34th international symposium on ALS/MND

6-8 December 2023
Basel, Switzerland and online

Host: Verein ALS Schweiz

Organised by the Motor Neurone Disease Association

PROGRAMME
The 34th International Symposium on ALS/MND has been approved by the Federation of the Royal Colleges of Physicians of the United Kingdom for 18 category 1 (external) CPD credits.

Organiser of the Symposium
Motor Neurone Disease Association
Francis Crick House, 6 Summerhouse Road
Moulton Park, Northampton NN3 6BJ
Tel: +44 1604 250505
Email: symposium@mndassociation.org
www.symposium.mndassociation.org

Host for the Symposium
Verein ALS Schweiz
Margarethenstrasse 58,
4053 Basel, Switzerland
Tel: +41 44 887 1720
www.als-schweiz.ch

Held in co-operation with
International Alliance of ALS/MND Associations
International Society for Frontotemporal Dementias

CME Accreditation
The 34th International Symposium on ALS/MND has been approved by the Federation of the Royal Colleges of Physicians of the United Kingdom for 18 category 1 (external) CPD credits.
Grüezi! Bonjour! Benvenuto! Allegra!
A very warm welcome!

It’s the first time in over thirty years that the International Symposium on ALS/MND has come to Switzerland. With this conference, the MND Association offers the largest annual conference dedicated to ALS and MND research. Wherever our community congregates, you’ll find an unparalleled spirit. People from all over the world come together in support of our common cause: a world free of ALS/MND. Whether we are in Boston, Dublin, Perth or Basel: our purpose is always to learn from and to inspire each other – in a powerful exchange between professionals. At the ALS Association Switzerland, our main cause is seeking to improve the quality of life of people with ALS and their loved ones as best we can.

When delegations from Switzerland and 16 countries met in the UK in November 1992 to found the International Alliance of ALS/MND Associations, their goals were as follows: raising global awareness, sharing information on managing the condition, supporting and coordinating global research, creating a global identity and improving quality of care. Our community shares those very same aims to this day. We are deeply committed to supporting people with the condition and their loved ones and meeting the needs of specialists and experts in the field. Discovered 150 years ago, the condition remains terminal. Every year, all over the world, it leaves in its wake those people who suffer this awful fate – and others who are forced to look on while a loved one loses their life. So I think it is right and vital that we have stuck to these goals. This means that we persevere and persist even when the road is hard and the journey to our destination is longer than we would have hoped.

You currently find yourselves in the heart of Europe, in a country often mistaken for Sweden, on account of its name. But Switzerland is 10 times smaller than Sweden. And over 200 times smaller than the USA. Switzerland is also a country in four parts, each with its own language and culture: German-speaking and French-speaking Switzerland, Italian-speaking Ticino, and the canton of Grisons, where some people speak Romansh, the fourth official language of Switzerland. While our cultures are very diverse, we have decided to take them as inspiration and – in the spirit of the wider whole – to bring together the very best from every corner of our country. We are honoured to have you pay us a visit. I see this occasion as an opportunity to tap into the diversity of our community and achieve our utmost in pursuit of our common cause. With that, I wish you a very warm welcome here in Switzerland!

Walter Brunner
President, ALS Association Switzerland
Wednesday 6 December

**SESSION 1**

**JOINT OPENING SESSION**

**Location:** San Francisco  
**Chairs:** A Al-Chalabi (UK) and T Curry (UK)

08.30 – 08.35  
Welcome  
A Al-Chalabi (UK) and T Curry (UK)

08.35 – 08.45  
Welcome from Host Association/Dignitary

08.45 – 09.30  
C1 Stephen Hawking Memorial Lecture: Mapping the CNS: From cells to networks for movement  
R Costa (USA)

09.30 – 10.00  
International Alliance Forbes Norris Award

10.00 – 10.20  
IPG Award and winner’s research presentation

10.30 – 11.00  
REFRESHMENTS, NETWORKING AND EXHIBITORS

**Location:** Level 2 Foyer

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**SESSION 2A**

**GENETICS AND GENOMICS**

**Location:** San Francisco  
**Chairs:** J Kirby (UK) M van Es (Netherlands)

11.00 – 11.30  
C2 Exploring the non-coding genome  
J Quinn (UK)

11.30 – 11.45  
C3 The oligogenic structure of ALS  
A Iacoangeli (UK)

11.45 – 12.00  
C4 Genome-wide paired DNA-RNAseq analyses to discover intronic splice mutation hotspots in neurological disorders  
Y Wang (Netherlands)

12.00 – 12.15  
C5 Genetic and epigenetic investigation of survival modifiers in Chinese ALS  
M Zhang (China)

12.15 – 12.30  
C6 An IGFBP7 promotor SNP is associated with the ALS Reversal phenotype  
E Rampersaud (USA)

**SESSION 2B**

**RESPIRATORY ASSESSMENT AND MANAGEMENT**

**Location:** Singapore  
**Chairs:** S Pinto (Portugal) M van Es (Netherlands)

11.00 – 11.20  
C7 Identifying needs in ALS respiratory care using weekly monitoring of pulmonary function  
A Geronimo (USA)

11.20 – 11.40  
C8 Improving measurement of lung function in ALS: the results of the Pulmonary Function via Impedance Tomography (PuFIT)  
C McIlduff (USA)

11.40 – 12.00  
C9 Calculated maximal volume ventilation (cMVV) as a marker of early respiratory failure in ALS  
U Manera (Italy)

12.00 – 12.15  
C10 Factors associated with emergency tracheostomy or early mortality in a population-based study of 170 subjects with ALS/MND  
P Cazzolli (USA)

**SESSION 2C**

**PERSPECTIVES ON ALS AND FTD: PHENOTYPES AND NEUROIMAGING**

**Location:** Montreal  
**Chairs:** J van Swieten (Netherlands) M Turner (UK)

11.00 – 11.05  
Introduction  
J van Swieten (Netherlands)

11.05 – 11.45  
C12 Clinical/cognitive phenotypes in ALS and FTD: You say tomatoes...  
S Abrahams (UK) and J Rohrer (UK)

11.45 – 12.25  
C13 Neuroimaging in ALS and FTD  
J Kassubek (Germany) and H Rosen (USA)

12.25 – 12.40  
Discussion

12.30 – 14.00  
LUNCH

**Location:** Event Halle
SESSION 3A
IN VIVO MODELS
Location: San Francisco
Chairs: C Bendotti (Italy)
C Lutz (USA)

14.00 – 14.30
C14 Mouse Models and Resources for ALS – What Models to use, when and why
C Lutz (USA)

14.30 – 14.45
C15 Severity of impaired motor unit recovery in ALS-associated KIF5A variant mice is inversely related to total soluble KIF5A protein levels
S Kolb (USA)

14.45 – 15.00
C16 Linking mechanisms of protein aggregation to neurodegeneration in vivo – the critical role of posttranslational modifications for condensate formation and aggregation of human TDP-43
M Morsch (Australia)

15.00 – 15.15
C17 TARDBP Knock-In Zebrafish Models Display a Motor Phenotype and Present with Some Pathological Hallmarks of ALS
G Armstrong (Canada)

15.15 – 15.30
C18 Reorganization of central carbon metabolism rescues TDP-43 proteostasis collapse in spinal motor neurons
K Asakawa (Japan)

15.30 – 16.00
REFRESHMENTS, NETWORKING AND EXHIBITORS
Location: Level 2 Foyer

SESSION 3B
TECHNOLOGY AND TELEMEDICINE
Location: Singapore
Chairs: T Meyer (Germany)
E Hobson (UK)

14.00 – 14.30
C19 Harnessing collaborative innovation to enhance quality of life in ALS/MND
S Moss (UK)

14.30 – 14.45
C20 Longitudinal remote monitoring of nocturnal physiology in people living with ALS
M Crook-Rumsey (UK)

14.45 – 15.00
C21 Evaluation of digital technologies for home-based assessment of people with ALS
A Mueller (Switzerland)

15.00 – 15.15
C22 Clinical use and comparative analysis of the self-explanatory ALS Functional Rating Scale (ALSFRS-R-SE) in a controlled multicenter study
A Maier (Germany)

15.15 – 15.30
C23 Site and participant perspectives on participating in an ALS trial designed to reduce burden: COURAGE-ALS
S Rudnicki (USA)

SESSION 3C
PERSPECTIVES ON ALS AND FTD: BIOMARKERS, TRIALS AND PRODROMAL DISEASE
Location: Montreal
Chairs: R Bowser (USA)
J Rohrer (UK)

14.00 – 14.30
C24 Fluid biomarkers in ALS and FTD
M Turner (UK)
J van Swieten (Netherlands)

14.30 – 15.00
C25 Prodromal ALS and FTD
M Benatar (USA)
C McMillan (USA)

15.00 – 15.30
C26 Therapeutic trials in ALS and FTD
L van den Berg (Netherlands)
A Boxer (USA)
Wednesday 6 December

SESSION 4A
CELL BIOLOGY AND PATHOLOGY
Location: San Francisco
Chairs: J Atkin (Australia)
H Durham (Canada)

16.00 – 16.20
C27 Dysregulated lipid metabolism is an early contributor to neurodegeneration in C9orf72 ALS/FTD
M Neumann (Germany)

16.20 – 16.40
C28 Disruption of the angiopoietin-like protein system correlates with lipid homeostasis in ALS
S Krishnamurthy (Canada)

16.40 – 17.00
C29 Transcriptomic analysis of amyotrophic lateral sclerosis patient brain regions with differential pTDP-43 neuropathology
N Grima (Australia)

17.00 – 17.15
C30 UNC13A Loss and TDP-43 Dependent Mis-splicing Drives Synaptic Dysfunction in FTD and ALS
S Hinckley (USA)

17.15 – 17.30
C31 TDP-43 subcellular mislocalisation is correlated with loss of optineurin binding for FTD and ALS-associated TBK1 missense variants
C Dobson-Stone (Australia)

SESSION 4B
CAREGIVERS AND FAMILIES
Location: Singapore
Chairs: K Schweikert (Switzerland)
M Galvin (Ireland)

16.00 – 16.30
C32 Informal caregiving in ALS: Difficulty and benefit
M Galvin (Ireland)

16.30 – 16.45
C33 Making end of life decisions about home mechanical ventilation: Patient and family perspectives
E Wilson (UK)

16.45 – 17.00
C34 Health communication guidance for the ALS disease course: Evidence from patient and family focus groups and ALS healthcare professionals. Outcomes of the ALS Talk Project
W Johnston (Canada)

17.00 – 17.15
C35 What, how and when do families communicate about ALS? A qualitative exploration of parents’ and children’s perceptions
M Sommers-Spijkerman (Netherlands)

17.15 – 17.30
C36 Factors predicting anticipatory grief in family carers currently supporting people living with MND
A Trucco (UK)

SESSION 4C
PERSPECTIVES ON ALS AND FTD: PATHOLOGY, MODELS AND TARGETS
Location: Montreal
Chairs: M Strong (Canada)
C McMillan (USA)

16.00 – 16.30
C37 Genetics, pathology and selective vulnerability in ALS and FTD
M Neumann (Germany)

16.30 – 17.00
C38 ALS-FTD: Models and therapeutic targets
A Isaacs (UK)

17.00 – 17.30
C39 Gene therapy strategies for ALS and FTD
C Shaw (UK)

17.30 – 17.45
Discussion

POSTER SESSION A
Location: Event Halle

Part 1 - 17.45 – 18.45
Theme 1 Epidemiology and Informatics
Theme 5 Human Cell biology and Pathology
Theme 8 Clinical imaging and electrophysiology
Theme 11 Cognitive and Psychological assessment and support

Part 2 - 18.45 – 19.45
Theme 4 In Vivo Experimental Models
Theme 10 Disease Stratification and Phenotyping of patients
Biomedical Work in Progress
Thursday 7 December

07.00 – 08.30
NON-CME INDUSTRY BREAKFAST SESSION
Learnings in ALS over the last 10 years
For more information about our non-CME industry sessions, please visit www.symposium.mndassociation.org
Location: Sydney

SESSION 5A
PROTEOSTASIS AND PROTEOTOXICITY
Location: San Francisco
Chairs: J Robertson (Canada)
M Hasegawa (Japan)

08.30 – 09.00
C40 Prion-like properties of ALS associated proteins
M Hasegawa (Japan)
09.00 – 09.15
C41 Phosphorylation alters TDP-43 protein-protein interactions and aggregation
E Kellett (Australia)
09.15 – 09.30
C42 Cyclin F influences the proteostasis of TDP-43
S Rayner (Australia)
09.30 – 09.45
C43 Identifying synaptic interactors of FUS reveals novel functions
S Taconelli (UK)
09.45 – 10.00
C44 The neuroanatomical distributions and morphologies of SOD1 inclusions segregate into different patterns in ALS patients carrying SOD1 mutations
K Forsberg (Sweden)

SESSION 5B
NUTRITIONAL ASSESSMENT AND MANAGEMENT
Location: Singapore
Chairs: F Steyn (Australia)
H Stavroulakis (UK)

08.30 – 08.50
C45 A multi-centre evaluation of the post-gastrostomy management in patients with MND (PostGas)
T Stavroulakis (UK)
08.50 – 09.10
C46 Tube feedings: Assessment of the decision making for patients with ALS
K Tran (USA)
09.10 – 09.30
C47 Higher glycemic index diet is associated with slower disease progression in ALS
I Lee (USA)
09.30 – 09.45
C48 Investigating the role of anthropometric measurements to assess nutritional state in MND: a pilot study
S Roscoe (UK)
09.45 – 10.00
C49 Central pathways of appetite control in MND: fMRI evidence of altered brain responses to visual food stimuli
J Chang (Australia)

08.30 – 10.00
REFRESHMENTS, NETWORKING AND EXHIBITORS
Location: Level 2 Foyer

SESSION 5C
NON-CME INDUSTRY SESSION
Navigating ALS diagnosis in Europe: a multi-country perspective to improve patient journey
For more information about our non-CME industry sessions, please visit www.symposium.mndassociation.org
Location: Montreal
SESSION 6A
PRECLINICAL THERAPEUTIC STRATEGIES
Location: San Francisco
Chairs: L Brujin (Switzerland)
F Menzies (UK)

10.30 – 10.45
C50 Modulation of the mevalonate pathway restores TDP-43-mediated STMN2 deficiency
M Nolan (USA)

10.45 – 11.00
C51 Antisense oligonucleotides rescue UNC13A expression after TDP-43 loss of function
M Keuss (UK)

11.00 – 11.15
C52 An intravenous AAV-RNAi approach targeting Atxn2 for sporadic ALS
G Murlidharan (USA)

11.15 – 11.30
C53 Development of an AAV gene therapy for C9orf72 ALS by targeting the repeat expansion containing C9orf72 transcripts
Y Liu (Netherlands)

11.30 – 11.45
C54 Novel peptides based on thioredoxins are protective in cellular, zebrafish and two mouse models of ALS
J Atkin (Australia)

11.45 – 12.00
C55 Therapeutic mitigation of the toxic phenotype induced by TDP-43 in animal models of ALS
C Droppelman (Canada)

12.00 – 12.15
C56 Novel pharmacological approaches in stimulating protein clearance for therapeutic targeting of cytoplasmic TDP-43 pathology in ALS models
S Keating (Australia)

12.15 – 12.30
C57 ATH-1105, a small molecule positive modulator of the neurotrophic hepatocyte growth factor system, is neuroprotective when administered prophylactically, therapeutically or in combination with riluzole in the prp-TDP-43 A315T mouse model of ALS
K Church (USA)

SESSION 6B
CLINICAL TRIALS
Location: Singapore
Chairs: L van den Berg (Netherlands)
S Paganoni (USA)

10.30 – 10.50
C58 COURAGE-ALS: Results of the Phase 3 clinical trial of reldeemtiv in ALS
J Shefner (USA)

10.50 – 11.10
C59 Harnessing biomarkers to understand clinical outcomes in RCTs: The Modifying Immune Responses and Outcomes in ALS Study (MIROCAL5)
A Malaspina (UK)

11.10 – 11.30
C60 Pridopidine for the treatment of ALS: Top line results from the Phase 2 Healey ALS platform trial
J Shefner (USA)

11.30 – 11.50
C61 Safety profile, biological and clinical effects of colchicine in ALS: Results from a Phase 2 multicenter, randomized controlled double-blind clinical trial
J Mandrioli (Italy)

11.50 – 12.10
C62 Two-year results from the open-label extension of VALOR: Tofersen in adults with SOD1 ALS
M Cudkowicz (USA)

12.10 – 12.30
C63 Results of a double-blind, placebo-controlled clinical trial of AIT-101 (LAM-002A) in C9orf72 ALS: A biomarker driven Phase 2A clinical trial targeting PIKfyve inhibition
S Babu (USA)

SESSION 6C
NEUROIMAGING
Location: Montreal
Chairs: J Grosskreutz (Germany)
P-F Pradat (France)

10.30 – 10.50
C64 Along-tract texture analysis of magnetic resonance images in the corticospinal tract and corpus callosum in ALS
P Parnianpour (Canada)

10.50 – 11.10
C65 Defining the core white-matter disease signature of ALS through state-of-the-art diffusion-weighted imaging and fixel based analysis
S Tu (Australia)

11.10 – 11.30
C66 Brain connectome alterations across King’s stages in ALS
E Spinelli (Italy)

11.30 – 11.50
C67 Use of brain 2-[18F]FDG-PET to discriminate ALS and ALS-mimics
A Canosa (Italy)

11.50 – 12.10
C68 A proof of mechanism study to evaluate the effect of sotuletinib (BLZ945) on neuroinflammation as measured by [11C]-PBR28 PET imaging in participants with ALS
R Miller (Switzerland)

12.10 – 12.30
C69 Premorbid brain structural variations influence risk of ALS
A Thompson (UK)

12.30 – 14.00
LUNCH
Location: Event Halle
### SESSION 7A
**IMMUNITY, INFLAMMATION AND NEURODEGENERATION**

**Location:** San Francisco  
**Chairs:** F Song (USA)  
L Ferraiuolo (USA)

**14.00 – 14.30**  
C70 Astrocyte-neuron interaction in health and disease  
L Ferraiuolo (USA)

**14.30 – 14.45**  
C71 Focal corticospinal tract degeneration below the brainstem of ALS patients suggests a dying back of upper motor neurons  
H Cropper (USA)

**14.45 – 15.00**  
C72 TBK1 loss-of-function is associated with cell autonomous microglial dysfunction  
O Peters (UK)

**15.00 – 15.15**  
C73 Type I interferon response propagates TDP-43 pathogenesis in ALS  
C Yu (Australia)

**15.15 – 15.30**  
C74 Single-cell RNA sequencing identifies a cytotoxic NK subpopulation associated with ALS  
O Dols Icardo (Spain)

### SESSION 7B
**IMPROVING CLINICAL PRACTICE**

**Location:** Singapore  
**Chairs:** S Feldman (USA)  
M Ogino (Japan)

**14.00 – 14.20**  
C75 Mapping the natural history of ALS: Time-to-event analysis of clinical milestones in the pan-European, population-based PRECISION-ALS cohort  
H McDonough (Ireland)  
A Puchades (Spain)

**14.20 – 14.40**  
C76 A randomised controlled trial examining clinical and cost effectiveness of Acceptance and Commitment Therapy plus usual care for improving psychological health in people living with MND in comparison to usual care alone  
R Gould (UK)

**14.40 – 15.00**  
C77 A multicentre evaluation of excessive saliva management in people living with MND.  
S Boddy (UK)

**15.00 – 15.15**  
C78 Evidence-based consensus guidelines for ALS genetic testing and counselling  
J Roggenbuck (USA)

**15.15 – 15.30**  
C79 Quinine for the treatment of muscle cramps in ALS: A randomized placebo controlled double-blind cross-over trial  
N Braun (Switzerland)

### SESSION 7C
**NON-CME INDUSTRY SESSION**

Better diagnosis, treatments and quality of life for people living with MND: are we making an impact?

For more information about our non-CME industry sessions, please visit www.symposium.mndassociation.org  
**Location:** Montreal  
**14.00 – 15.30**

### Thursday 7 December

**15.30 – 16.00**  
**REFRESHMENTS, NETWORKING AND EXHIBITORS**  
**Location:** Level 2 Foyer
SESSION 8A
TDP – 43
Location: San Francisco
Chairs: M Hallegger (UK)
M Polymenidou (Switzerland)

16.00 – 16.30
C80 Does TDP-43 constitute a viable therapeutic target?
M Polymenidou (Switzerland)

16.30 – 16.50
C81 Molecular signatures of TDP-43 dysfunction are age dependent, variable, and therapeutically targetable in authentic sALS and C9orf72 ALS/FTD patient iPSNs
A Coyne (USA)

16.50 – 17.10
C82 Nuclear TDP-43 pathology detected by RNA aptamer is an early aggregation event that correlates with STMN-2 cryptic exon emergence and clinical phenotype
J Gregory (UK)

17.10 – 17.30
C83 Discovery and optimization of the first-in-class TDP-43 PET tracer
E Vokali (Switzerland)

SESSION 8B
COGNITIVE CHANGE
Location: Singapore
Chairs: S Abrahams (UK)
O Hardiman (Ireland)

16.00 – 16.15
C84 Cognitive and behavioural impairment in ALS patients with TARDBP and SOD1 pathogenic variants: A domain analysis.
A Chio (Italy)

16.15 – 16.30
C85 ALS ‘non-specific’ cognitive impairment frequently occurs and remains unnoticed in ALS: development of a new cognitive screening tool.
A Michielsen (Netherlands)

16.30 – 16.45
C86 Directly measuring network function during social cognition in ALS using EEG during the Reading the Mind in the Eyes Task
R McMackin (Ireland)

16.45 – 17.00
C87 Cardiac autonomic dysfunction is associated with impaired cognition in patients with ALS
Z Li (China)

17.00 – 17.15
C88 Relationship between plasma uric acid, white matter microstructure and cognitive function in ALS patients
J Tang (China)

17.15 – 17.30
C89 Correlates of frontotemporal spectrum disorders in a large Italian cohort on non-demented ALS patients
B Poletti (Italy)

SESSION 8C
NON-CME INDUSTRY SESSION
Maintaining continuity of oral disease-modifying treatment by meeting the needs of people with ALS: challenges and expectations
For more information about our non-CME industry sessions, please visit www.symposium.mndassociation.org
Location: Montreal
16.00 – 17.30

POSTER SESSION B
Location: Event Halle

Part 1 - 17.45 – 18.45
Theme 2  Genetics and Genomics
Theme 9  Clinical Trials and Design
Theme 12  Clinical Management and Support

Part 2 - 18.45 – 19.45
Theme 3  In vitro Experimental Models
Theme 6  Tissue Biomarkers
Theme 7  Pre-clinical therapeutic strategies
Care Practice/Work in Progress
### Friday 8 December

#### NON-CME INDUSTRY BREAKFAST SESSION
Clinical Trials in ALS: What have we learned and where are the next opportunities?

For more information about our non-CME industry sessions, please visit [www.symposium.mndassociation.org](http://www.symposium.mndassociation.org)

Location: Sydney

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### SESSION 9A
**IV VITRO MODELS**
Location: San Francisco
Chairs: K Talbot (UK), J Rothstein (USA)

<table>
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<tr>
<th>Time</th>
<th>Title</th>
<th>Presenters</th>
</tr>
</thead>
<tbody>
<tr>
<td>08.30 – 09.00</td>
<td>Whole Genome Screen for Nuclear and TDP-43 Import Regulators in Human iPSC-derived Neurons</td>
<td>J Rothstein (USA)</td>
</tr>
<tr>
<td>09.00 – 09.15</td>
<td>C91 C9orf72 patient-derived spinal cord organoids reveal key ALS phenotypes</td>
<td>L Loh (Australia)</td>
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<tr>
<td>09.15 – 09.30</td>
<td>Loss of TDP43 affects neuronal survival and differentiation in a human stem cell 3D model of the cerebral cortex</td>
<td>V Ramesh (UK)</td>
</tr>
<tr>
<td>09.30 – 09.45</td>
<td>Optogenetic stimulation reveals activity-dependent mechanisms of neurodegeneration in C9orf72-HRE ALS motor neurons and neuromuscular co-culture</td>
<td>L Farrimond (UK)</td>
</tr>
<tr>
<td>09.45 – 10.00</td>
<td>An optogenetic approach to recapitulate C9ORF72 DPR pathology in cellular models</td>
<td>R Hodgson (UK)</td>
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### SESSION 9B
**CLINICAL MANAGEMENT**
Location: Singapore
Chairs: J Bedford (UK), C Ingre (Sweden)

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Presenters</th>
</tr>
</thead>
<tbody>
<tr>
<td>08.30 – 09.00</td>
<td>Standards of care in an era of multiple treatments</td>
<td>C Ingre (Sweden)</td>
</tr>
<tr>
<td>09.00 – 09.30</td>
<td>Developing guidelines for the management of cognitive and behavioural changes in ALS</td>
<td>E Mioshi (UK)</td>
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<tr>
<td>09.30 – 10.00</td>
<td>How to break the news in ALS/MND: a primer for physicians and allied health professionals</td>
<td>M Kavanaugh (USA)</td>
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### SESSION 9C
**TISSUE BIOMARKERS**
Location: Montreal
Chairs: M Benatar (USA), A Malaspina (UK)

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Presenters</th>
</tr>
</thead>
<tbody>
<tr>
<td>08.30 – 08.50</td>
<td>A robust microRNA ALS blood diagnostic test</td>
<td>S Banack (USA)</td>
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<tr>
<td>08.50 – 09.10</td>
<td>Deep proteomics of cerebrospinal fluid implicates endoplasmic reticulum and inflammatory mechanisms in aggressiveness of ALS</td>
<td>E Dellar (UK)</td>
</tr>
<tr>
<td>09.10 – 09.30</td>
<td>Proteomics and mathematical modelling of longitudinal CSF differentiates fast versus slow ALS disease progression</td>
<td>R Bowser (USA)</td>
</tr>
<tr>
<td>09.30 – 09.45</td>
<td>Lipid-mediated resolution of inflammation and survival in ALS</td>
<td>O Yildiz (UK)</td>
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<tr>
<td>09.45 – 10.00</td>
<td>Peripheral immunity relates to disease progression and prognosis in ALS</td>
<td>Q Jiang (China)</td>
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**10.00 – 10.30 REFRESHMENTS, NETWORKING AND EXHIBITORS**
Location: Level 2 Foyer
<table>
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<tr>
<th>Session 10A: Transcriptomics and RNA Biology</th>
<th>Session 10B: Clinical Stratification and Endpoints</th>
<th>Session 10C: Surrogate Markers</th>
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<tbody>
<tr>
<td>Location: San Francisco</td>
<td>Location: Singapore</td>
<td>Location: Montreal</td>
</tr>
<tr>
<td>Chairs: M Ruepp (UK) P Wong (USA)</td>
<td>Chairs: M Weber (Switzerland) A Chiò (Italy)</td>
<td>Chairs: A Hübers (Switzerland) M de Carvahlo (Portugal)</td>
</tr>
<tr>
<td>10.30 – 11.00 C103 TDP-43 dependent cryptic exons: Functional fluid biomarker and target validation P Wong (USA)</td>
<td>10.30 – 11.00 C110 Stratification and improving clinical endpoints: Is personalised medicine the answer? A Genge (Canada)</td>
<td>10.30 – 10.50 C116 Cerebrospinal fluid levels of Chitinase 3-like protein 1 correlate with cerebral glucose metabolism in ALS J De Vocht (Belgium)</td>
</tr>
<tr>
<td>11.00 – 11.15 C104 Lnc-HIBADH-4 regulates autophagy-lysosome pathway in amyotrophic lateral sclerosis by targeting CTSD J Huang (China)</td>
<td>11.00 – 11.30 C111 ALS clinical heterogeneity: What we know and what we need to know S Vucic (Australia)</td>
<td>10.50 – 11.10 C117 Threshold tracking transcranial magnetic stimulation and neurofilament light chain as biomarkers in ALS A Jacobsen (Denmark)</td>
</tr>
<tr>
<td>11.15 – 11.30 C105 Harnessing TDP-43 mediated feedback loops as novel diagnostic tools and for pathomechanistic insights M Hallegger (UK)</td>
<td>11.30 – 11.45 C112 Evaluating the performance of the Bayesian primary efficacy analysis model in the HEALEY ALS Platform Trial B Saville (USA)</td>
<td>11.10 – 11.30 C118 Cortico-muscular coherence: A promising biomarker of neurodegeneration in ALS S Bista (Netherlands)</td>
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<td>11.30 – 11.45 C106 FUS is a global regulator of RNA methylation and ALS-FUS mutations disrupt this function at several levels T Shekornikova (UK)</td>
<td>11.45 – 12.00 C113 Head-to-head reliability of different outcome measures in the ALS Methodology Study 999AS003 C Neuwirth (Switzerland)</td>
<td>11.30 – 11.50 C119 Cortical hyperexcitability in ALS is mediated by distinct neuronal populations N Pavey (Australia)</td>
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<td>11.45 – 12.00 C107 Loss of ALS-linked SFPQ causes aberrant splicing and deregulation of RNA editing in human motor neurons G Tyzack (UK)</td>
<td>12.00 – 12.15 C114 Enhancing randomized clinical trials for ASLS: harnessing synthetic placebo controls from patient registries R Van Eijk (Netherlands)</td>
<td>11.50 – 12.10 C120 Dynamic analysis of brain state reveals altered functional networks in ALS: Insights from high density resting state EEG M Metzger (Ireland)</td>
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<td>12.00 – 12.15 C108 C9orf72 gene networks in the human brain correlate with cortical thickness in C9-FTD and implicate vulnerable cell types I Broce (USA)</td>
<td>12.15 – 12.30 C115 Can we beat the placebo response by patient stratification at the baseline of a clinical trial? B Lerner (Israel)</td>
<td>12.10 – 12.30 C121 The cortical neurophysiological signature of ALS M Trubshaw (UK)</td>
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<td>12.15 – 12.30 C109 Trancriptomic signatures of frontal cortex vulnerability in C9orf72 ALS and FTLD-TDP B Spencer (USA)</td>
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**Session 10A Transcriptomics and RNA Biology**

- **10.30 – 11.00** C103 TDP-43 dependent cryptic exons: Functional fluid biomarker and target validation P Wong (USA)
- **11.00 – 11.15** C104 Lnc-HIBADH-4 regulates autophagy-lysosome pathway in amyotrophic lateral sclerosis by targeting CTSD J Huang (China)
- **11.15 – 11.30** C105 Harnessing TDP-43 mediated feedback loops as novel diagnostic tools and for pathomechanistic insights M Hallegger (UK)
- **11.30 – 11.45** C106 FUS is a global regulator of RNA methylation and ALS-FUS mutations disrupt this function at several levels T Shekornikova (UK)
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- **12.15 – 12.30** C109 Trancriptomic signatures of frontal cortex vulnerability in C9orf72 ALS and FTLD-TDP B Spencer (USA)

**Session 10B Clinical Stratification and Endpoints**

- **10.30 – 11.00** C110 Stratification and improving clinical endpoints: Is personalised medicine the answer? A Genge (Canada)
- **11.00 – 11.30** C111 ALS clinical heterogeneity: What we know and what we need to know S Vucic (Australia)
- **11.30 – 11.45** C112 Evaluating the performance of the Bayesian primary efficacy analysis model in the HEALEY ALS Platform Trial B Saville (USA)
- **11.45 – 12.00** C113 Head-to-head reliability of different outcome measures in the ALS Methodology Study 999AS003 C Neuwirth (Switzerland)
- **12.00 – 12.15** C114 Enhancing randomized clinical trials for ASLS: harnessing synthetic placebo controls from patient registries R Van Eijk (Netherlands)
- **12.15 – 12.30** C115 Can we beat the placebo response by patient stratification at the baseline of a clinical trial? B Lerner (Israel)

**Session 10C Surrogate Markers**

- **10.30 – 10.50** C116 Cerebrospinal fluid levels of Chitinase 3-like protein 1 correlate with cerebral glucose metabolism in ALS J De Vocht (Belgium)
- **10.50 – 11.10** C117 Threshold tracking transcranial magnetic stimulation and neurofilament light chain as biomarkers in ALS A Jacobsen (Denmark)
- **11.10 – 11.30** C118 Cortico-muscular coherence: A promising biomarker of neurodegeneration in ALS S Bista (Netherlands)
- **11.30 – 11.50** C119 Cortical hyperexcitability in ALS is mediated by distinct neuronal populations N Pavey (Australia)
- **11.50 – 12.10** C120 Dynamic analysis of brain state reveals altered functional networks in ALS: Insights from high density resting state EEG M Metzger (Ireland)
- **12.10 – 12.30** C121 The cortical neurophysiological signature of ALS M Trubshaw (UK)

**Lunch**

Location: Event Halle
SESSION 11

JOINT CLOSING SESSION

Location: San Francisco
Chairs: A Al-Chalabi (UK)
D Taylor (Canada)

14.00 – 14.05
Invitation to Montreal 2024

14.05 – 14.10
Poster Prize Awards

14.10 – 14.20
Healey Center Prize

14.20 – 14.30
Lalji Family Award

14.30 – 15.00
C122 Genetic testing in ALS: Opportunities and challenges
M Harms (USA)

15.00 – 15.15
C123 Survival for patients with ALS: How close are we to developing a robust personalised prediction model?
H-J Westeneng (Netherlands)

15.15 – 15.30
Late breaking news
Theme 01 - Epidemiology and Informatics

EPI-01 MND Register for England Wales and Northern Ireland: interim analysis of incidence prevalence lifetime risk and case ascertainment
Dr Sarah Opie-Martin

EPI-02 Characterising the amyotrophic lateral sclerosis population in Europe – a clinical observational study of 21,000 patients as part of the PRECISION ALS project
Dr Sarah Opie-Martin

EPI-03 PRECISION ALS: A Bespoke Framework for Cross National Prospective Data Collection and Analysis
Prof Orla Hardiman

EPI-04 Exploring the interplay of BMI smoking and head injury with C9orf72 carrier status on ALS risk and functional decline
Dr Charilaoa Chourpiliadis

EPI-05 Detection of environmental risk factors of ALS: Airborne Pure Lead and Lead Compounds
Mr Kevin Cornell

EPI-06 Sex Hormones and Neurodegenerative Disorders: a Mendelian Randomization Study
Professor Chunyu Li

EPI-07 Estimating the Size of the Asymptomatic Genetic ALS & FTD Community in the United States
Ms Jean Swidler

EPI-08 A nationwide epidemiological survey of Facial Onset Sensory and Motor Neuronopathy (FOSMN) in Japan
Mr Senri Ko

EPI-09 Health conditions preceding Motor Neuron Disease: a cross-country study from Australia, France and Sweden
Dr Allan McRae

EPI-10 Increase of ALS survival over an 18-year period: results from a population-based cohort
Dr Rosario Vasta

EPI-11 Age period and cohort (APC) effects on Amyotrophic Lateral Sclerosis (ALS) incidence in Ireland: a partial least squares regression (PLSR) model (1996-2021)
Dr Robert McFarlane

EPI-12 Natural history and remarkable psychiatric state of old-onset amyotrophic lateral sclerosis in China
Mr Sen Huang

EPI-13 Pathological insights and expert evaluation of primary lateral sclerosis: a case series
Ms Eva de Boer

EPI-14 Time-to-event prediction in ALS using a semi-competitive risks modeling approach using the ALS Natural History Consortium dataset
Mr Andres Arguedas

EPI-15 Time-to-event prediction in ALS using a landmark modeling approach using the ALS natural history consortium dataset
Mr. David Schneck

EPI-16 Comparing States and Outcomes of Patients with Amyotrophic Lateral Sclerosis Using Tracheostomy Invasive Ventilation in Tokyo Japan and Ohio USA
Ms Yuki Nakayama

EPI-17 Health care utilization last month of life in ALS – a register study from Sweden
Dr Anneli Ozzanne

Theme 02 - Genetics and Genomics

GEN-01 MicroRNA and transfer-RNA derived small RNA signatures in ALS. ALS ‘mimics’ and healthy controls
Ms Sharada Baindoor

GEN-02 Mapping neuropathological signatures of rare ALS genes
Dr Luca Biasetti

GEN-03 Epigenetic sex differences in amyotrophic lateral sclerosis
Dr Olivia Grant

GEN-04 Expanding the genotype-phenotype diversity of ALS
Dr Marta Gromicho

GEN-05 Phenotype targeted exome in patients with Motor Neuron Disease
Mr Raúl Domínguez-rubio

GEN-06 Whole-genome bisulfite sequencing of motor neurons reveals cell specific enhancers and enables the identification of motor neuron derived cell-free DNA
Dr Calum Harvey

GEN-07 Targeting ALS by a novel conserved motor neuron micropeptide derived from IncRNA
Ms Fang-Yu Hsu

GEN-08 Characterization of transcriptional diversity in C9orf72-related diseases using a novel long-read sequencing technology
Ms Angita Jain

GEN-09 Transcriptome-based in silico screening in human motor neurons with ALS-associated mutations in TARDBP/TPD-43
Ms Sarah Lépine

GEN-10 Mutations in the tail domain of the neurofilament heavy chain gene increase the risk of amyotrophic lateral sclerosis
Ms Heather Marriott

GEN-11 Targeted long-read sequencing of C9orf72 in multiple human tissues
Mr Evan Udine

GEN-12 Intronic KIF5A TC variant modifies rate of progression and survival in sporadic amyotrophic lateral sclerosis
Dr Frances Theunissen

GEN-13 Genotype-phenotype correlation of SQSTM1 variants in patients with amyotrophic lateral sclerosis
Dr Shichan Wang

GEN-14 What is the best strategy to perform a genetic study in patients with ALS?
Dr Daniel Borrego Hernández

GEN-15 Body mass index is lower in presymptomatic C9orf72 pathogenic variant carriers compared to presymptomatic SOD1 pathogenic variant carriers and gene-negative controls
Dr Ikjae Lee

GEN-16 Evaluating Deep Learning Methods for ALS Patient Prediction: Performance Analysis across Multiple Cohorts
Miss Jiajing Hu

GEN-17 A case of familial ALS with a novel mutation in the ANXA11 gene
Professor Seiichi Nagano

GEN-18 Genetic analysis and prognostic biomarkers of ALS in Taiwan
Dr Kang-yang Jih

GEN-19 POSTER WITHDRAWN

GEN-20 Analysis of genetic characteristics of a cohort of Italian patients of a referral center of Amyotrophic Lateral Sclerosis
Dr Laura Libonati

GEN-21 Evaluating the Neurological Proteome as an ALS Biomarker in an Australian Multi-omic Cohort
Miss Laura Ziser

GEN-22 Genetic factors affecting survival in Japanese patients with sporadic amyotrophic lateral sclerosis: a genome-wide association study and verification in iPSC-derived motor neurons from patients
Dr Ryoichi Nakamura

GEN-23 Genetic spectrum of ALS in a South African cohort
Dr Melissa Nel

GEN-24 C9orf72 gene repeat expansion profile of motor neuron disease patients in Portugal
Dr Cláudia Santos Silva

GEN-25 POSTER WITHDRAWN
In vitro Experimental Models

**GEN-26 My ALS Decision Tool**: An interactive online informed decision-making tool for genetic testing in ALS
Ms Lauren Webb

**GEN-27 Combinatorial Analysis of ALS and FTD Patient Genomes to Identify Cross-Disease Mechanisms**
Dr Andrzej Malinowski

**GEN-28 Alzheimer’s Disease and Frontotemporal Dementia: A bi-directional mendelian randomization study**
Dr Xiaoting Zheng

**GEN-29 Association of TRMT2B Gene Variants with Juvenile Amyotrophic Lateral Sclerosis**
Professor Junling Wang

**GEN-30 Young-onset and rapidly progressive amyotrophic lateral sclerosis caused by a novel frameshift truncating mutation p.Y153Qfs*9 in Tbk1 gene**
Professor Yi-Chung Lee

**GEN-31 Genetic analysis in patients with Young onset ALS of Chinese origin**
Professor Zhangyu Zou

**GEN-32 How frequent is early ‘dropped head syndrome’ associated with FUS/TLS mutations?**
Dr Josep Gamez

### Theme 03 - In Vivo Experimental Models

**IVT-01 Investigating the effects of the immune system on the progression of ALS**
Dr Nasser Al-Shanti

**IVT-02 Role of C9orf72/SMCR8/WDR41 complex in inflammation**
Miss Maleeka Khan

**IVT-03 Source mapping of ALS-miRNA biomarkers using human astrocyte models**
Miss Hannah Bailey

**IVT-04 POSTER WITHDRAWN**

**IVT-05 Cellular stress induces neuron-specific degradation of the fragile X protein family**
Ms Lorena Decker

**IVT-06 Loss of individual fragile X protein family members is related to defects in proteostasis**
Ms Sonja Menge

**IVT-07 Using TDP-43 stem cell models to investigate calcium channel blockers for repurposing in ALS**
Dr Emily Carroll

**IVT-08 Utilising human iPSC-derived neuronal models to investigate novel modulators of TDP-43 pathlogy**
Ms Matisse Jacobs

**IVT-09 Understanding the impact of TDP43 on neuromuscular junction denervation by using a human stem cell derived neuromuscular assembloid model**
Miss Andrea Salzinger

**IVT-10 Small heat shock proteins enhance TDP-43 condensate dynamics and mitigate pathological modification**
Mr Thomas Walker

**IVT-11 Translation of dipeptide repeat proteins from antisense transcripts in C9orf72 ALS/FTD through unique and redundant AUG initiation codons**
Dr Yoshifumi Sonobe

**IVT-12 A stem cell-derived microfluidic 3D triculture model to study astrocyte microglia and motor neuron interactions in C9orf72 ALS**
Dr Marianne King

**IVT-13 The effects of ALS-associated SQSTM1/p62 mutations on autophagy inflammation and oxidative stress**
Mr Yuval Gurinkel

**IVT-14 Biochemical regulation of Sequestosome-1/p62 foci is impaired by ALS/FTD-linked cyclin F**
Dr Jennilee Davidson

**IVT-15 Electrophysiological abnormalities in early stages of motor neuron pathology in G93A SOD1 mice**
Dr Martina Wiedau

**IVT-16 Nrf2 pre-activation protects against arsenite-induced oxidative stress**
Dr Flavia Rosianu

**IVT-17 Sigma 1 receptor an ALS16- causative gene product prevents mitochondrial fragmentation via ATAD3A in ALS**
Dr Seiji Watanabe

**IVT-18 Pridopidine exerts neuroprotective effects via activation of the Sigma-1 receptor (S1R)**
Dr Michal Geva

**IVT-19 Calretinin activates microglia to produce CC-motif ligand 2 relevant to clinical severity of ALS**
Dr Shintaro Hayashi

**IVT-20 The Molecular Mechanism Underlying How Extracellular Phosphoglycerate Kinase 1 Improves the Neurite Outgrowth of Motor Neurons**
Professor Huai-Jen Tsai

**IVT-21 Alteration of Adipocyte Function in Amyotrophic Lateral Sclerosis: Development of the Humanized In Vitro Model System to Screen for Immuno-Metabolic Molecular Signatures**
Mr Alexandre Vezina

### Theme 04 - In Vivo Experimental Models

**IVV-01 AIT-101 Improves Functional Deficits in a Human TDP-43 Animal Model of ALS**
Dr Peter R Young

**IVV-02 Cytoplasmic interactions of TDP with core paraplekkie proteins are enriched in ALS vulnerable brain regions in the mouse**
Dr Jackie Mitchell

**IVV-03 Cell stress and apoptotic activation even prior to disease onset in a TDP-43 mouse model of ALS/FTD**
Dr Wei Luan

**IVV-04 Imaging the spinal cord neurodegeneration of the TDP-43-A315T ALS mouse model: relationship between MRI and TDP-43 aggregates**
Ms Yara Al Ojaimi

**IVV-05 TAR DNA binding protein- 43 KDa (TDP-43) pathology causes differential expression of retrotransposons in a TDP-43- Q331K mouse model**
Miss Shreevidya Korada

**IVV-06 Modulation of mutant TDP-43 within astrocytes ameliorates disease progression in a mouse model of amyotrophic lateral sclerosis**
Ms Anna Barbieri

**IVV-07 A new ALS/FTD mouse model with widespread expression of C9orf72 nucleotide repeats throughout the CNS**
Ms Katelyn Russell

**IVV-08 Investigating the molecular basis for selective vulnerability in FET-linked Amyotrophic Lateral Sclerosis (ALS) and Frontotemporal dementia (FTD)**
Miss Laura Odemwingie

**IVV-09 Early bioenergetic hypothalamic dysfunction in SOD1G93A mice**
Dr Valentina Nesci

**IVV-10 Antibiotic mediated modulation of gut microbiome affects survival in SOD1 mice**
Dr Megha Kaul

**IVV-11 Pan-neuronal expression of human SOD1 mutations in Drosophila induces early neuroinflammation**
Dr Francesco Ligouri

**IVV-12 Drosha-dependent microRNAs modulate FUS-mediated amyotrophic lateral sclerosis in vivo**
Dr Udai Pandey

**IVV-13 Characterising novel humanised and physiological mouse models of FUS-ALS**
Ms Georgia Price
**Posters**

**IVV-14** A novel modulator of modified proteins reduced pathogenetic stress in vivo ALS models
Dr Olaf Abduljabbar

**IVV-15** Do Glial Cells contribute to the Differential Vulnerability of Neuromuscular Junctions in Amyotrophic Lateral Sclerosis?
Mrs Marine BORD

**IVV-16** Divergent Pathologies in Novel Knockin Mutant Matrix 3 Mouse Models
Dr David Medina

**IVV-17** Investigating the regeneration competence of peripheral motor neurons in ALS
Dr Samuele Negro

**IVV-18** Nuclear import defects in a nemf mutant mouse model of neurodegeneration
Mr Jonathan Plessis-belair

**IVV-19** DNAJC7 interaction prevents tau fibril formation in vitro and loss of interaction with tau occurs after phosphorylation of threonine 175 and PAD exposure of tau in a rat model of traumatic brain injury
Professor Michael Strong

**IVV-20** Phenotyping of the rNLS8 mouse model of amyotrophic lateral sclerosis
Mr Jussi Toivanen

**Theme 05 - Human cell biology and pathology (including iPSC studies)**

**HCB-01** A transcriptome-wide RNA binding analysis of C9orf72 poly(PR) dipeptides
Dr Rubika Balendra

**HCB-02** Nuclear transport receptors as novel modifiers of C9orf72 pathology
Dr Feilin Liu

**HCB-03** Loss of C9orf72 dysregulates several aspects of nucleocytoplasmic transport contributing to TDP-43 mislocalization in ALS
Dr Philip Mcgoldrick

**HCB-04** Investigating purine metabolism in C9orf72 ALS
Dr Feilin Liu

**HCB-05** MitoALS: The role of mitochondrial dysfunction in ALS
Dr Tale L Bjerknes

**HCB-06** Mutations in TDP-43 reduce mitochondrial bioenergetics and axonal transport in ALS iPSC-derived motor neurons
Dr Ruxandra Dafinca

**HCB-07** Metabolomics to probe the mechanistic link between brain iron deposition and lipid changes in neurodegenerative diseases using human post-mortem tissue
Dr Holly Spence

**HCB-08** Acute Oxidative Stress Exacerbates ALS-Related Pathology and Impairs Translation of UNC13A and PURA in C9orf72-ALS Motor Neurons
Dr Yinyan Xu

**HCB-09** Markers of TDP-43 loss-of-function in MND
Dr Maize Cao

**HCB-10** TDP-43 regulation by microRNAs toward the treatment of ALS
Dr Keiko Imamura

**HCB-11** A fluid biomarker reveals loss of TDP-43 splicing repression in presymptomatic ALS
Ms Katherine Irwin

**HCB-12** TDP-43 Dysfunction triggers exon skipping and aggregation of the epilepsy gene KCNQ2 in ALS/FTD
Dr Evangelos Kiskinis

**HCB-13** Exploring the Role of Viral Infection in TDP-43-Mediated ALS Pathogenesis
Mr Vithushan Surendran

**HCB-14** Hippocampal pTDP-43 aggregation as an independent pathology in genetic amyotrophic lateral sclerosis: Exploring the ‘two-hit’ hypothesis at super resolution
Miss Kyrah Thumbadoo

**HCB-15** Reactive transformation of VCP mutant microglia in ALS activates JAK-STAT in motor neurons
Dr Ben Clarke

**HCB-16** An alternatively spliced SFPQ mRNA generates a novel cytoplasmic SFPQ protein and is upregulated in VCP-ALS
Dr Jacob Neeves

**HCB-17** Can the abnormal stimulation of the multisystem inflammatory component by environmental factors be causative of the onset of ALS?
Dr Claudia Croso

**HCB-18** miRNAs profiling in peripheral blood mononuclear cells of fast and slow progressors Amyotrophic Lateral Sclerosis patients
Stella Gagliardi

**HCB-19** C9orf72-ALS iPSC microglia are pro-inflammatory and toxic to motor neurons via MMP9
Dr Björn Vahsen

**HCB-20** On the intersection of nucleocapsid protein (NCP) of the SARS-CoV-2 virus and the pathobiology of ALS
Professor Michael Strong

**HCB-21** Development of in vitro ALS discovery and translational assays with patient-derived cells
Dr Mathilde Chaineau

**HCB-22** ALS fibroblast derived exosomes increase wound healing
Mr Vincent Clément

**HCB-23** Investigating the contribution of neuromuscular signaling in ALS/MND pathology
Dr Peter Noakes

**HCB-24** Modeling ALS using human iPSCs-derived astrocytes
Dr Vincent Soubrié

**HCB-25** Generation of spinal cord organoids using the bioreactor for ALS medicine
Dr Dang Suong

**HCB-26** Analyzing the relation between neurofilament subunit abnormalities and neuromuscular junction disruption using an iPSC-derived model of ALS
Miss Maria Jose Castellanos-Montiel

**HCB-27** Gliarial involvement in the mechanism of synapse loss in the ALS CNS
Dr Zsofia Laszlo

**HCB-28** C21ORF2 mutations point toward primary cilia dysfunction in ALS
Miss Matilde Contard

**HCB-29** SOD1 activity and protein level in CNS and peripheral tissues
Ms Laura Leykam

**HCB-30** Neurofilament content of patient sensory skin axons reflects ALS progression
Miss Julia Meyer

**HCB-31** Characterizing the protective role of redox-regulated Nucleoredoxin (NRX) in Motor Neuron Disease (MND)
Dr Sonam Parakh

**HCB-32** C4G2 repeat RNA binds to FARS protein and affect the rate of phenytoinamine-tRNA aminoacylation
Professor Boris Rogelj

**HCB-33** Nucleoporin Coding Variants: Disease Initiation for Sporadic ALS
Dr Jeffrey Rothstein

**HCB-34** Characterization of stress granule formation in cells overexpressing a novel extracellular isoform of Fused in Sarcoma (EC-FUS)
Dr Sayanthooran Saravanabavan

**HCB-35** The G3BP-centric interaction network regulates the dynamics of stress granules
Mr Jinjun Wu
**Theme 06 - Tissue Biomarkers**

**BIO-01** Multicenter evaluation of neurofilaments light chain in adult spinal muscular atrophy patients treated with nusinersen  
Mrs Annika Wachinger

**BIO-02** Neurofilament light chain level in plasma of ALS patients following IML344 treatment in phase 1/2a clinical trial (NCT03652805 NCT03755167)  
Dr. Ilana Cohen

**BIO-03** Inflammatory and neurodegenerative biomarkers in SOD1-related ALS after treatment with Tofersen  
Dr Elisabetta Zucchi

**BIO-04** Neurodegenerative biomarkers outperform neuroinflammatory biomarkers in amyotrophic lateral sclerosis  
Dr Ulf Kläppe

**BIO-05** Exploration of changes of neuroinflammatory biomarkers in ALS CSF and plasma in clinical immunooassays set up  
Dr Magda Koziczak

**BIO-06** The correlation of immune and metabolic markers with clinical features and disease development in ALS patients  
Miss Huihui Zhao

**BIO-07** Longitudinal analysis of T cell responses in amyotrophic lateral sclerosis  
Miss Solmaz Yazdani

**BIO-08** Biofluid extracellular vesicle extraction and profiling in ALS  
Dr Elizabeth Dellar

**BIO-09** The development of robust and reproducible methods for quantifying miRNA from neural-enriched extracellular vesicles for an ALS-diagnostic application  
Dr Rachael Dunlop

**BIO-10** Cross-tissue miRNA analysis of extracellular vesicles and peripheral blood mononuclear cells from ALS patients  
Dr Stella Gagliardi

**BIO-11** Novel insights on the role and therapeutic potential of Glycoprotein nonmetastatic melanoma protein B (Gpmb) in Amyotrophic Lateral Sclerosis  
Dr Mauro Giuseppe Spatafora

**BIO-12** Brown Adipose Tissue: a novel actor in the pathogenesis of Amyotrophic Lateral Sclerosis  
Dr Marco Rosina

**BIO-13** Glial fibrillary acidic protein and vascular endothelial growth factor in adult SMA patients treated with nusinersen  
Dr Miguel Oliveira Santos

**BIO-14** Development of a Composite Diagnostic Biomarker for Amyotrophic Lateral Sclerosis: Experimental Approach and progress to date  
Jamie Timmons

**BIO-15** Increased ADAM 10/17 activity in an animal model of ALS: rationale for targeting ADAMs as a potential therapeutic target?  
Dr Paolo Cabras

**BIO-16** Skeletal muscle protein signatures to predict fast versus slow disease progression in ALS transgenic mice  
Dr Caterina Bendotti

**BIO-17** Co-chaperones in post-mortem neural tissue from ALS patients  
Miss Laura Exposito-Blázquez

**BIO-18** Cell-free DNA as a non-invasive biomarker to detect ALS  
Dr Fleur Garton

**BIO-19** Cystatin C is associated with poor survival in amyotrophic lateral sclerosis patients  
Dr Qirui Jiang

**BIO-20** Blood Cells: Unravelling their impact on Respiratory Outcome and Survival in ALS  
Dr Ana Catarina Pronto-Laborinho

**Theme 07 - Pre-clinical Therapeutic Strategies**

**TST-01** Development of a novel SOD1 antisense therapy for SOD1-linked and sporadic ALS  
Dr Loren Flynn

**TST-02** MissfoldUbL: Targeting misfolded protein as a therapeutic strategy for SOD1 familial ALS  
Mrs Christen Chisholm

**TST-03** A polytherapy approach demonstrates therapeutic efficacy in familial SOD1 ALS models  
Dr Jeremy Lum

**TST-04** C1q inhibition reduces neurodegenerative damage preserves neuromuscular junctions and improves compound muscle action potential in the SOD1G93A mouse model  
Dr Alessia Tassoni

**TST-05** ALS gene therapy by RNA interference using a bi-specific AA9 vector targets mutated SOD1 in neurons and astrocytes across the mouse and primate spinal cord  
Dr Pamela Valdes

**TST-06** The impact of intense endurance exercise on SOD1G93A mouse model  
Dr Silvia Scaricamazza

**TST-07** Oral treatment with D-RD2RD2 impedes early disease mechanisms in SOD1*G93A transgenic mice but does not prolong survival  
Ms Katharina Wintz

**TST-08** NX210c drug candidate peptide improves motor function and prolongs survival in the SOD1G93A mouse model of ALS  
Dr Sighild Lemarchant

**TST-09** Chlorovirus glycoproteins and SOD1G93A significantly enhance while cellular proteins IRF3 and ERK MAP-kinase significantly dampen production of ALS-associated inflammatory factors from murine macrophages  
Dr Gary Pattee

**TST-10** Allele selective FUS targeted antisense oligonucleotide therapeutic development for ALS  
Dr Rita Meijzini

**TST-11** Longitudinal study of the neuronal effects of ALS-linked mutant FUS in mice and the therapeutic effects of NF-kB inhibition  
Mrs Mari Carmen Pelaez

**TST-12** Update on AMX0114: An Antisense Oligonucleotide Targeting Calpain-2 a Critical Effector of Axonal Degeneration  
Joshua Cohen

**TST-13** Effects of HDAC6 Inhibition in ALS mouse models  
Ms Farhna Kabir

**TST-14** Urothlin: A Delay the Progression of Amyotrophic Lateral Sclerosis by Promoting PINK1/Parkin-Dependent Mitophagy in Motor Neuron  
Mr Sen Huang

**TST-15** M102  
A multi-target drug suitable for personalised medicine approaches in ALS  
Dr Raquel Rua Martins

**TST-16** Therapeutic efficacy of targeting iron metabolism and iron-mediated lipid peroxidation in neurodegenerative disease: a systematic review and meta-analysis  
Dr Holly Spence

**TST-17** CXCR4: a marker of neurotransmission failure and a target for neuromuscular function recovery in ALS  
Dr Giorgia D’Este

**TST-18** Pharmacological enhancement of skeletal muscle regeneration in Amyotrophic Lateral Sclerosis through intramuscular allostERIC activation of the P2X7 receptor  
Mrs Paola Fabbrizio
TST-19 Targeting microglia to slow or stop ALS
Professor Fei Song

TST-20 Gial cells at the neuromuscular junction as therapeutic target in ALS
Miss Elsa Tremblay

TST-21 Interferon signalling as a potential therapeutic target in amyotrophic lateral sclerosis and frontotemporal dementia – a systematic review and meta-analysis
Dr Fergal Waldron

TST-22 ALS and the gut-brain axis: A systematic review and meta-analysis assessing the relationship between amyotrophic lateral sclerosis the gut and its microbiome
Dr Fergal Waldron

TST-23 The two-pore potassium channel KCNK13 as a target to modulate neuroinflammation in Amyotrophic Lateral Sclerosis
Dr Bernardino Ossola

TST-24 Familial forms of ALS differ in their stress responses and neuroprotection conferred by histone deacetylase inhibitors and arimoclomol
Professor Heather Durham

TST-25 Characterization of a therapeutic approach to target TDP-43 proteinopathy using phage display-derived scfv complexed to SPION
Miss Yara AL OJAIMI

TST-26 Antisense oligonucleotide mediated reduction of C9orf72 expansion containing transcripts in iPSC-derived motor neurons
Mr Leon Larcher

TST-27 Identification of human genetic modifiers of TDP-43-mediated toxicity and aggregation
Ms Matisse Jacobs

TST-28 Cytoplasmic TDP-43 accumulation in the mouse cortex drives a transient neuronal non-canonical protein folding response
Sean Keating

TST-29 TDP-43 pathology and autophagy defects modeled and rescued in TBK1 mutant iPSC derived motor neurons
Dr Zoe Simmons

TST-30 Edaravone ameliorates the neurodegeneration in ALS patient-derived neurons by restoring TDP-43 mislocalization
Dr Makoto Tamura

TST-31 The effect of antiretroviral therapy Triumeq on a TDP-43 mouse model of ALS
Ms Megan Dubowsky

TST-32 Therapeutic administration of the borna virus x protein by a viral vector aav10 in a mouse model of ALS
Mrs Jeffie Tourney

TST-33 Prior acute viral infection accelerates the progression of ALS
Mr Art Marzok

Theme 08 - Clinical Imaging and Electrophysiology

IMG-01 Fasciculation electromechanical latency is prolonged in ALS
Dr James Bashford

IMG-02 Fasciculations occur deep in the muscle and often go unnoticed in ALS
Dr Kota Bokuuda

IMG-03 Fasciculations in SOD-1 Amyotrophic Lateral Sclerosis patients receiving tofersen: insights from high density surface electromyography
Dr James Scott

IMG-04 EEG Event-Related Potentials in a Response-Inhibition Task Reflect Impairments Specific to ALS: A Comparative Study against Multiple Sclerosis
Ms Rosie Giglia

IMG-05 Resting-state EEG alterations in asymptomatic C9orf72 repeat expansion carriers
Mr Stefan Dukic

IMG-06 Motor unit number estimation in the split hand of amyotrophic lateral sclerosis
Dr Nathan Pavey

IMG-07 MUNIX describes the individual disease course in ALS and precede the global motor function loss in half the time – experiences from analyzing MUNIX in the context of the D50 disease progression model in ALS
Dr Annekathrin Roediger

IMG-08 Upper motor neuron assessment in amyotrophic lateral sclerosis using the patellar tendon reflex and motor-evoked potentials to the lower limbs (T-MEP-LL): a sensitive tool for diagnosis
Mrs Nathalie Guy

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Dr Seung Hyun Kim

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Dr Nathan Staff

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Prof Janine Kirby

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Mrs Nina Malmström

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Ms Niamh Appleby

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Dr Linn Öijerstedt

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BW-45 Exploring the Involvement of Endogenous Retroviruses in Amyotrophic Lateral Sclerosis with Transcriptomic Analyses
Dr Alfredo Iacoangeli

BW-46 Integrative Multi-Omics Analysis For Enhanced Molecular Subtyping of Sporadic ALS
Ms Heather Marriott

BW-47 Evaluating the characteristics of Evoked High-Frequency Oscillatory Responses as a potential biomarker for sensorimotor dysfunction in ALS: A Preliminary Study
Mr Prabhav Mehra

BW-48 Prevalence of ALS in all 50 States in the United States. Data from the National ALS Registry 2010-2018
Dr Paul Mehta MD

BW-49 Preliminary investigations into the use of combining art and lay summaries to enhance public understanding of MND Papers
Dr Rick Nelms

BW-50 Geographic and socioeconomic comparison of time to significant clinical milestones in patients with amyotrophic lateral sclerosis in urban and rural environments in California
Ms Kyra Neylan

BW-51 Multiplexed protein imaging of cells and neurons with SIMPL-IF
Dr Michel Nofal

BW-52 Cognitive endophenotypes in familial ALS: a longitudinal study
Mr Colm G Peelo

BW-53 Quantifying auditory networks disruption in ALS
Ms Serena Plaitano

BW-54 Quantitative analysis of cortical iron accumulation in MAPT GRN- and C9orf72-associated frontotemporal lobar degeneration based on susceptibility MRI and histology
Ms Fieke Prinse

BW-55 Profiling Hypothalamic Energy Homeostasis Associated microRNA in Myotonic Dystrophy Type 1 Amyotrophic Lateral Sclerosis with Cognitive Impairment (c) and/or Behavioral Impairment (bi) and healthy controls
Ms Neila Raveen

BW-56 Phase 3b Extension Study Evaluating Superiority of Daily vs Approved On/Off Oral Edaravone Dosing in patients with ALS
Dr Stephen Apple

BW-57 POSTER WITHDRAWN

BW-58 The premodials project: identification of a disease signature for presymptomatic and early ALS
Dr Laura Tzeplaeff

BW-59 A comprehensive network meta-analysis to augment and prioritize therapeutic strategy development for ALS
Mr Floris T. Van Loon

BW-60 Serum Glial Fibrillary Astrocytic Protein in Patients with Amyotrophic Lateral Sclerosis
Dr Maria Janina Wendebourg

BW-61 The Robert Packard Center for ALS Research
Mrs Suzanne Connelly

BW-62 Rebalancing the motor circuit restores movement in a Caenorhabditis elegans model for TDP-43-toxicity
Professor Ellen Nollen

Care Practice/Work in Progress

BW-63 Translating the Extended Life Expectancy of US Veterans with ALS
Mrs Mandi Bailey

BW-64 The dietitian’s role in the multidisciplinary ALS/MND team at Uppsala University Hospital Sweden
Mrs Bita Banieghbal

BW-65 Harnessing technology to support cough and secretion problems in Motor Neuron Disease (MND)
Ms Charlotte Massey
## Tuesday 5 December

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<tr>
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<th>Event</th>
<th>Location</th>
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<tbody>
<tr>
<td>09.00 – 12.30</td>
<td>WFN ALS/MND Speciality Group</td>
<td>Rio, Level 2</td>
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<tr>
<td>13.30 – 16.00</td>
<td>ENCALS</td>
<td>Sydney, Level 2</td>
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<tr>
<td>16.00 – 19.00</td>
<td>Project MinE (closed meeting)</td>
<td>Sydney, Level 2</td>
</tr>
<tr>
<td>16.00 – 18.00</td>
<td>Registration International Symposium</td>
<td>Foyer, Level 2</td>
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<tr>
<td>18.00 – 19.30</td>
<td>‘Welcome Back’ Drinks Reception (sponsored by Cytokinetics)</td>
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<tr>
<td>17.45 – 18.45</td>
<td>Paulo Gontijo Institute PG Award</td>
<td>MCH Lounge, Messe Basel, Ground Floor (closed meeting)</td>
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## Wednesday 6 December

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<thead>
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<th>Time</th>
<th>Event</th>
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<td>07.00 – 18.00</td>
<td>Registration International Symposium</td>
<td>Foyer, Level 2</td>
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<tr>
<td>07.00 – 18.00</td>
<td>Speaker Room</td>
<td>Mexico, Level 2</td>
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<tr>
<td>08.30 – 10.30</td>
<td>Symposium Joint Opening Session</td>
<td>San Francisco, Level 3</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 – 12.30</td>
<td>Symposium Biomedical Session 2A</td>
<td>San Francisco, Level 3</td>
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<tr>
<td>11.00 – 12.30</td>
<td>Symposium Clinical Session 2B</td>
<td>Singapore, Level 2</td>
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<tr>
<td>11.00 – 12.40</td>
<td>Symposium Alternative Session 2C</td>
<td>Montreal, Level 2</td>
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<tr>
<td>12.30 – 14.00</td>
<td>Lunch and Networking</td>
<td>Event Halle, Messe Basel, Ground Floor Exhibitors Foyer, Level 2</td>
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<tr>
<td>14.00 – 15.30</td>
<td>Symposium Biomedical Session 3A</td>
<td>San Francisco, Level 3</td>
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<tr>
<td>14.00 – 15.30</td>
<td>Symposium Clinical Sessions 3B</td>
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<td>14.00 – 15.30</td>
<td>Symposium Alternative Session 3C</td>
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<td>15.30 – 16.00</td>
<td>Refreshments, Networking and Exhibitors</td>
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<td>16.00 – 17.45</td>
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<td>17.45 – 19.45</td>
<td>Poster Session A</td>
<td>Event Halle, Messe Basel, Ground Floor</td>
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## Thursday 7 December

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<td>07.00 – 18.00</td>
<td>Registration International Symposium</td>
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<tr>
<td>07.00 – 18.00</td>
<td>Speaker Room</td>
<td>Mexico, Level 2</td>
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<td>07.00 – 08.30</td>
<td>Non-CME Industry Breakfast Session - Learnings in ALS over the last 10 years</td>
<td>Sydney, Level 2</td>
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<td>08.30 – 10.00</td>
<td>Symposium Biomedical Session 5A</td>
<td>San Francisco, Level 3</td>
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## Friday 8 December

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<tr>
<td>08.00 – 12.30</td>
<td>Registration International Symposium</td>
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<tr>
<td>07.00 – 14.00</td>
<td>Speaker Room</td>
<td>Mexico, Level 2</td>
</tr>
<tr>
<td>07.00 – 08.30</td>
<td>Non-CME Industry Breakfast Session - Clinical Trials in ALS: What have we learned the next opportunities?</td>
<td>Sydney, Level 2</td>
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<td>08.30 – 10.00</td>
<td>Symposium Biomedical Sessions 9A</td>
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<td>08.30 – 10.00</td>
<td>Symposium Alternative Session 9C</td>
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<tr>
<td>10.00 – 10.30</td>
<td>Refreshments, Networking and Exhibitors</td>
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<tr>
<td>10.30 – 12.30</td>
<td>Symposium Clinical Sessions 10A</td>
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<td>10.30 – 12.30</td>
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<td>Symposium Alternative Session 10B</td>
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<tr>
<td>12.30 – 14.00</td>
<td>Lunch and Networking</td>
<td>Event Halle, Messe Basel, Ground Floor Exhibitors Foyer, Level 2</td>
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<tr>
<td>14.00 – 15.30</td>
<td>Symposium Joint Closing Session</td>
<td>San Francisco, Level 3</td>
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Follow signage from Level 2
Please visit our exhibitors, located in the Level 2 Foyer
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