probabilistic model of disease progression

**EPI-15** Possibility of needle EMG for prognostic prediction of ALS in the Japanese National Registry for intractable and rare diseases
Sato Y, Kanatani Y

**EPI-16** The effect of comorbidities in ALS prognosis and disease progression: results from ALS Natural History Consortium

**EPI-17** Longitudinal data collection of combined clinic cohorts for improved understanding of ALS natural history

**EPI-18** Retaining voice identity in ALS/MND patients by new generation Voice-Output Communication Aids (VOCAs)
Chopra R, Sane H

**EPI-19** Retaining voice identity in ALS/MND patients by new generation Voice-Output Communication Aids (VOCAs)
Chopra R, Sane H

**GEN-01** The ALS GAP Program: paving the way for genetic characterization of ALS in the clinic
Roggenbuck J, Doyle C, Lincoln T, Glass J

**GEN-02** A clinical tool to determine the probability of a person with ALS having a positive gene test, given their age of onset
Mehta P, Jones A R, Iacoangeli A, Lewis C M, Morgan S, Pittman A, Morrison K E, Shaw P J, Shaw C E, Al-Chalabi A

**GEN-03** Implication of rare variants in causative genes for Charcot-Marie-Tooth disease in patients clinically diagnosed as ALS
Hama Y, Date H, Ishiura H, Mitsuji J, Doki K, Yoshimura J, Morishita S, Tsuji S, Mizusawa H, Takahashi Y

**GEN-04** Shared genetic architecture between ALS, bipolar disorder and cognitive function

**GEN-05** Advantages of Southern blot to overcome repeat-primed PCR limits in the molecular diagnosis a C9orf72 mutated FTD patient
Chudinova A V, Heitz C, Pattyn A, Thouvenot E, Raoul C, Lumbroso S, Mouaz K

**GEN-06** Targeted long-read sequencing of C9orf72 repeat detects repeat length, sequence composition and methylation status in ALS patients

**GEN-07** Investigation of a novel genomic structural variant of NEK1 in ALS

**GEN-08** The elucidation of disease mechanisms underlying MND/familial ALS caused by a novel gene mutation
Salman M, Rother A, Topp S, Smith B, Shaw C, de Belleruche J

**GEN-09** Exome analysis in 54 autopsied Japanese sporadic ALS patients
Ishihara T, Hatano Y, Tada M, Kakita A, Onodera O

**GEN-10** Genetic and functional analysis of the KIF5A variants in Japanese patients with sporadic ALS

**GEN-11** A novel splicing variant of ANXA11 in Japanese sporadic ALS patients
Hatano Y, Ishihara T, Tada M, Kakita A, Onodera O

**GEN-12** ANXA11 Mutations are commonly associated with patients with sporadic ALS of Chinese origin
Zou Z, Feng S Y, Feng S M, Huang H P

**GEN-13** Novel mutations in the cargo binding and stalk domains of KIF5A link to patients with ALS
Zou Z, Feng S, Feng S, Huang H P

**GEN-14** Familial flail leg ALS caused by PFN1 mutation
Zou Y Y, Yu J T, Chen D D, Huang H P

**GEN-15** Exploration of genetic architecture in Chinese ALS patients

**GEN-16** Mutation analysis of causative genes for ALS in southern China

**GEN-17** Mutation analysis of the GLTBD1 and ARPP21 genes in ALS patients in mainland China

**GEN-18** Genotype characteristics of patients with ALS in eastern China

**GEN-19** Screening of the OPTN mutations in Chinese ALS patients
GEN-20 ALS-associated TBK1 variant p.G175S is unable to phosphorylate p62 serine residue 403 and fails to promote NF-κB signalling
Foster A D, Rea S

GEN-21 SQSTM1 variants in familial ALS patients

GEN-22 Investigating the genetics of ALS in a multi-ethnic Malaysian cohort

GEN-23 First de novo SOD1 pathogenic variant in Korean patient with sporadic ALS

GEN-24 Identity by descent analysis of Australian SOD1 mutation carriers links sporadic ALS cases to ALS families and uncovers founder events

GEN-25 Genetic variation in known ALS genes is prevalent among Australian sporadic cases

GEN-26 Frequency and methylation status of active L1s in ALS

GEN-27 Genetic origin of ALS: a somatic or germlinal process?

GEN-28 Using Next Generation Sequencing and functional analysis to discover novel ALS genes and variants

GEN-29 Partitioning the genetic architecture of ALS

GEN-30 Molecular basis of upper motor neuron degeneration
Ozdinler H

THEME 3
In vitro experimental models

IVT-01 A functional pipeline for the validation of novel ALS candidate genes

IVT-02 High-content screening platform to screen potential Rab1 therapeutic candidates to treat MND

IVT-03 ALS2 along with a novel ALS2 interacting protein rab30 regulates morphological integrity and functions of the golgi apparatus

IVT-04 Sorting cells with ALS-associated protein aggregation phenotypes for genome-wide CRISPR screening
Gil R S, Venturato J, Hedli T, Zhao Q, Edson J, Walker A K

IVT-05 Development and validation of Cas9 neuroblasta stable cell lines for CRISPR knockout and activation studies of the mechanisms involved in MND pathogenesis
Venturato J, Gil R S, Walker A K

IVT-06 CRISPR-Cas9 mediated introduction of the TDP-43 A382T mutation produces iPSC-derived motor neurons with ALS-like pathology
Tracey T J, Ovchinnikov D A, Wolvetang E J, Ngo S T

IVT-07 Optimisation of a method for the direct reprogrammation of patient fibroblasts into lower motor neurons

IVT-08 The impact of Ryanodine receptor on organelle function in iPSC-derived ALS motor neurons

IVT-09 Pathogenic and functional effects of the F115C Matrin 3 mutation in motor neurons derived from patient iPSCs
Medina D X, Dominick M, Bowser R

IVT-10 Mutant protein aggregates, mitochondrial impairment, and calcium dysregulation in motor neurons derived from induced pluripotent stem cell lines of Chinese family ALS patients carrying SOD1 mutations
Deng M, Liu W

IVT-11 MSC-NTF differentiation increases the neuroprotective effects of MSC cells: live imaging analysis

IVT-12 Elucidating mechanisms of TDP-43 toxicity in embryonic stem cell derived motor neurons
Carroll E, Gordon D, Candalija A, Talbot K

IVT-13 Concurrent hypomorphic cytoplasmic dynein and reduced TBK1 function exacerbate formation of stress granules and p62 protein aggregates and compromise their autophagic clearance
Gourabi M H, Simoes F A, Hafezparast M

IVT-14 TDP-43 mutation affects stress granule assembly and disassembly in NSC34 motor neurons
Ding Q, Ng D, Hilliard M A, Wolvetang E, Noakes P G

IVT-15 TIA1 interacts with mutant SOD1 and affects stress granule dynamics in ALS
Jeon G S, Yang J W, Lee K W, Sung J J

IVT-16 Neuropeptide Y reduces cell death in vitro via a cleaved caspase 3 dependent mechanism in SOD1G93A model of ALS
Clark C M, Clark R M, Dickson T

IVT-17 Promotion of the maturation of SOD1-FALS mutations using small molecules
Shephard V, McAlary L, Wright G S, Yerbury J J

IVT-18 Layer V Pyramidal Neurons with synaptic hyper-excitability show altered TrkB receptor signaling in the SOD1G93A mouse model of ALS
Pradhan J, Nakes P G, Bellingham M C

IVT-19 Pharmacological autophagy induction causes reductions in the levels of FUSP525L and amelioration of SOD1A4V aggregation in cell culture ALS models
Lambert-Smith I A, Tyrn M, Luu L, Watchon M, Yerbury J J, Don E K, Laird A S

IVT-20 Increased levels of a key UPS protein reduce mutant SOD1 toxicity but have no effect on mutant SOD1 aggregation

IVT-21 Ubiquitin homeostasis is disrupted in ALS
Farrarawe N E, Lambert-Smith I A, Vine K L, Saunders D N, Yerbury J J

IVT-22 Cyclin F interacts with autophagy protein sequestosome-1/p62 elucidating a novel molecular mechanism
Davidson M J, Cheng E, Rayner S L, Chung R S, Lee A

IVT-23 EPI-589, a novel redox-active protectant against oxidative cell injury and poly glycine-alanine aggregation in cellular models of ALS-related pathophysiology

IVT-24 Neuronal toxicity and mitochondrial protection in ALS-related Sigma-1 receptor missense mutation
Fukunaga K, Fukunaga R, Shinoda Y

IVT-25 A microdevice-based method for quantifying endolysosomal and mitochondrial axonal transport in neuron derived from a mouse model of ALS

IVT-26 Single copy expression of mutant TDP-43 increases microglial reactivity and motor neuron vulnerability to inflammatory stimuli
Clark J, Kelkens M, Geist E, Gray E, Gordon D, Talbot K

IVT-27 Inflammatory response to TDP-43 knockdown in human leptomingeal tissue
Naidoo S, Scotter E L, Dragunow M
IVT-28 Impaired NHEJ repair in ALS is associated with TDP-43 mutations

IVT-29 WITHDRAWN

IVT-30 SQSTM1/p62 expression induces TDP-43 cytoplasmic mislocalisation and cleavage
Foster A, Cluning C, Lee A, Rea S L

IVT-31 Exosomes secreted by diseased ALS cerebral cortex contain messages to modulate disease progression
Odziner H, Gautam M, Xie E, Brent J, Thaxton S

IVT-32 ALS-associated mutations in the TDP-43 low-complexity domain have variable effects on its liquid-liquid phase separation properties
McAlary L, Heydari T, Hoggarth J, Peng X, Cashman N R, Plotkin S S

IVT-33 Using fluorescence microscopy techniques to structurally characterise TDP-43 inclusion presents in a mammalian cell model

IVT-34 Characterisation of the role of Annexin A11 in ALS biology using two complementary in vitro models
Patel R, Glennon E, Vance C, Smith B

IVT-35 ANXA11 mutations in ALS cause dysregulation of calcium homeostasis and stress

IVT-36 Neuronal expression and function of C-type lectin domain family 4 Member C, CLEC4C
Nahm M, Lim S M, Noh M Y, Kim Y E, Oh K W, Kim S H

IVT-37 The TGF-beta induced muscle fibrosis and wasting in myoblast as in ALS mouse might be inhibited by pirfenidine

IVT-38 In vitro measurement of molecular vibrational spectra of TDP25-based protein aggregates in culture cells
Nagashima Y, Iwata A, Toda T

IVT-39 A novel mutation of endoplasmic reticulum protein PDZD8 in the progression of ALS
Li C, Chen Y, Chen X, Wei Q, Cao B, Shang H

THEME 4
In vivo experimental models

IVV-01 Use of Zebrafish for the functional validation ofALS-associated genetic variants

IVV-02 In vivo analysis of variant pathogenicity for the validation of novel MND linked genes
Hogan A, Fifita J, Yang S, McCann E, Grima N, Blair I P

IVV-03 An inducible Zebrafish model of sporadic neurodegenerative disease

IVV-04 Investigating synaptic dysfunction in a C9orf72 loss of function Zebrafish model
Butti Z, Giaconomoto J, Patten K

IVV-05 Heterozygous TBK1 deletion in a TARDBP mutant mouse model

IVV-06 Characterisation of mice with heterozygous TBK1 deletion

IVV-07 TDP-43 mutant lacking its C-terminal domain induces age-dependent motor dysfunction in mice
Watanabe S, Nishino K, Muruta Y, Oiwa K, Yamanaka K

IVV-08 Elevated expression of the DNA/RNA-binding protein FUS in astrotocytes induces reactivity and spinal motor neuron death in vivo

IVV-09 Establishing a novel mouse model of sporadic ALS using a chemogenetic approach
Haidar M, Cuic B, Rytova V, Luikinga S, Turner B

IVV-10 Hyperrexcitable layer 5 pyramidal neurons in a model of cortical TDP-43 mislocalisation
Dyer M S, Lewis K E, Dickson T C, Woodhouse A, Blizard C A

IVV-11 Beneficial effects of EPI-589, a novel redox-active protectant against oxidative stress, on motor function, spinal motor neuron pathology and biomarkers of oxidative stress and neurodegeneration in wobbler mouse model

IVV-12 Co-administration of EPI-589, a novel redox-active protectant against oxidative stress, and riluzole remarkably enhanced the efficacy of either drug for motor function deterioration in wobbler mouse model

IVV-13 Investigating the role of oxidative stress in spinal motor neurons in a zebrafish model of ALS

IVV-14 The pathogenesis of chorovirus infection in SOD1G93A transgenic mice and clinical implications for ALS
Pattee G L, Petro T M, Dunnigan D D, Agarkova I, Van Etten J L

IVV-15 A protective role for complement C3aR activation in ALS
Lee J D, McDonald T S, Woodruff T M

IVV-16 Microglia specific and disease associated protein signature in ALS
Barreto-Núñez R, Beland L C, Boutej H, Barbeito L, Kirz J

IVV-17 In vivo study of microglial-mediated clearance of disease-related TDP-43 aggregates

IVV-18 Oral glutathione administration rescues neurons by reduced neuroinflammation in Alzheimer’s mice
Fukunaga R, Zumi H, Sato K, Fukunaga K

IVV-19 Motor neuron morphogenesis is controlled by phosphoinositol signaling to the actin cytoskeleton

IVV-20 Enhancing glycosphingolipid metabolism improves motor function in mutant TDP-43 mice

IVV-21 In vivo dampening the metabotropic glutamate receptor 5 activity normalizes the reactive phenotype of spinal cord astrocytes isolated from late-symptomatic SOD1G93A mice
Bonifacino T, Milanese M, Torazza C, Provenzano F, Ravera S, Usai C, Bonanno G

IVV-22 Defective glycosaminoglycan metabolism in the brain and spinal cord of the SOD1G93A mouse model of MND
Tefera T W, Bartlett K, Tran S S, Hodson M P, Ngo S T, Borges K

IVV-23 Impaired glycosylation contributes to skeletal muscle pathology in the SOD1G93A mouse model of MND
McDonald T S, Woodruff T M, Lee J D

IVV-24 Resistant neuromuscular junction of extracorporeal muscle in ALS: a comparative analysis with vulnerable muscle in ALS mouse model

IVV-25 Transmission of human mutant SOD1 across the synapse involves exocytosis
Cashman N R

IVV-26 Transmissibility of SOD1 prion strains between mice expressing different mutant human SOD1s
Brandtstrom T, Bihendi E E, Anderson P M, Marklund S L

IVV-27 Identifying novel roles for Protein Disulfide Isomerase (PDI) in ALS
Shadfar S, Shahheydari H, Parakh S, Laird A S, Atkin J

IVV-29: WITHDRAWN

IVV-30: Interplay of neurotrophic and ferroptotic motor neuron death in ALS. Wang T, Perera N, Murphy J, Turner B.

IVV-31: Comparison study of the anatomical redistribution of essential metals in the embryonic and adult CNS of SOD1 overexpressing mice. Kyesenius K, Hiltunen J B, Paul B, Hare D J, Crouch P J.


IVV-33: Investigating the role of TDP-43 recruitment to stress granules in a mouse model of ALS/FTD. Wardley G FB.


IVV-35: Investigation of HSF1 gene therapy in a mouse model of ALS/FTD. McLaughlin C J.


IVV-38: Investigating the role of C9orf72 in inflammation and tissue - pathogenic and therapeutic relevance. Arias N, Mueller S, Shaw C A.


IVV-40: Gain of toxicity from ALS/FTD-linked repeat expansions in C9ORF72 mouse model. Arias N, Muller S, Shaw C.

IVV-41: Converging pathological mechanisms in ALS-FTD: RNA dysregulation in an endosomal dysfunction model of ALS-FTD. Fort L, Sweeney S T.

IVV-42: RNA modification defects in mouse models of ALS. Hogg M C, Richter F M, Woods I, Helm M, Prehn J HM.


IVV-44: Converging pathological mechanisms. Anonymous.


IVV-46: Investigation of HSF1 gene therapy in a mouse model of ALS/FTD. McLaughlin C J.


IVV-50: Gain of toxicity from ALS/FTD-linked repeat expansions in C9ORF72 mouse model. Arias N, Muller S, Shaw C.

IVV-51: Converging pathological mechanisms in ALS-FTD: RNA dysregulation in an endosomal dysfunction model of ALS-FTD. Fort L, Sweeney S T.

IVV-52: RNA modification defects in mouse models of ALS. Hogg M C, Richter F M, Woods I, Helm M, Prehn J HM.

**THEME 5: Human cell biology and pathophysiology**


**HCB-02:** A large-scale library of patient derived iPSC lines to accelerate ALS research. Bye C, Daniszewski M, Qian E, Lim K, Liang H, Needham M, Fletcher S, Mathers S, Pavyab A, Hewitt A, Turner B.


**HCB-04:** Modelling cortical motor neuron pathology in induced pluripotent stem cell derived neurons from patients with ALS. Chen Z S, Dalinka R, Patani R, Talbot K.


**HCB-06:** Expression of poly(GA) and poly(PR) in iPSC-derived motor neurons induces ALS-related phenotypes via different pathways. Babargallo P, Candalialia A, Dalinka R, Talbot K.

**HCB-07:** Novel method to detect DNA damage in ALS. Brocardo M G, Rizos H, Atkin J.


**HCB-09:** Nucleocytoplasmic transport defects are induced by mutant cyclin F in ALS/FTD. Atkin J D, Ragaglini A MG, Shadfar S, Vidal M, Lorenz F, Sundaramoorthy V.


**HCB-11:** Sequestration of RNA helicase DHX30 from mitochondria is linked to mitochondrial dysfunction in ALS-FUS. Hikami R, Mimamomaya S, Asada M, Wada H, Shodai A, Morimura S, Ayaki T, Takahashi R, Urushitani M.

**HCB-12:** Elucidating axonal pathology of fused (FUS)-mutant ALS motor neurons. Aoki M, Fujishima F, Nakayama K, Fujishima F, Mitsuhashi H, Murata H, Okano H, Aoki M.

**HCB-13:** The pathogenic role of a new FUS isoform in ALS. Vidal M, Ragaglini A MG, Lee A, Heng B, Sundaramoorthy V, Chung R, Gillelmin G J, Atkin J D.

**HCB-14:** Assessing TDP-43 and RNA dynamics: patient induced pluripotent stem cell derived motor neurons as a tool for investigating Annexin A11 associated ALS. Hedges E C.


**HCB-16:** Mutations in the glycosyltransferase domain of GLTBD1 are associated with familial ALS. Moll T A, Cooper-Knock J, Hauthberge G, Ramesh T, Higgginbottom A, Castelli L, Kirby J, Shaw P.


**HCB-18:** Phosphorylation state of ALS2/ALSIN alters its intracellular localization and endosome dynamics. Shimakura K, Sato K, Mitsui S, Ono S, Otomo A, Hadano S.


**HCB-20:** WITHDRAWN

**HCB-21:** Predicting disease-specific spinal motor neuron diseases and glia in sporadic ALS. Song F, Dachet F, Liu J, Ravits J.

**HCB-22:** Elemental and structural characterization of SOD1 aggregates in the human ALS spinal cord. Genoud S, Jones M WM, Hare D J, Double K L.

**HCB-23:** Abnormal accumulation of citrullinated proteins in ALS/FTD of the Kii peninsula of Japan. Kokubo Y, Morimoto S, Sasaki R, Kuzuhara S, Ishigami A.

**Tissue biomarkers**

**Bio-01** Is the problem within the gut instead of the brain? Impairment of dietary glutamate metabolism identified in patients with ALS

Garnaas K R, Kittelsrud J, Behnke M

**Bio-02** Vitamin levels in patients with ALS in central south China


**Bio-03** The vitamin D activator, CYP27B1, is a novel muscle biomarker of ALS disease progression


**Bio-04** Longitudinal analysis of CSF biomarkers for ALS


**Bio-05** Phosphonenucleoflament heavy chain and IgG N-glycosylation as cerebrospinal fluid biomarkers for ALS

Costa J, Streich L, Pinto S, Laborin-Pronto A, Nimtz M, Conradt H S, de Carvalho M

**Bio-06** A panel of three ratios of four molecules as cerebrospinal fluid biomarker for ALS in a Brazilian cohort


**Bio-07** Significance of TDP-43, NFL, and tau in plasma and CSF as diagnostic and prognostic biomarkers of ALS

Ohmichi T, Kasai T, Tatebe H, Kojima Y, Noto Y, Tsuji T, Shimomoto M, Mizuho T, Tokuda T

**Bio-08** Biomarkers in cerebrospinal fluid for diagnosis and prognosis in ALS


**Bio-09** Significant out-of-sample classification from methylome-wide association study of ALS

Nabais M F

**Bio-10** Characterising the role of SARM1 in ALS axon degeneration

Perry S E, Atkinson R A K, Collins J M, King A E

**Thematic 6**

**Bio-11** Biomarker analysis in oral levosimendan phase 2 clinical trial LEVALS

Dickers A M, Sarapohtia T, Serkoka L, Garratt C, Holstrom K M, on behalf of the LEVALS study group

**Bio-12** Chitinases as markers of neuroinflammation in ALS


**Bio-13** C-Reactive protein and disease aggressiveness and progression in ALS: retrospective application of the D50 model

Gaur N, Vlad B, Witte O W, Prell T, Grosskreutz J

**Bio-14** Exploration of N-Alkylated Carbazole Translocator Protein (TSPO) ligands for detection of glial activation


**Bio-15** Increased interleukin-6 levels in the astrocyte-derived exosomes of sporadic ALS patients

Chen Y, Xia K, Fan D

**Bio-16** Cardiac troponins as biomarkers in ALS


**Bio-17** WITHDRAWN

**Thematic 7**

**Pre-clinical therapeutic strategies**

**TST-01** The potential of neurofilaments analysis using dry-blood and plasma spots

Lombard V, Carassiti D, Giovannoni G, Lu C-H, Adiutori R, Malaspina A

**TST-02** UCHL1 is necessary and sufficient for maintaining cytoarchitectural integrity of upper motor neurons

Ozdinler H, Genc B, Jara J, Kocak N, Zhu Y

**TST-03** Incorporation of upper motor neurons in drug discovery efforts

Ozdinler H

**TST-04** Aminobroxol hydrochloride improves motor functions and extend survival in a mouse model of familial ALS

Boussary A, Quessada C, Mosbach A, Callizot N, Speeding M, Loefler J-P, Henriques A

**TST-05** Investigating the therapeutic potential of miR-23a inhibition in TDP-43ALS ALS mice

Tsitkanou S, Foletta V, Delia Gatta P, Gerlinger Romero F, Wallace M, Walker A, Russell A

**TST-06** Targeting ATXN2 with artificial microRNA as gene therapy for sporadic ALS

Freckleton S E, Lee Y, Shaw C E

**TST-07** Investigating antisense oligonucleotide therapeutics for ALS

Mejirini R, Flynn L L, Fletcher S, Wilton S D, Akkari A

**TST-08** Pre-clinical development of a genetic therapy for SOD1 ALS

Flynn L, Tomas D, Barton S, Pitout L I, Swanson T, Fletcher S, Metz C, Wilton S D, Turner B J, Akkari A

**TST-09** Antisense oligonucleotide modulation of selected RNA-binding proteins to reduce the severity of SMA

Pitout L I, Flynn L L, Fletcher S, Wilton S D

**TST-10** WITHDRAWN

**TST-11** CuII(ATSM) potently inhibits neuronal ferroptosis: implications for ALS pathogenesis

Bush A I, Soutouh A, Crouch P, Donnelly P, Barnham K

**TST-12** Ferroptotic stress induces neurotoxic astrocyte activation in ALS: A potential therapeutic target for CuATSM


**TST-13** A novel cell transplantation therapy for familial ALS using oligodendrocyte precursor cells expressing scfV specific for misfolded SOD1


**TST-14** The identification of scfV biomolecules that bind to TDP-43 and prevent its induced aggregation as a potential therapy for ALS


**TST-15** Therapeutic potential of the Bornavirus X protein and X-derived peptide in ALS


**TST-16** The homoeoprotein transcription factor ENGRAILED 1 modulates motor neuron physiology and survival

Vargas Abonce S E, Leboeuf M, Prochiantz A, Moya K L

**TST-17** Targeting ALS cortical excitability dysfunction through nasal delivery of neuropeptide Y

Lewis K EA, Clark R M, Chuckowree J A, Hoyle J A, Blizzard C A, Dickson T C

**TST-18** Development of autophagy-inducing peptides as a potential therapy for MND

Amin A, Perrera N, Turner B, Shabanpoor F

**TST-19** Developing new cell models and approaches to study the role of TDP-43 and autophagy in MND

Keating S J, San Gil R, Walker A K

**TST-20** WITHDRAWN

**TST-21** A systematic review of the role of stem cells in pre-clinical models of ALS/MND


**TST-22** Degeneration of ALS mouse neuromuscular junctions by a loss of synapse organizer and a treatment using human mesenchymal stem cells

**TST-23** Combined bone marrow transplantation therapy of MNCs and growth factor expressing-MSCs for ALS

**TST-24** Immunogens for targeted neurotranspheric factor gene delivery to motor neurons in vivo
Rogers M-L, Subramaniam C, Haidar M, Turner B

**TST-25** Subcutaneous infusion of next generation neurotranspheric factor MANF delays disease onset and increases survival in a SOD1 murine model of ALS
Beckett L, Voutilainen M H, Saarma M

**TST-26** New strategy for blood-brain barrier crossing and brain disease therapy
Shi B

**TST-27** Pre-clinical test of a gene therapy approach for familial ALS with SOD1 mutations
Maara T, Cohen-Tannoudji M, Astord S, Biferi M-G

**TST-28** Viral strategies for pre-clinical testing in the TDP-43ΔALS mouse model of MND
Brown-Wright H, Chui K, Walker A

**TST-29** Treatment with HDAC inhibitors is protective for a transgenic zebrafish model of neurodegenerative disease

**TST-30** Restoration of histone acetylation ameliorates disease and metabolic abnormalities in a FUS mouse model of ALS
Rossaert E, Polliani E, Jaspars T, Van Helleputte L, Jarpe M, Van Damme P, De Bock K, Moisse M, Van Den Bosch L

**TST-31** Understanding the molecular mechanism and finding a dismutasing solution: Structural studies of TDP-43 and Copper-Zinc Superoxide Dismutase

**TST-32** Engineering and enhancing the therapeutic potential of intrabodies targeting pTDP-43
Fernandes A, Shaw C

**TST-33** Targeting of the regulatory balance between b-oxidation and glycolysis improves outcomes in the SOD1G86R mouse model of ALS

**TST-34** Pharmacological modulation of hypermetabolism: a promising therapeutic strategy in ALS

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**THEME 8**

**Clinical imaging and electrophysiology**

**IMG-01** The spectrum of involuntary movements in patients with MND: a cross-sectional study

**IMG-02** Impact of stimulus duration on detecting enlarged motor units in the compound muscle action potential scan
Creutzfeld B THM, Ruisch J, Goedeke H S, van den Berg L H, Fransen H

**IMG-03** Reassessment of split-leg signs in ALS: differential involvement of the extensor digitorum brevis and abductor hallucis muscles

**IMG-04** Split-hand index for ALS: an F-wave study

**IMG-05** The split hand sign in spinal and bulb muscular atrophy

**IMG-06** Split finger syndrome in ALS
Sonoo M, Takahashi K

**IMG-07** Relationship between EMG-detected fasciculation potentials and ultrasound-detected fasciculations in ALS: a prospective cohort study

**IMG-08** Fasciculations demonstrate daytime consistency in ALS
Tajisho K, Hashimoto A, Miwa S, Hasegawa S, Wang Y, Hasegawa K

**IMG-10** Distribution patterns of fasciculations in ALS: a ultrasonographic study

**IMG-11** Ectopic impulse generation in peripheral nerve hyperexcitability syndromes and ALS

**IMG-12** Longitudinal assessment of individual muscle changes in MND

**IMG-13** Assessment of upper motor neuron in ALS and MSA using CMCT

**IMG-14** MND with malignancy: a pathophysiologically distinct entity of MND?

**IMG-15** Longitudinal magnetoencephalography in early stage ALS and behavioural variant of FTD: peak frequencies and relative power in six frequency bands

**IMG-16** Assessing cortico-muscular communication patterns in MND

**IMG-17** Developing biomarkers of focal network disruptions in ALS using threshold-tracking transcranial magnetic stimulation
THEME 9
Clinical trials and trial design

CLT-01 The NEALS Consortium – a collaborative research organization
Lincoln T, Allen C

CLT-02 Understanding and incorporating the patient and caregiver perspective in clinical trials

CLT-03 The symptoms and impacts of MND/ALS from the patient perspective

CLT-04 Engaging ALS research ambassadors to help design the REFINE-ALS biomarker study
Berry J, Bedlack R, Mathews D, Agnese W, Apple S, Pradat P F

CLT-05 A platform trial for ALS: innovative trial design to drive ALS science and accelerate the path to effective treatments

CLT-06 Increasing the efficiency of ALS clinical trials using machine learning

CLT-07 The influence of clinical study inclusion criteria on baseline characteristics and disease progression in ALS

CLT-08 Date of onset as an indicator and predictor of data quality in clinical research
Sherman A, Sani E, Cudkowicz M

CLT-09 Tracking ALS progression in clinical trials with a mobile app measuring speech

CLT-10 The impact of frequent sampling of new and established outcome measures: results of the ALS-at-home study
Shefner J, M, Shelton K, Qi K, Liss J, Beulieu D, Rutkove S

CLT-11 Remote longitudinal assessment of functional MND burden in a large United States registry
Statland J, Karanvech G, Wuu J, Herbelin L, Barohn R J, Benatar M, on behalf of the CReAtE Consortium

CLT-12 Blood-brain barrier disruption is associated with poor survival in ALS
Vlad B, Prell T, Gaur N, Dreguer M, Witte O W, Grosskreutz J

CLT-13 Selecting appropriate outcome measures for ALS clinical trials
Arjuni R, R, Glowienska E, Maru B, Wiesner T, Meriggioli M, Dabbous O

CLT-14 Optimizing the ALSFRS-R as a clinical trial endpoint
de Jongh A D, van Eijk R F, van den Berg L H

CLT-15 Overhauling clinical trials for ALS: the Lighthouses II trial design

CLT-16 Design of the Phase 3, randomised, placebo-controlled trial of oral Arimoclomol in ALS: ORARIALS-01
Sundgren C, Blaettler T, Bennett R, Rom D, Wuu J, Andersen P M, Benatar M

CLT-17 TUDCA ALS: a novel clinical trial design for disease progression
Cucco A, Termoz N, Querin G, Bede P, Pradat P F

CLT-18 Baseline characteristics and status update of REFALS: A phase 3 study comparing oral levsimendan to placebo in patients with ALS
Cudkowicz M, Genge A, Maragakis N, Sani E, van den Berg L, Aho V, Yeramian P

CLT-19 Study AB19001, a confirmatory, pivotal phase 3 trial of mepidininib in ALS
Genge A, Ludolph A

CLT-20 Utilization of durable medical equipment in FORTITUDE-ALS

CLT-21 Responder and subgroup analyses for FORTITUDE-ALS, a phase 2 trial of Reledestravat in patients with ALS

CLT-22 Quality of life and depression measurements in FORTITUDE-ALS

CLT-23 Impact of ALSFRS-R progression rates on outcome measures in FORTITUDE-ALS

CLT-24 Clinical trial design for a Phase II, randomized, placebo-controlled trial of AMX0035 in ALS (CENTAUR)

CLT-25 Interaction (nonuniformity) of ALS progression and the efficacy of MN-166 (budilast)
Matsuda K, Iwaki Y, Makhay M, Doijillo J, Yasui S

CLT-26 Oral levosimendan for ALS: pharmacokinetic considerations
Ahtola-Satilia T, Sarapohja T, Aho V V, Kivikko M

CLT-27 Estimate of an Acthar® Gel Treatment effect in ALS patients using virtual controls
Beaulieu D, Cuero J, Taylor A A, VanMeter S, Zhao E, Keymer M, Ennist D L

CLT-28 Safety and biological efficacy of narrow-band UVB phototherapy in ALS

CLT-29 Regulation of motor neuron neurotrophic molecules in autologous ALS bone marrow meningeal stem cells of the clinical trial NTC02917681 in relation to other cell types and tissues

CLT-30 Clinical effects of two intrathecal infusions of autologous motor neuron neurotrophic molecules in autologous ALS bone marrow mesenchymal stem cells of the clinical trial NTC02917681 in relation to other cell types and tissues

CLT-31 Overhauling clinical trials for ALS: a novel method to improve clinical trial outcomes
Lincoln T C, Allen C
DSP-15 Foreign Accent Syndrome (FAS) and ALS: a case report
DSP-16 What matters most to patients with ALS: initial validation of the ALS Health Index (ALS-HI), a multi-faceted patient reported outcome measure
Zizzi C, Wagner E, Benatar M, Heatwole C
DSP-17 Early treatment effects of Riluzole in ALS-MND 2: Isometric strength improvements in sentinel muscles

THEME 11
Cognitive and psychological assessment and support

COG-01 Phenotypic variation in ALS-FTD and effect on survival
Ahmed R M, Denneyev E M, Strikwerda-Brown C, Hodges J R, Piguet O, Kiernan M C
COG-02 Cognitive and behavioural changes predict poorer survival in ALS
Nguyen C H, Caga J, Highton-Williamson E, Kiernan M C, Huyhn W
COG-03 Cognitive reserve as a mediator of cognitive decline in ALS
Costello E, Ryan M, Pender N, Hardiman O
COG-04 Do cognitive or behavioural problems explain satisfactory QoL in ALS?
Lulé D, Scrempl F, Uttner I, Ludolph A C
COG-05 Respiratory impairment is associated with cognitive dysfunction in ALS
Huyhn W, Sharplin L E, Caga J, Highton-Williamson E, Kiernan M C
COG-06 Cognition and behavior in Japanese ALS patients
Watanabe Y, Adachi T, Takigawa H, Hanajima R, ALS-FTD-Q-J Research Group
COG-07 Clinical usefulness of neuropsychological scales for evaluating cognitive impairment in Japanese patients with ALS
Nagashima K, Fujita Y, Ikeda M, Ikeda Y
COG-08 A study of non-motor manifestations in patients with ALS
Chowdhury A, Biswas A, Pandit A
COG-09 Early treatment effects of Riluzole in ALS-MND 1: correction of hand grip apraxia in ALS-FTD
COG-10 A systematic review of cognitive screening tools used in MND
Mayberry E J, McTiffin M H, Tooth C L, McDermott C J

THEME 10
Disease stratification and phenotyping of patients

DSP-01 Barriers to the diagnosis of MND – a South Australian study
Sharand F D F, Schultz D W
DSP-02 Validation study of clinical diagnosis of ALS: The Brain Bank for Aging Research (BBAR) project

DSP-03 Investigating hidden Gelsolin amyloidosis which mimicks slowly progressive MND using genetic test
DSP-04 Improvements in the definition of biomarkers for Spinal Muscular Atrophy (SMA) type III and IV: a multimodal longitudinal study
DSP-05 On the-spot assessment of venous creatinine as a marker for change in fat-free mass and disease progression in patients with MND
DSP-06 The world according to the D50 model of ALS progression
DSP-07 Significant events during ALS progression according to the D50 model in the ONWEBDUALS cohort
DSP-08 Structural and functional implications of cortical dysfunction on clinical disease progression in ALS
DSP-09 Rapid reprogramming method differentiates CuATSM responders/ nonresponders from ALS patient population
DSP-10 A personalized medicine approach for ALS/MND
Rosenfeld J, Dey D, Yu F S, Macieik A, Selvarajah S, Paulvannan D, Lingappa V R
DSP-11 The clinical phenotype of motor neuron diseases in Bangladesh
Jenkins T M, Bandmann O, Hoque A, Alam B, Chowdhury J, Shaw P J, Mohammad Q D
DSP-12 The Demographic and clinical characteristics of ALS in Malaysia
DSP-13 The genotype and phenotype spectrum of familial ALS in China
DSP-14 Tracking bulbar impairment using the Beiew smartphone app
DSP-15 Foreign Accent Syndrome (FAS) and ALS: a case report
DSP-16 What matters most to patients with ALS: initial validation of the ALS Health Index (ALS-HI), a multi-faceted patient reported outcome measure
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DSP-02 Validation study of clinical diagnosis of ALS: The Brain Bank for Aging Research (BBAR) project
COG-11 Development of the Online Carer’s Questionnaire (OCQ) behaviour screen for MND
Robinson G, Ceslis A

COG-12 The role of relationships and social support on the psychological wellbeing of ALS caregivers

COG-13 Understanding the needs of ALS caregivers
Carney S, Galvin M, Pender N, Hardiman O

COG-14 Augmentative and alternative communication in ALS: a systematic review
Abbas-Kayano R T, Chadi G

THEME 12
Respiratory and nutritional management

RNM-01 Weight stability is associated with longer survival in ALS
Wei Q, Ou R, Chen Y, Chen X, Cao B, Hou Y, Zhang L, Shang H

RNM-02 Temporal variation of anthropometric parameters and functional scores of patients diagnosed with ALS/MND

RNM-03 Factors associated with oral nutritional behaviours in people with MND: a systematic review
Williams I, Norman P, Essat M, Archer R, Coates E, Stavroulakis T, McDermott C, on behalf of the HighCAL group3

RNM-04 Serum albumin as an indicator of gastrostomy in patients with MND/ALS: preliminary results from a single tertiary hospital
Yang J, Lee K-W, Choi S-J

RNM-05 Long-term outcomes of gastrostomy in patients with ALS with respiratory compromise
Choi S-J, Min Y G, Kwon Y N, Yang J, Sung J-J, Lee K-W

RNM-06 Comparative analysis of the types of alternative feeding route recommended for ALS/MND

RNM-07 The level of functional hydration assessment according to dysphagia in MND/ALS

RNM-08 The safety of PEG in patients with ALS using non-invasive positive pressure ventilation: a retrospective study
Tominaga N, Shimizu T, Uchino A, Ogino Y, Ogino M

RNM-09 Comparison of voluntary and reflex cough effectiveness in health and individuals with ALS
Gray L T, Locatelli E, Flawman E K

RNM-10 The impact of respiratory muscle training on cough efficacy and physical function in patients with neuromuscular disease: a systematic review and meta-analysis
Watson K

RNM-11 Correlation between forced vital capacity (FVC) and collapse of the upper airways (retropalatal and retrolingual spaces)
Dorca A, Sisteroli D

RNM-12 Inspiratory pressurisation therapy associated with expiratory muscular training in ALS/MND
Dorca A, Sisteroli D, Maldaner V

RNM-13 Sleep-disordered breathing can be asymptomatic in patients with ALS
Azz N A A, Ng W J, Loh E C, Capelle D, Goh K-J, Latif L A, Shahrizaila N

RNM-14 Identifying how many SNIPs to get maxscore in patients with MND
Fortunie J, Meldrum D, Murray D, Fenton L, Tattersall R, Hardiman O

RNM-15 Symptoms of hypoventilation most sensitive to detect reduced respiratory function in patients with ALS/MND

RNM-16 Respiratory function and infections in people with MND

RNM-17 Implementing home care respiratory protocols in ALS/MND
Brockenbrough P, Rhodes R, Pearson K, Vota S

RNM-18 A survey exploring the practice of healthcare professionals in delivering non-invasive ventilation to people with MND in the UK

RNM-19 Factors that influence the tolerance of non-invasive ventilation in ALS: results from single centre in Brazil
Silva V Z M, Moura M, Franco H, Mateus S, Dorca A

RNM-20 MND respiratory supports: the impact of non-invasive ventilation on MND patients
Pradeepan S, Yates N, Vogel N, Paech G

RNM-21 Diaphragm pacing impairs local myofiber reinnervation in ALS

RNM-22 Proposition for the assessment of peak cough power with an oronasal mask in ALS/MND patients

RNM-23 Clinical criteria for the recommendation of invasive ventilation for MND/ALS patients

RNM-24 Amount of publicly available survey information on trends in the number of home-care patients with ALS and invasive TPPV with tracheostomy in Japan: a preliminary survey of prefectural coordinators regarding patients with intractable diseases
Fukuroku K, Naria Y, Ishikawa T, Nakai M, Matsuda N

RNM-25 Prognosis of TIV therapy for ALS in patients in a multicenter prospective cohort

RNM-26 Registry of endpoints and validated experiences in ALS (REVEALS): a prospective observational study of respiratory function and morbidity in ALS

RNM-27 The cause of death in pathologically confirmed ALS with mechanical ventilation assist, a retrospective institute-based study
Komai K, Ishida C, Takahashi K, Tagami A, Motozaki Y, Kawashima A

THEME 13
Clinical management and support

CMS-01 Genetic testing for familial ALS: insights and challenges
Crook A, Hodgson A, Mumford V, Blair I P, Williams K L, Rowe D B

CMS-02 Preventing ALS through reproductive genetic testing: costs and complexities

CMS-03 The importance of the reception performed by ABrELA’s social service to ELA patients and their families
Campos C H M, Cruz F T, Oda A L

CMS-04 The diagnostic experience in MND: a UK survey of the perspectives of people living with MND

CMS-05 Changes in diurnal and nocturnal activity occurs in ALS/MND patients
Lucia D, McCombe P A, Henderson R D J, Steyn F J, Ngo S T

CMS-06 A survey of healthcare professionals on the measurement of physical functioning in ALS/MND and attitudes to development of technology based measurement and monitoring solutions
Murray D, Meldrum D, Hayden C, Hardiman O
CMS-07 Motor symptoms and physical activity assessment in ALS: a systematic review

CMS-08 Are we under dosing our patients with mid-stage disease ALS? When “usual” activities becomes rowing across the Atlantic
Hayes H A, Alderman A, Gibson S, Bromberg M

CMS-09 Robot-assisted training using Hybrid Assistive Limb in ALS patients

CMS-10 The ALS Steering Wheel: A multidisciplinary approach to evaluating driving in ALS
Berry K, Salmon K, Vitale T, Saunders N, Genge A

CMS-11 Cessation of driving in individuals with ALS

CMS-12 An investigation into whether board certified neurologists are conscious of supporting continuing employment in their patients
Ogino M, Eguchi H, Babayev T, Ogino Y, Tutsumi A

CMS-13 An example of possibility for family members continue working while providing care for ALS/MND patients
Adachi K, Ishijima K, Kawaguchi Y, Nakajima T

CMS-14 Information needs and resource preferences in Korean Family caregivers of Patients with ALS
Chu H S, Son B, Kim S H, Oh J

CMS-15 Aspiring to minimise aspiration: prevalence and predictors of aspiration in progressive neurological disease
Klein P, Perenzcz N, Jackson N, Keage M

CMS-16 Providing collars for people with MND: trialling not prescribing
Gibb R M

CMS-17 Clinical implications of upper esophageal sphincter restriction in MND
Cock C, Francis R, Doeltgen S, Omari T

CMS-18 Interaction between decline of swallowing and cognitive function in MND
Francis R, Attrill S, Cock C, Doeltgen S

CMS-19 A clinical bulbar assessment scale for ALS (CBSA)
Ball L J, Pattee G L

CMS-20 Developing a message banking pathway: the Irish experience through multi-agency collaboration
Doyle L, Fitzsimons C, Jagoe C

CMS-21 A single adjustment of the scanning-speed of the device affected each participant’s feeling and number of letters as an effect of short-term training programs on augmentative and alternative communication to support ALS/MND patients
Tanaka Y, Narita Y, Ishikawa T, Nakai M, Imura T, Takahashi E, Mizumoto C

CMS-22 Gross numbers of letters as the effect of a short-term training program for augmentative and alternative communication on health-care students after 6 months
Ishikawa T, Narita Y, Nakai M, Imura T, Tanaka Y, Takahashi E, Mizumoto C

CMS-23 Verification of the effect of medical coordinator of intractable disease on the regional medical care network for intractable disease in Japan
Hotta M, Tanaka Y

CMS-24 Virtual reality in ALS
Vota S A, Pearson K, Rhodes R, Brockenhourgh P

CMS-25 Improved survival in ALS patients following intrathecal administration of autologous Bone Marrow Mononuclear Cells (BMMNCs)

CMS-26 The effect of riluzole oral film on swallowing safety in individuals with ALS

CMS-27 Nursing driven initiative to increase tolerance and compliance of BHV-0223 novel therapy in ALS patients
Ranzinger L, Newell-Sturdivant A, Jones J, Brooks B

CMS-28 Zydus riluzole 40mg oral disintegrating tablet biohavan expanded access program – single center experience
Jones J, Ranzinger L H, Brooks B R

CMS-29 Real-world evidence of Radicava® (edaravone) for ALS from a national infusion center database in the United States
Heiman-Patterson T, Perdrizet J, Apple S, Prosser B, Agnese W

CMS-30 A preliminary analysis of the feasibility and efficacy of edaravone at a multidisciplinary ALS clinic
Gray L T, Scarlett F, Pereda M, Locatelli E

CMS-31 Discussing personalised prognosis in ALS: development of a communication guide
van Eenennaam R M, Kruithof W, van Es M A, Geir Bråthen G

CMS-32 A comprehensive approach to end of life discussions in ALS
Brockenhourgh P, Maldonado J, Gebhardt M, Vota S

WP-03 Critical epochs of environmental exposures and gene-environment-time interactions in ALS

WP-04 MND phenotypes and premorbid status in the Trondelag region, Norway
Taraldsen M D, Bjørnstadjordet M, Meisingset T W, Geir Bråthen G

WP-05 Assessing structural- and copy number-variation in MND

WP-06 Long-read sequencing approaches to investigate the contribution of human-specific variable number tandem repeats to ALS susceptibility
Couze M, Gudsukn K, Valdmanis P N

WP-07 Novel patient-derived 3D in vitro models of microglia to study neuroinflammation in ALS
Cuni-Lopez C, Quek H, Oikari L E, Stewart R, White A R

WP-08 NF-kB activation in astroglia in mouse models of ALS
Kroeger C, Baumann B, Ouali N, Schurr C, Wirth T

WP-09 Good riddance to bad rubbish: waste disposal in human ALS post-mortem pericytes
Dunne C M, Mouravlev A, Scotter E L

WP-10 Investigating TDP-43 mislocalisation using novel human induced pluripotent stem cell models
Talbot J, Stellon D, Chear S, Atkinson R, Perry S, Hewitt A, King A E, Cook A L

WP-11 Characterising CYTSB as a potential therapeutic target for organ pathology in SMA
Munir R, Hunter G

WP-12 A combined structural, functional and neurochemical MRI signature of motor system excitability in ALS

WP-13 Diagnostic utility of the split-hand index in ALS phenotypes
Branco G, Higashihara M, Van den Bos M, Geevasinga N, Vucic S, Menon P

WP-14 People living with ALS and their caregivers’ input into drug development in Europe

WP-15 WITHDRAWN

THEME WP
Biomedical and clinical work in progress

WP-01 Prevalence of ALS in the United States, 2016
Mehta P, Larson T, Horton K

WP-02 Utilizing capture-recapture methodology to estimate the missing ALS prevalent cases in the United States, 2016
Horton K, Larson T, Mehta P
WP-17 The Japanese early-stage trial of high dose methylcobalamin for ALS (JETALS): Protocol of the phase III trial and validation of the updated Awaji criteria for the diagnosis of early stage ALS

WP-18 Clinical characteristics of young-onset ALS in Korean cohort
Lee S, Park J, Oh K-W, Li Jang D, Hyun Kim S

WP-19 Machine learning for novel prognosis prediction and ALS patient stratification

WP-20 Intranasal oxytocin for terminal ALS with social interaction deficits
Fujita K, Shimazu T, Maruki Y

WP-21 Assessing assistive technology use and needs by individuals with ALS/MND
Feldman S, Dryden E

WP-22 The addition of rotational and adjustable flexion components to cervical support
Feldman S, Goren M, Harris D, Dryden E, Nevasekar N, Ayaz I

WP-23 The MotOrtose project - development of a motorized upper extremity orthosis for ALS
Meisingst T, Bråthen G, Lien T

WP-24 High-throughput screening for the development of novel ALS treatments

WP-25 Challenges and success of rowing across the Atlantic by an individual with ALS
Hayes H A, Alderman A, Gibson S, Bromberg M

WP-26 Family caregivers in ALS and their vital need for self-care
McDonald L, Berlowitz D J, Howard M E, Rautela L, Chao C, Sheers N

WP-27 Group interventions for ALS caregivers: a randomised controlled trial protocol
Burke T, O’Raghallaigh J W, Maguire S, Galvin M, Heverin M, Hardiman O, Pender N

WP-28 Interventions targeting the psychological well-being of carers of people with MND: a systematic review
Cafarella P, Effing T, Chur-Hansen A

WP-29 A pilot project to determine if standard ayurvedic treatment protocol alters the progression of ALS
Paul A, James F A, VP J K, Karalam S B

WP-30 A systematic review of diet and exercise clinical trials among people with ALS
Zheng E R Y, Lau T, Vucic S, Flood V M

WP-31 Supporting choice in dysphagia management through naturally thick drinks
Doyle L, Heraughty N

WP-32 The impact of gastrointestinal related symptoms on nutrition intake - the role of the dietitian in managing gastrointestinal complications in persons living with MND
Zandi E, Sawvidais A

WP-33 Developing a web-based patient decision aid for gastrostomy in MND: the DiAMoND study

WP-34 The effect of feeding tube placement on body mass index and ALSFRS-r

WP-35 Oscillating PeP (O-PeP) devices versus Expiratory Muscle Trainers (EMTs) for lung recruitment in ALS patients prior to NIV
Heimann-Patterson T, Harris D, Mergner D, Pepper H

WP-36 Pneumothorax in neuromuscular disease associated with lung volume recruitment and mechanical insufflation-exsufflation
McDonald L, Berlowitz D J, Howard M E, Rautela L, Chao C, Sheers N

WP-37 Long-term follow-up for patients undergoing pre-symptomatic genetic testing for C9orf72 and SOD1
Kinsley L M

WP-38 Familial ALS and FTLD: identifying the need for a new genetic counselling model of care
Crook A, Rowe D B, Fell R, Jacobs C, Newton-John T, McEwen A

WP-39 Differentiating needs of informal caregivers of ALS patients across the caregiving course: a systematic review
Poppe C, Iseli L, Koné L, Elger B S, Wangmo T

WP-40 Family caregivers in ALS and their vital need for self-care
Verwey M A

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Burke T, O’Raghallaigh J W, Maguire S, Galvin M, Heverin M, Hardiman O, Pender N

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Cafarella P, Effing T, Chur-Hansen A

WP-43 Efficacy of a group-based mindfulness program for people with MND and their family caregivers

WP-44 Animal assisted activity with service dogs “One project” to heal the patients with ALS who have been hospitalized long term
Ogino Y, Ogino M, Komori T

WP-45 Mental health support plans for people affected by MND
Bethell A

WP-46 The needs and psychological distress of family caregivers after the death of the ALS patient
Knudsen L F

WP-47 Support for patients with intractable neurological diseases to select treatment options
Nagase M

WP-48 Assessing preference heterogeneity with respect to MND treatment: a discrete choice experiment
Farrar M A, Street D, Carey K, Kasprian N, De Abreu Lourenco R

WP-49 The development of a multidisciplinary specialist communication and assistant technology (CAT) clinic within the New South Wales (NSW) public health sector
Gibb A, Signorelli M, Thornley M

WP-50 Occupational therapist and the benefits of the online learning environment for clinical intervention for people living with MND
Brow R, Solomon S

WP-51 How open-ended questions posed by clients have informed, impacted and evolved an occupational therapy service from inception to now - 5 years on
Knight R E

WP-52 How an occupational therapy service has changed and evolved from direct client care provision to consultative service methods, to best meet the needs of people with MND post National Disability Insurance Scheme (NDIS)
Knight R E

WP-53 OT for people with MND: adjusting and adapting to rapidly changing function
Solomon S J

WP-54 Reflections on the care of people with MND/ALS care over 35 years
Oliver D J

WP-55 Four quadrants of care
Quick L K, Baigent S

WP-56 Shhh...we don’t talk about that! An online learning environment for clinical education in motor neuron disease
Quick L K

WP-57 Metro South chronic disease MND gastrostomy change service
Quick L K, Ebzery M

WP-58 A dying wish: organ donation in MND – ethics law and practice in the Australian context
Sheahan L, Herz H, Flynn G
Exhibitors

- ART LOVES SCIENCE FOUNDATION
- MND Australia
- MND Western Australia
- Biogen
- OPC HEALTH
- brainstorm cell therapeutics
- TalarMade
- Cytokinetics
- ORION PHARMA
- INTERNATIONAL ALLIANCE OF ALS/MND ASSOCIATIONS
- Seqirus
### Summary of events/locations

#### Wednesday 4 December

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<th>Time</th>
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<tr>
<td>07.00 – 18.00</td>
<td>Registration International Symposium</td>
<td>Reception Desk</td>
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<tr>
<td>07.00 – 19.00</td>
<td>Speaker Room</td>
<td>Meeting Room 12</td>
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<tr>
<td>08.30 – 10.30</td>
<td>Symposium Joint Opening Session</td>
<td>Riverside Theatre</td>
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<td>10.30 – 11.00</td>
<td>Refreshments, Networking and Exhibitors</td>
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<tr>
<td>11.00 – 12.45</td>
<td>Symposium Clinical Session 2A</td>
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<td>11.00 – 12.30</td>
<td>Symposium Biomedical Session 2B</td>
<td>Bellevue Ballroom 2</td>
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<td>Symposium Alternative Session 2C</td>
<td>Meeting Rooms 1-3</td>
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<td>12.30 – 14.00</td>
<td>Lunch and Networking Exhibitors</td>
<td>Bellevue Ballroom 1/Bellevue Foyer</td>
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<td>12.30 – 14.00</td>
<td>REFALS (closed meeting)</td>
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<tr>
<td>14.00 – 15.30</td>
<td>Symposium Clinical Session 3A</td>
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<tr>
<td>16.00 – 17.45</td>
<td>Symposium Clinical Session 4A</td>
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<td>Symposium Alternative Session 4C</td>
<td>Meeting Rooms 1-3</td>
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<tr>
<td>18.00 – 20.00</td>
<td>Global Walk to D’Feet and Barbecue Reception</td>
<td>External and Summer Garden</td>
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<tr>
<td>07.15 – 08.15</td>
<td>Advancing Innovation in ALS: The Importance of Environment vs Genes in the Development of ALS (Sponsored by Cytokinetics)</td>
<td>River View Room 5</td>
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<tr>
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<td>Symposium Clinical Sessions 5A</td>
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<td>14.00 – 15.30</td>
<td>Symposium Clinical Sessions 6A</td>
<td>Riverside Theatre</td>
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<tr>
<td>14.00 – 15.30</td>
<td>Symposium Biomedical Session 6B</td>
<td>Bellevue Ballroom 2</td>
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<td>14.00 – 15.30</td>
<td>Symposium Alternative Session 6C</td>
<td>Meeting Rooms 1-3</td>
</tr>
<tr>
<td>15.30 – 16.00</td>
<td>Refreshments, Networking and exhibitors</td>
<td>Riverside Theatre Foyer</td>
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<tr>
<td>16.00 – 17.50</td>
<td>Symposium Clinical Sessions 7A</td>
<td>Riverside Theatre</td>
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<tr>
<td>16.00 – 17.45</td>
<td>Symposium Biomedical Session 7B</td>
<td>Bellevue Ballroom 2</td>
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<tr>
<td>16.00 – 17.45</td>
<td>Symposium Alternative Session 7C</td>
<td>Meeting Rooms 1-3</td>
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<tr>
<td>18.00 – 20.00</td>
<td>Poster Session B</td>
<td>Pavilion 1</td>
</tr>
<tr>
<td>19.15 – 20.45</td>
<td>BRAIN-MEND consortium meeting (closed meeting)</td>
<td>Meeting Room 10</td>
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#### Friday 6 December

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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<tr>
<td>07.00 – 13.30</td>
<td>Speaker Room</td>
<td>Meeting Room 12</td>
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<tr>
<td>08.00 – 12.00</td>
<td>Registration International Symposium</td>
<td>Reception Desk</td>
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<tr>
<td>08.30 – 10.00</td>
<td>Symposium Clinical Sessions 8A</td>
<td>Riverside Theatre</td>
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<td>08.30 – 09.50</td>
<td>Symposium Biomedical Session 8B</td>
<td>Bellevue Ballroom 2</td>
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<tr>
<td>10.00 – 10.30</td>
<td>Refreshments, Networking and Exhibitors</td>
<td>Riverside Theatre Foyer</td>
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<tr>
<td>10.30 – 12.30</td>
<td>Symposium Clinical Sessions 9A</td>
<td>Riverside Theatre</td>
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<tr>
<td>10.30 – 12.30</td>
<td>Symposium Biomedical Session 9B</td>
<td>Bellevue Ballroom 2</td>
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<td>12.30 – 14.00</td>
<td>Lunch and Networking Exhibitors</td>
<td>Bellevue Ballroom 1/Bellevue Foyer</td>
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<tr>
<td>14.00 – 15.30</td>
<td>Symposium Joint Closing Session</td>
<td>Riverside Theatre</td>
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</table>
With grateful thanks to the supporters of the 30th International Symposium on ALS/MND

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