Welcome Address

Dear colleagues,

We are proud to host the 2018 European Network to Cure ALS (ENCALS) meeting and welcome you to Oxford. There has never been a more productive time in neuroscience research, bringing with it the realistic expectation of therapeutic advances for those living with ALS. This ENCALS meeting is by far the largest to date, with more than 400 registered delegates. From the nearly 250 submitted abstracts, we have been able to build an exciting programme of cutting-edge research, interspersed with engaging plenary speakers from around the world.

The Oxford ALS Centre was founded in 2001 through the Motor Neurone Disease Association’s pioneering Care Centre programme that now comprises more than 20 UK regional specialist clinics. Our research programme spans the single cell to the complete nervous system. We try to integrate this work into clinical care as much as possible through a close partnership with those living with ALS.

Oxford itself has a long and rich cultural history. Its University is one of oldest in the world, with teaching recorded as far back as the 11th Century. It operates as a federation of more than 40 self-governing Colleges and Halls scattered around the city, responsible for more than 23,000 students among a total city population of 150,000. Among the University’s alumni are 29 Nobel laureates and 27 UK Prime Ministers. The very strong academic ties with European and wider international partners continue to be greatly valued.

The growth of the ENCALS meeting ensures it is a large administrative task. We are very grateful to our support team, particularly Akke Albada and Simone Vugts from the ENCALS office, plus Lynn Ossher and Niki Andrew at the Oxford end.

Research conferences are a catalyst for productivity and therapeutic advancement ultimately. Discussing ideas, comparing notes, developing existing and new collaborations are important elements in building a sense of global community and shared purpose. We wish you an enjoyable as well as productive meeting.

Martin Turner & Kevin Talbot
Meeting Guidelines

Due to the large number of attendees we need your full cooperation in making the meeting run effectively.

PLEASE:

1. Arrive on time for each session. Once the lecture theatre is full you will be directed to the overflow room.

2. Avoid creating gaps in the seating so that the maximum number of people can be accommodated. Session Chairs will be instructed not to begin until any gaps are filled.

3. If you have a ticket for the dinner at Keble College on Thursday 21st June, but find you no longer need it, inform the registration desk immediately so that we can allocate it to someone on the waiting list.

4. It is critical that you arrive on time for the Conference Dinner at Keble College on Thursday 21st June. Dinner will be served precisely at 8pm. This allows at least 30 minutes to get from the conference venue (Said Business School) to Keble. It is a 15-minute walk.

5. The dress code for the conference as a whole is casual, as is usual for ENCALS. For the dinner, please dress as would normally be appropriate for an evening in a restaurant.

Committees

Programme Committee
- Federica Agosta (Italy)
- Orla Hardiman, Chair (Ireland)
- Janine Kirby (UK)
- Kevin Talbot (UK)
- Martin Turner (UK)
- Jochen Weishaupt (Germany)

Local Organising Committee
- Niki Andrew
- Lynn Ossher
- Kevin Talbot
- Martin Turner

ENCALS Executive Board
- Chair: Leonard van den Berg (The Netherlands)
- Vice Chair: Orla Hardiman (Ireland)
- Treasurer: Adriano Chio (Italy)
- Ammar Al-Chalabi, Chair Award Committee (England)
- Sharon Abrahams (Scotland)
- Peter Andersen (Sweden)
- Julian Grosskreutz (Germany)
- Magdalena Kuzma (Poland)
- Albert Ludolph (Germany)
- Jesus Mora Pardina (Spain)
- Philip van Damme (Belgium)
- Francois Salachas (France)
- Pamela Shaw (England)
- Kevin Talbot (England)
- Markus Weber (Switzerland)

Award Committee
- Ammar Al-Chalabi, Chair (England)
- Markus Weber (Switzerland)
- Mamede de Carvalho (Portugal)
- Sharon Abrahams (Scotland)
- Susanne Petri (Germany)
- Ludo van den Bosch (Belgium)
- Luc Dupuis (France)
- Magdalena Kuzma (Poland)

ENCALS Office
Simone Vugts
ENCALS Office Manager
University Medical Center Utrecht
Room F02.202
P.O box 85500
3508 GA Utrecht
The Netherlands
info@encals.eu

Venue
Saïd Business School,
Park End St, Oxford,
OX1 1HP
www.sbs.ox.ac.uk
+44 (0)1865 288800
Acknowledgements

ENCALS would like to thank the following sponsors for their generous support of this year’s meeting.

Gold Sponsor

Silver Sponsors

Bronze Sponsors

Programme: Oxford 20th–22nd June 2018

Each plenary presentation is 25 minutes plus 5 minutes for questions; each platform presentation is 12 minutes plus 3 minutes for questions.

Wednesday 20th June

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.00–13.00</td>
<td>Lunch and Registration</td>
</tr>
<tr>
<td>13.00–13.30</td>
<td>Welcome (Leonard van den Berg, Orla Hardiman)</td>
</tr>
<tr>
<td></td>
<td>Sally Light, Chief Executive MND Association;</td>
</tr>
<tr>
<td></td>
<td>Evy Reviers, EuPals</td>
</tr>
<tr>
<td>Session 1</td>
<td>Chair: Orla Hardiman, Dublin</td>
</tr>
<tr>
<td>13.30–14.00</td>
<td>Roadmaps to therapy in ALS</td>
</tr>
<tr>
<td></td>
<td>Matthew Kiernan, Sydney</td>
</tr>
<tr>
<td>14.00–15.30</td>
<td>Biophysical basis of the acute effects of riluzole and retigabine on motor axonal excitability in patients with ALS</td>
</tr>
<tr>
<td></td>
<td>Boudewijn Sleutjes, Utrecht</td>
</tr>
<tr>
<td></td>
<td>Connectome-based disease progression model for ALS</td>
</tr>
<tr>
<td></td>
<td>Jil Meier, Utrecht</td>
</tr>
<tr>
<td></td>
<td>CSF chitinase protein performance as ALS biomarkers</td>
</tr>
<tr>
<td></td>
<td>Alexander Thompson, Oxford</td>
</tr>
<tr>
<td></td>
<td>Imaging of brain metabolism in asymptomatic C9orf72 repeat expansion carriers and non-carriers using 31P-MRSI at 7T</td>
</tr>
<tr>
<td></td>
<td>Henk-Jan Westeneng, Utrecht</td>
</tr>
<tr>
<td></td>
<td>Non-coding RNA serum biomarkers in ALS</td>
</tr>
<tr>
<td></td>
<td>Greig Joilin, Sussex</td>
</tr>
<tr>
<td></td>
<td>Electric shock and extremely low-frequency magnetic field exposure and risk of ALS: Euro-MOTOR</td>
</tr>
<tr>
<td></td>
<td>Susan Peters, Utrecht</td>
</tr>
</tbody>
</table>
Thursday 21st June

Session 3
Chair: Susanne Petri, Hannover

09.00-09.30 Reversing aberrant phase transitions connected to ALS
James Shorter, Philadelphia (U Penn)

09.30-10.30 Studying the interaction between TARDBP and p62/SQSTM1: A look into RNA processing defects in ALS
Raphael Munoz-Ruiz, Paris (ICM)

Endogenous TDP-43 mutant mice develop ALS characteristics in vivo and show novel gain of splicing function
Pietro Fratta, London (UCL)

FUS-induced neurotoxicity in Drosophila is prevented by downregulating nucleocytoplasmic transport proteins
Jolien Steyaert, Leuven

Structural and functional MRI reveals frontal cortical deficits in a TDP-43 knock-in mouse model of ALS-FTD
Ziqiang Lin, London (KCL)

10.30-11.00 Break

Session 4
Chair: Albert Ludoph, Ulm

11.00-11.30 Neuropathological heterogeneity across the ALS spectrum
Olaf Ansorge, Oxford

11.30-12.30 Synapse loss in the prefrontal cortex is associated with cognitive decline in amyotrophic lateral sclerosis
Christopher Henstridge, Edinburgh

Using patient-derived astrocytes to unravel the role of misfolded SOD1 in sALS cases
Noemi Gatto, Sheffield

Selective vulnerability of the primary motor cortex in ALS
Matthew Nolan, Oxford
Investigation of dysfunction in cognitive brain networks in ALS by localisation of the sources of mismatch negativity

Roisin McMackin, Dublin

12.30-13.30

Lunch

Session 5

Chair: Karin Danzer, Ulm

13.30-14.00

Axonal mRNA biology: Implications for axonal maintenance

Christine Holt, Cambridge

14.00-15.30

HDAC6 inhibition reverses axonal transport defects in iPSC-derived motor neurons from FUS-ALS patients

Wenting Guo, Leuven

Serum microRNA profiles identify the Fragile-X-protein family as novel neuropathological markers in ALS

Axel Freischmidt, Ulm

C9ORF72 repeat expansions cause axonal transport defects in iPSC-derived motor neurons

Laura Fumagalli, Leuven

Axon-seq decodes the motor axon transcriptome and its modulation in response to ALS

Jik Nijssen, Stockholm

MicroRNAs secreted by C9orf72 patient-derived astrocytes contribute to impairment in axonal growth and cell death in vitro

Andrea Varcianna, Sheffield

Directly converted astrocytes from ALS patient fibroblasts stratify disease phenotypes and identify miR-146a as a potential therapeutic target

Cătia Gomes, Lisbon

15.30-16.00

Break

Session 6

Chair: Pamela Shaw, Sheffield

16.00-16.30

Transcriptomic analysis of iPSC-derived motor neurons from C9orf72 ALS/FTD patients

Ana Candalija, Oxford

Synergistic mechanisms of C9orf72 gain and loss of function

Hortense de Calbiac, Paris (ICM)

16.30-17.00

Prospects for genetic therapies in neurodegenerative disorders

Matthew Wood, Oxford

17.00-17.45

The ENCALS debate: This house believes ALS is a prion-like disease

Chair: Martin Turner, Oxford

FOR: James Shorter, Philadelphia (U Penn) (15 minutes)

AGAINST: Simon Mead, London (UCL) (15 minutes)

DISCUSSION (15 minutes)

17.45-19.15

Poster Session 2

20.00

Conference Dinner, Keble College (TICKET REQUIRED)
### Friday 22nd June

**Session 7**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>09.00-09.30</td>
<td>ENCALS Awards</td>
<td></td>
</tr>
<tr>
<td>09.30-10.00</td>
<td>Pur-alpha provides a potential link between RNA toxicity and loss-of-function in C9orf72 ALS</td>
<td><strong>Bart Swinnen, Leuven</strong></td>
</tr>
<tr>
<td></td>
<td>Inosine supplementation bypasses adenosine deaminase deficiency in C9orf72 astrocytes increasing bioenergetic capacity and motor neuron survival</td>
<td><strong>Scott Allen, Sheffield</strong></td>
</tr>
<tr>
<td>10.00-10.30</td>
<td>Clinical trials in ALS: Stratification and personalised therapeutics</td>
<td><strong>Angela Genge, Montréal</strong></td>
</tr>
<tr>
<td>10.30-11.00</td>
<td>Break</td>
<td></td>
</tr>
<tr>
<td>11.00-12.45</td>
<td>Implementing evidence-based methods in ALS clinical trials</td>
<td><strong>Ruben van Eijk, Utrecht</strong></td>
</tr>
<tr>
<td></td>
<td>Optimization of preclinical nucleic acid-based therapeutic for the most common genetic form of ALS</td>
<td><strong>Helene Tran, Massachusetts (U Massachusetts)</strong></td>
</tr>
<tr>
<td></td>
<td>WVE-3972-01, an investigational stereopure antisense oligonucleotide, preferentially knocks down G4C2 repeat-containing C9ORF72 transcripts</td>
<td><strong>Jean-Cosme Dodart, Massachusetts (WAVE Lifesciences)</strong></td>
</tr>
<tr>
<td></td>
<td>G-quadruplex-binding small molecules ameliorate C9orf72 ALS/FTD pathology in iPSC neurons and in vivo</td>
<td><strong>Rubika Balendra, London (UCL)</strong></td>
</tr>
<tr>
<td></td>
<td>AAV vectors for ALS treatment and modelling</td>
<td><strong>Maria Grazia Biferi, Paris (IM)</strong></td>
</tr>
<tr>
<td></td>
<td>An open-label trial of Triumeq in patients with ALS</td>
<td><strong>Julian Gold, Sydney</strong></td>
</tr>
</tbody>
</table>

**Satellite Meetings**

**Wednesday 20th June**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>19.00-20.00</td>
<td>Project MinE Meeting</td>
<td>INVITATION ONLY</td>
</tr>
</tbody>
</table>

**Thursday 21st June**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.30-13.30</td>
<td>ENCALS Executive Meeting</td>
<td>INVITATION ONLY</td>
</tr>
</tbody>
</table>
Poster Sessions

Poster Session 1: Wednesday 20th June, 18:00 - 19:30

Entrance Hall:

A01  Hot-spot KIF5A mutations cause familial ALS

A02  Alterations of C9orf72, SOD1, TARDBP, FUS and UBQLN2 genes with amyotrophic lateral sclerosis
Vildan Çiftçi, Türker Bilgen, Sümeyra Darbaş, Yunus Arıkan, Hilmi Uysal*, Sibel Berker Karaüzüm

A03  Novel ALS-associated mutations in the ARPP21 gene cause abnormal protein aggregation and altered neuronal morphology
Chun Hao Wong*, Simon D Topp, Youn-Bok Lee, Sarah Mueller, Graham Cocks, Bradley N Smith, Nicola Ticozzi, John Landers, Christopher E Shaw

A04  TBK1 variants and sporadic ALS: Looking for accomplices
Giuseppe Marangi*, Serena Lattante, Amelia Conte, Giulia Bisogni, Daniela Bernardo, Paolo Doronizio, Nilo Riva, Christian Lunetta, Marcella Zollino, Mario Sabatelli

A05  Repeat expansion detection from whole-genome sequence data of Project MinE

A06  Whole-genome variant analysis of Spanish monozygotic twins discordant for ALS disease
Gerardo Alonso-Munguía*, Yolanda Campos, Jesus Mora, Teresa Salas, Victoria López-Alonso

A07  Additional SQSTM1 mutations in ALS patients
Rüstem Yilmaz*, Kathrin Müller, David Brenner, Albert Ludolph, Peter Andersen, Jochen Weishaupt

A08  Analysis of ascertainment bias in ALS
Puja R. Mehta*, Ashley Jones, Sarah Martin, Alfredo Iacoangeli, Ammar Al-Chalabi

A09  Whole exome sequencing identifies novel and recurrent variants in Hungarian patients with ALS
Kornélia Tripolszki*, Dóra Nagy, Zsófia F. Nagy, József I. Engelhardt, Péter Klivényi, Márta Széll

A10  Testing for synergy between loss and gain of FUS function in causing motor neuron degeneration
Sanjuan-Ruiz I, Myers B, McAlonis-Downes M, Cleveland DW, Lagier-Tourenne C, Da Cruz S & Dupuis L

A11  Investigating TBK1-dependent signalling pathways in Amyotrophic Lateral Sclerosis
Maria Davies*, Mark O. Collins
A12 MIF inhibits the formation and toxicity of misfolded SOD1 amyloid aggregates: Implications for familial ALS

A13 Role of the calcium-activated chloride channel TMEM16F in amyotrophic lateral sclerosis.
Claire Soulard*, Céline Salsac, Kévin Mouzat, Cécile Hilaire, Serge Lumbroso, Cédric Raoul, Frédérique Scamps

A14 Autophagy interacts with TDP-43 function

A15 TDP-43 protein aggregation in Amyotrophic Lateral Sclerosis: a role for the post-translational modification SUMOylation
Cindy Maurel*, Anna Chami, Rose-Anne Thépault, Sylviane Marouillat, Céline Brulard, Hélène Blasco, Philippe Corcia, Christian Andres, Patrick Vourc’h

A16 Mechanisms of paraspeckle hyper-assembly in ALS
Tatyana A Shelkovnikova*, Haiyan An, Vladimir L Buchman

A17 Physical interaction and functional interplay of p62 and TDP-43 in ALS
Daniel Scott*, Alice Montgomery, Mark Searle, Neil Oldham, Rob Layfield

A18 Investigating a role for C9orf72 at the synapse
Rebecca N Cohen*, Claudia S Bauer, Andrew J Grierson, Kurt J De Vos

A19 The C9orf72 protein interacts with mitochondria and regulates mitochondrial quality control
Emma F Smith*, Andrew J Grierson, Kurt J De Vos

A20 Study of mitochondrial function and mitochondrial fusion/fission dynamics in the cellular model of amyotrophic lateral sclerosis SOD1G93A NSC-34
Alonso-Munguía G*, De la Fuente-Muñoz M, Campos Y

A21 Identification and characterization of RANT modulators in the G4C2 expansion
Nausicaa Valentina Licata*, VG D’agostino, R Cristofani, C Zucal, R Loffredo, V Adam, M Pancher, A Quattrone, A Poletti, A Provenzani

A22 Glycospingolipid dysregulation and lysosomal dysfunction in motor neurone disease
Carla S. da Silva Santos*, Mylene Huebecker, David A. Priestman, Frances M. Platt

A23 C9ORF72 mutation impairs vesicular trafficking cell communication in Amyotrophic Lateral Sclerosis and Frontotemporal Dementia
† Authors contributed equally

A24 microRNAs analysis of patient-derived iPSCs and motor neurons for the development of a molecular therapy for ALS
Mafalda Rizzuti*, Monica Nizzardo, Valentina Melzi, Giuseppe Filosa, Luca Calandrillo, Martina Locatelli, Laura Dioni, Nereo Bresolin, Giacomo P. Comi, Silvia Barabino, Stefania Corti
A25 Prognostic value of serum creatinine in ALS patients: A meta-analysis
Débora Lanznaster*, Frank Patin, Philippe Corcia, Christian Andres, Patrick Vourc’h, Theodora Angoulvant, Hélène Blasco

A26 Distinctive subcortical grey matter signatures along the ALS-FTD spectrum: a multimodal neuroimaging study
Rangariroyashe H. Chipika*, Eoin Finegan, Parameswaran M. Iyer, Taha Omer, Mark A. Doherty, Alice Vajda, Niall Pender, Russell L. McLaughlin, Siobhan Hutchinson, Orla Hardiman, Peter Bede

A27 The width of the third ventricle in ALS patients reflects subcortical gray matter atrophy and associates to cognitive impair
Juan F Vázquez-Costa*, Sara Carratalà-Boscà, José I Tembl, Victoria Fornés-Ferrer, Jordi Pérez-Tur, Luis Martí-Bonmatí, Teresa Sevilla

A28 Motor unit number index (MUNIX) in proximal muscles of the arm in amyotrophic lateral sclerosis
Sarah Demortiere, Aude-Marie Grapperon*, Annie Verschueren, Emilien Delmont, Shahram Attarian

A29 The clinical and radiological landscape of PLS: A multimodal neuroimaging study
Eoin Finegan*, Rangariroyashe H. Chipika, Orla Hardiman, Peter Bede

A30 CSF and serum pNfH assay performance study in the ALS clinic
Elizabeth Gray*, Alexander Thompson, Emily Feneberg, Kevin Talbot, Andreas Jeromin, Martin Turner

A31 Circulating exosomes as a promising source of biomarkers for ALS
Laura Pasetto, Vito D’agostino, Laura Brunelli, Roberta Pastorelli, Alessandro Corbelli, Fabio Fiordaliso, Andrea Calvo, Adriano Chiò, Massimo Corbo, Christian Lunetta, Gabriele Mora, Manuela Basso and Valentina Bonetto*

A32 The TDP-43 pathological interactome
Emily Feneberg*, Elizabeth Gray, Roman Fischer, David Gordon, Olaf Ansorge, Benedikt Kessler, Kevin Talbot, Martin R. Turner

A33 Connectivity-based thalamic segmentation as a cortical pathological window in ALS
Ricarda A. L. Menke*, Benjamin C. Tendler, Sean Foxlay, Menuka Pallebage-Gamarallage, Olaf Ansorge, Karla L. Miller, Martin R. Turner

A34 Oxidation-reduction potential of cerebrospinal fluid as progression biomarker in ALS patients with spinal onset
Miloš Opačić*, Zorica Stević, Vladimir Baščarević, Miroslav Živić, Mihajlo Spasić, Dragosav Mutavdžić, Ivan Spasojević

A35 Implementing Motor Unit Number Index (MUNIX) in a large clinical trial: Real world experience from 27 centres
Christoph Neuwirth, MD*, Nathalie Braun, MD, PhD, Kristl G. Claeys, MD, PhD, Robert Buccelli, MD, PhD, Christina Fournier, MD, Mark Bromberg, MD, Susanne Petri, MD, Stephan Goedee, MD, Timothée Lenget, MD, Ron Leppanen, MD, Antonio Canosa, MD, Ira Goodman, MD, Muhammad Al-Lozi, MD, Takuya Ohkubo MD, PhD, Annemarie Hübner, MD, Nazem Atassi, MD, Agassandro Abraha, MD, MSc, Andreas Funke, MD, Martin Appelfeller, Tech, Anke Tümmler, Tech, Eoin Finegan, MD, Jonathan D. Glass, MD, Suma Babu, MD, Shafeeq S. Ladha, MD, Olga Kwast-Rabben, MD, PhD, Raúl Juntas-Morales, MD, Amina Coffey, MD, Vinay Chaudhry, MD, Tuan Vu, MD, Chow Saephanh, Tech, Colleen Newhard, Tech, Marion Zakrzewski, Tech, Esther Rosier, Tech, Nancy Harrel, Tech, Divisha Raheja, MD, Jesper Raaijman, MD, Toby Ferguson, MD, and Markus Weber, MD

A36 Discovery and development of diagnostics and therapeutics for TDP-43 proteinopathies
Tariq Afroz*, Tamara Seredenina, Vincent Darmency, Cedric Boudou, Jacqueline Kocher, Mayank Chauhan, Anthony Marchand, Heiko Kroth, Ajay Purohit, David Paterson, Laurent Martarelli, Manuela Neumann, Jan Stoehr, Andrea Pfeifer, Andreas Muhs
A37  Cervical spinal cord comparisons based on T1-weighted MRI in ALS  
Hannelore K. van der Burgh*, Jil M. Meier, Henk-Jan Westeneng, Martijn P. van den Heuvel, Leonard H. van den Berg

A38  Analysis of GAP-43 expression in differentially vulnerable muscles in two mouse models of motor neuron disease  
Laura H. Comley*, Jik Nijssen and Eva Hedlund

A39  Mutations in FUS lead to axonal and synaptic changes in a zebrafish model and primary cortical neurons  
Shaakir Salam, Prof. C. Houart, Dr. C. A. Vance

A40  Deciphering the dual neuroprotective/neurotoxic role of FGF-2 in SOD1G93A ALS mice in vitro and in vivo  
Ekaterini Kefalakes*, Sebastian Boeselt, Anastasia Sarikidi, Miren Ettcheto, Franziska Bursch, Maximilian Naujock, Nancy Stanslowsky, Martin Schmuck, Marta Barenys, Florian Wegner, Claudia Grothe, Susanne Petri

A41  Blocking Carnitine palmitoyl-transferase 1 (CPT1) potentially delays disease progression in the SOD1 G93A mouse model  
Michael Sloth Trabjerg*, Dennis Christian Andersen, John Dirk Nieland

A42  Inhibition of B-Glucocerebrosidase activity preserves motor unit integrity in a mouse model of amyotrophic lateral sclerosis  
Bouscary A*, Mosbach A, Spedding M, Loeffler JP, Henriques A

A43  Study of the mechanisms leading to immune disorder in C9orf72 deficient mice  
Camille Corbier*, Angéline Gaucheron, Peggy Kirstetter, Nicolas Charlet-Berguerand

A44  The oculomotor-restricted protein Synaptotagmin 13 protects motor neurons from degeneration in ALS  
Monica Nizzardo*, Federica Rizzo, Michela Taiana, Julio Aguila Benitez, Jik Nijssen, Ilayy Allodi, Valentina Melzi, Roberto Del Bo, Nereo Bresolin, Giacomo Pietro Comi, Eva Hedlund, Stefania Corti

A45  Newly established ALS model of long-living double mutant hSOD1/RAG2/-/- mice could be attractive for testing therapeutic utility of human stem cells  
Malgorzata Majchrzak*, Luiza Stanaszek, Piotr Walczak, Miroslaw Janowski, Barbara Lukomska

A46  MIF inhibits the formation and toxicity of misfolded SOD1 amyloid aggregates: Implications for familial ALS  

A47  Determination of the role of CorticoSpinal Motor Neurons in ALS onset and progression  
Thibaut Burg*, Mathieu Fischer, Caroline Rouaux

A48  UBA1/GARS-dependent pathways drive sensory-motor connectivity defects in spinal muscular atrophy  
Hannah K Sharrock, Dinja van der Hoorn, Penelope J Boyd, Maica Llaveria Hurtado, Douglas J Lamont, Brunhilde Wirth, James N Sleigh, Giampietro Schiavo, Thomas M Wishart, Ewout JN Groen*, Thomas H Gillingwater

A49  Mitochondrial abnormalities & disruption of the neuromuscular junction precede the clinical phenotype & motor neuron loss in hFUSWT transgenic mice  
Eva So*, Jacqueline C Mitchell, Caroline Memmi, George Chennell, Gema Vizcay-Barrena, Leanne Allison, Christopher E Shaw, Caroline Vance

A50  The Crym-CreERT2 mouse line to study the role of corticospinal motor neurons in ALS  
Jelena Scekic-Zahirovic*, Mathieu Fischer, Caroline Rouaux

A51  Oxidation resistance 1 (OXR1) is neuroprotective in cellular and animal models of amyotrophic lateral sclerosis  
Matthew Williamson, Mattéa Finelli*, David Gordon, Kevin Talbot, Kay Davies, Peter Oliver
A52 Genetic and pharmacological effects of mGlu5 receptor blockade in the SOD1G93A mouse model of amyotrophic lateral sclerosis
Marco Milanese, Tizana Bonifacino, Francesca Provenzano, Claudia Rebosio, Carola Torazza, Francesca Ferrari, Aldamaria Puliti, Marcello Melone, Giambattista Bonanno

A53 Characterization of a novel FUS zebrafish model to study the ALS-FTD spectrum
Annis-Rayan Bourefis*, Maria-Letizia Campanari, Doris-Lou Demy, Edor Kabashi

A54 Translating ribosome affinity purification from C9orf72-ALS/FTD patient-derived iPS motor neurons
Chaitra Sathyaprakash, Jakub Scaber, Nidaa Ababneh, Ana Candalija Ruxandra Dafinca, Kevin Talbot

A55 Glutamate receptor properties and intracellular calcium dynamics of ALS iPSC derived motor neurons
Franziska Bursch*, Maximilian Naujock, Norman Kalmbach, Selma Staegge, Andreas Herrmann, Susanne Petri, Florian Wegner

A56 Modulation of the adult SOD1G93A astrocyte phenotype by treatment with exosome-shuttled miRNAs derived from mesenchymal stem cells
Francesca Provenzano*, Marco Milanese, Debora Giunti, Carola Torazza, Chiara Marini, Cesare Usai, Nicole Kerlero de Rosso, Antonio Uccelli, Giambattista Bonanno

A57 Human induced pluripotent stem cells-derived motor neurons for modelling age-related pathophysiological mechanisms of ALS
Ricardo Romero-Guevara*, Victoria Ayala, Pascual Torres, Ana B Granado-Serrano, Chiara Rossi, Bahira Zammou, Jordi Boada, Rebeca Berdún, Mariona Jové, Monica Povedano, Reinald Pamplona, Manel Portero-Otin

A58 Cellular pathways dysregulated by mutant FUS in CRISPR/Cas9 cell models
Haiyan An*, Tatyana Shelkovnikova, and Vladimir Buchman

A59 Impaired DNA damage response signaling by FUS- NLS mutations leads to neurodegeneration and FUS aggregate formation

A60 The anterior cingulate cortex in the ALS-FTD spectrum: post mortem MRI-histology correlation
Anna Leonte (1)*, Ricarda A. L. Menke (1,2), Benjamin C. Tendler (1,2), Istvan N. Huszar (1,2), Mark Jenkinson (1,2), Sean Foxley (1,2,3), Martin R. Turner (1,2), Karla L. Miller (1,2), Olaf Ansgorje (1), Menuka Pallebage-Gamarallage (1)

A61 Safety and efficacy of human embryonic stem cells derived astrocytes following intrathecal transplantation in SOD1G93A and NSG animal models
Seminar Room A:

C01 Cognitive impairment in facial onset sensory and motor neuronopathy (FOSMN)
Andrew W Barritt*, Marwa Elamin, Stuart J Anderson, Rebecca Broad, Angus Nisbet and P Nigel Leigh

C02 Amyotrophic lateral sclerosis related cognitive deficits are a marker of localized TDP-43 cerebral pathology
Jenna M. Gregory*, Karina McDade, Thomas Bak, Suvankar Pal, Siddharthan Chandran, Colin Smith and Sharon Abrahams

C03 Neuropsychiatric symptoms in MND patients and their family members
Caroline McHutchison*, Andrew McIntosh, Marie Ryan, Emmet Costello, Mark Heverin, Shuna Colville, Suvankar Pal, Siddharthan Chandran, Orla Hardiman, Sharon Abrahams

C04 Emotional apathy and awareness in frontotemporal dementia
Ratko Radakovic*, Shuna Colville, Denise Cranley, John Starr,, Suvankar Pal, Sharon Abrahams

C05 The profile of language changes in Amyotrophic Lateral Sclerosis: results from a population-based study of incident cases
Marta Pinto-Grau* M.Psych(ClinNeuroPsych), Sarah O’Connor MSc, Lisa Murphy MSc, Emmet Costello BSc, Mark Heverin MSc, Alice Vajda PhD, Niall Pender PhD, Orla Hardiman MD FRCPI FTCD MRIA

C06 The relationship between apathy subtypes, quality of life and caregiver burden in amyotrophic lateral sclerosis – work in progress
Debbie Gray*, Kaitlin Dudley, Eneida Moshi, David Dick Giulia Melchiorre, Harry Gordon, Judith Newton, Shuna Colville, Suvankar Pal, Siddharthan Chandran, Zachary Simmons, Ratko Radakovic, Sharon Abrahams

C07 Stage of prolonged survival with riluzole treatment in patients with amyotrophic lateral sclerosis: A retrospective analysis
Ton Fang BSc, Ahmad Al Khleifat MB BCh, Jacques-Henri Meurgey BSc, Ashley Jones PhD, Professor P Nigel Leigh PhD, Professor Gilbert Bensimon PhD, Professor Ammar Al-Chalabi PhD*

C08 What do people living with ALS in Ireland think about dysphagia and what do they want from dysphagia-related health services? A qualitative study
Dr. Dominika Lisiecka*, Dr. Helen Kelly, Prof. Jeanne Jackson

C09 Causes of death in amyotrophic lateral sclerosis. Results from the Rhineland-Palatinate ALS registry
Joachim Wolf*, Anton Safer, Johannes Wöhrle, Frederick Palm, Wilfred Nix, Matthias Maschke, Armin Grau

C10 Flail arm syndrome – diagnostic challenge: A case report
Zoran Vukojevic*, Aleksandra Dominovic Kovacevic, Sanja Gracic, Dusko Racic, Srdjan Racic, Srđjan Mavija

C11 A first year in life of Zagreb - ENCALS centre
Ervina Bilić*, Mirea Hančević, Hrvoje Bilić, Branimir Ivan Šepec, Barbara Sitaš, Rijana Sprijan Alfrev, Marina Petrović, Gordana Paviša, Nadan Rustomović, Andreja Kokočki, Davorka Vranješ

C12 Enhancing the efficacy of non-invasive ventilation for patients with amyotrophic lateral sclerosis
David O’Brien*, Esther Hobson, Theocharis Stavroulakis, Susan Baxter, Stephen Bianchi, Paul Norman, Mark Elliott, Christopher McDermott

C13 The radiological spectrum of motor-neuron diseases: A multimodal spinal cord study
Giorgia Querin, Mohamed Mounir El Mendili, Peter Bede, Véronique Marchand-Pauvert, Pierre-François Pradat
<table>
<thead>
<tr>
<th>ID</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>C14</td>
<td>Computational speech analysis as a tool for early detection of bulbar dysfunction in ALS patients</td>
<td>“Cascales Lahoz D; Guillén-Solà A; Serra Martínez M; Bertran Recasens, B; Alemán Cabrera F; Martínez-Llorens J; Balañá Corberó A; Villatoro Moreno M; Rubio Pérez MA”</td>
</tr>
<tr>
<td>C15</td>
<td>Prize4life ALS mobile analyzer: Measuring ALS progression</td>
<td>Noa Davis*, Yehuda Snir, Idit Ron, Iris Perl, Shay Rishoni</td>
</tr>
<tr>
<td>C16</td>
<td>Clinical characteristics of amyotrophic lateral sclerosis patients from ALS center of the Republic of Srpska: case series and a review of literature</td>
<td>Srdjan Mavija*, Aleksandra Dominovic-Kovacevic, Zoran Vukojevic, Dusko Racic, Sanja Grgic</td>
</tr>
<tr>
<td>C17</td>
<td>Smoking and ALS: Investigation of association followed by Mendelian randomisation analysis to assess causality</td>
<td>Sarah Opie-Martín*, Pamela J Shaw, Christopher E Shaw, Neil Pearce, Karen E Morrison, George Davey-Smith, Gibran Hemani, Ashley Jones, Ammar Al-Chalabi</td>
</tr>
<tr>
<td>C18</td>
<td>Genotypes and phenotypes of Amyotrophic Lateral Sclerosis in Mongolia</td>
<td>Tselmen Daria*, Kathrin Müller, Zolzaya Doljoo, Suvd Odovdorj, Sarantsetseg Turbat, Erdenechimeg Yadamsuren, BolormaaD, OyungereiB, Chimgeulkham Banzrai, Baasanjav Damchaa, Patrick Weydt, Elmar Pinkhardt, Angela Rosenbohm, Munkhtuvshin Namid, Josef Högel, Guntram Borck, Munkhbat Batmunkh, Albert Ludolph, Jochen H. Weishaupt</td>
</tr>
<tr>
<td>C20</td>
<td>Estimating future MND prevalence in the context of population change and putative new treatments, using a south London urban population</td>
<td>Alison Gowland*, Sarah Opie-Martin, Ashley Jones, Ammar Al-Chalabi</td>
</tr>
<tr>
<td>C22</td>
<td>Stability and change: Needs of informal ALS caregivers across the caregiving course</td>
<td>M Galvin, S Carney, B Corr, N Pender, O Hardiman</td>
</tr>
<tr>
<td>C23</td>
<td>Possible environmental factors associated with spatial clustering of ALS patients with C9orf72 mutations</td>
<td>Abdellah Assialioui*, María A Barceló, Ana Núñez, Raúl Domínguez, Sara Bernal, Marc Saez, Mónica Povedano</td>
</tr>
<tr>
<td>C24</td>
<td>Pathogenic biological routes common between sporadic amyotrophic lateral sclerosis (ALS) and ubiquitin frontotemporal lobar degeneration (FTLD-U)</td>
<td>Marina Iridoy, Leyre Martinez, Ivonne Jericó, Irene Zubiri, María Victoria Zelaya, Mercedes Lachén-Montes, Karina Ausin, Andrea González-Morales, Enrique Santamaria, Joaquín Fernández Irigoyen</td>
</tr>
<tr>
<td>C26</td>
<td>Capturing ALS: LCM-Seq for single-cell spatial transcriptomic profiling of human spinal motor neurons in ALS</td>
<td>Christoph Schweingeruber*, Julio Aguila Benitez, Gill Pollmeier, Nigel Kee, Eva Hedlund</td>
</tr>
</tbody>
</table>
C27 An ALS case with 38 (G4C2)-repeats in C9orf72 and sparse DPR and TDP-43 pathology
Lieselot Dedeene*, Evelien Van Schoor, Koen Poesen#, Dietmar Rudolf Thal#, Philip Van Damme#

# Authors contributed equally

C28 Inhibition of Rho Kinase (ROCK) with Fasudil as disease-modifying treatment for ALS – a phase Ila clinical trial (ROCK-ALS)
Paul Lingor*, Markus Weber, William Camu, Magdalena Kuzma-Kozakiewicz, Tim Friede, Jan C. Koch

C29 Leveraging crowdsourcing to advance novel therapeutic targets for ALS: The Teva CNS Target Identification Crowdsourcing Initiative
Sara Shnider, Lucie Bruijn, George Yohrling, Ian Reynolds, Susan Browne, David Wilson, Jennifer Stratton, Neta Zach*

C30 The GPR17 receptor as a new potential pharmacological target to restore oligodendroglial dysfunction in amyotrophic lateral sclerosis
Elisabetta Bonfanti*, Marco Milanese, Erica Morgante, Stefano Raffaele, Tiziana Bonifacino, Giambattista Bonanno, Marta Fumagalli

C31 Targeting TGF-β RIi to treat Amyotrophic Lateral Sclerosis by a 3rd generation antisense oligonucleotide – in vivo safety and efficacy
Sebastian Peters, Eva Zitzelsperger, Sabrina Kuespert, Rosmarie Heydn, Sven Korte, Sw Johannesen, Ohnmar Hsam, Tim-Henrik Bruun, Ulrich Bogdahn

C32 A placebo-controlled study to evaluate efficacy and safety of Clenbuterol in patients with Spinal and Bulbar Muscular Atrophy (SBMA)
Giorgia Querin, Elisabetta Pupillo, Ilaria Martinelli, Matteo Gizzi, Cinzia Bertolin, Elena Pegoraro, Maria Pennuto (3,4), Ettore Beghi, Gianni Soraru

C33 Masitinib therapeutically targets sciatic nerve pathology associated with paralysis progression in an inherited ALS model
Emiliano Trías, Valentina Varela, Romina Barreto-Núñez, Sofía Ibarburu, Manágeles Kovacs, Ivan C. Moura, Olivier Hermine, Joseph S. Beckman, Luis Barbeito*

C34 Masitinib in the treatment of amyotrophic lateral sclerosis (ALS): Update on confirmatory phase 3 trial (AB14008)
Angela Genge*, Jesus S. Mora, Vincent Arnold, Colin D. Mansfield, Olivier Hermine

C35 Initiation of masitinib at a less severe stage of disease produces greater treatment-effect: Subgroup analyses from masitinib study AB10015
Jesus S. Mora*, Angela Genge, (On behalf of the AB10015 Study Group), Colin D. Mansfield, Olivier Hermine

C36 Sensitivity analyses from the first phase 3 clinical study of masitinib (AB10015) in ALS demonstrate robustness of the positive primary analysis
Olivier Hermine*, Vincent Arnold, Colin D. Mansfield, Jesus S. Mora, Angela Genge Genge (On behalf of the AB10015 Study Group)

C37 People living with ALS and their caregivers’ input into drug development
Amy Laverdiere, Bonnie Charpentier, Jennifer Petrillo, Kristina Bowyer, Calaneet Balas, Allison D. Martin, David Zook, James Valentine, Lucie Bruijn

C38 Long-term Outcome of Filgrastim (G-CSF) in ALS Patients
Entrance Hall:

**B01** Discovery and characterisation of a novel genetic variant of amyotrophic lateral sclerosis
Tobias Moll*, Dr Johnathan Cooper-Knock, Dr Alexander Beer, Dr Henry Robbins, Dr Adrian Higginbottom, Dr Guillaume Hautbergue, Dr Lydia Castelli, Dr Tennore Ramesh, Dr Janine Kirby, Prof Dame Pamela Shaw

**B02** Characterisation of a cohort of adult onset Middle Eastern ALS cases for mutations in known ALS genes
Nada Al-Ahmady*, Martina de Majo, Simon Topp, Chun-Hao Wong, Christopher Shaw, Marc Gotkine, Bradley Smith

**B03** Genetic analysis of a French cohort of patients with sporadic amyotrophic lateral sclerosis (SALS)
Patrick Vourc'h*, Sylviane Marouillat, Céline Brulard, Cindy Maurel, Catherine Antar, Rose-Anne Thépault, Hélène Blasco, Stéphane Beltran, Philippe Courtier, Christian Andres, Philippe Corcia

**B04** Next Generation Sequencing in familial ALS and/or FTD Spanish patients
Daniel Borrego-Hernández*, María del Carmen Herrero-Manso, Pilar Cordero-Vázquez, Alberto Villarejo-Galende, Sara Llamas-Velasco, Marta González-Sánchez, Alexandra Juárez-Rufián, Gabriel García-Salamero, Miguel Ángel Martín-Casanueva, Jesús Esteban-Pérez, Alberto García-Redondo

**B05** Another pleiotropic gene, KIF5A, implicated in Turkish families with ALS and HSP
Ceren Tunca*, Fulya Akçimen, Cemile Koçoğlu, Cemre Coşkun, Aslı Gündoğdu-Eken, Ersin Tan, Azize Esra Güroy, Sevda Erer, Mehmet Zaroğlu, A. Nazli BaŞak

**B06** Dissecting the role of two novel ALS risk genes NEK1 and C21orf2
Pavol Zelina*, Christy Kolsteeg, Bram Schipper, Anna de Ruijer, Leonard H. Van den Berg, Jan H. Veldink, R. Jeroen Pasterkamp

**B07** CAG Intermediate-repeats expansion in ATXN2 associated with increase of risk in ALS
Jennifer Christine Hengeveld*, Leonie Dupuis, Alice Vajda, Mark Heverin, Dan Bradley, Orla Hardiman, Russell Lewis McLaughlin

**B08** ALSscan: A framework for the analysis and visualisation of DNA NGS data of ALS patients
A Iacoangeli*, A Al Khleifat, W Sproviero, A Shatunov, AR Jones, SL Morgan, A Pittman, RJ Dobson, SJ Newhouse and A Al-Chalabi

**B09** Estimating copy number of SMN1 and SMN2 gene using whole genome sequencing ALS survival
Matthieu Moisse*, on behalf of Project Mine Sequencing Consortium

**B10** Determining the risk of ALS in relatives of patients with ALS: A study of re-categorisation rates from “sporadic ALS” to “familial ALS”
Marie Ryan*, Mark Heverin, Mark Doherty, Niall Pender, Russell McLaughlin, Orla Hardiman

**B11** Deciphering the respective contribution of macrophages and microglia to human motor neuron degeneration in ALS
*Elise Liu, Cynthia Lefebvre, François Salachas, Lucette Lacomblez, Christian Lobosiger, Stéphanie Millecamps, Séverine Boillée, Delphine Bohl

**B12** Nuclear mRNA export factor GANP in lower motor neuron degeneration
Rosa Woldegebriel*, Emil Ylikallio, Markus Sainio, Laura Mäenpää, Carsten Bonnemann, Sandra Donkervoort, Diana Bharucha-Goebel, Maie Walsh, Zornitza Stark, Marie-José van den Boogaard, Pirjo Isohanni, Tuula Lönnqvist, Henna Tyynismaa
| B13 | Bioenergetic profiling of SOD1 patient models of ALS  
Scott P. Allen, Ryan Woof* |
| B14 | Chaperone mediated autophagy respond to dynein mediated transport inhibition in motor neuron diseases  
Riccardo Cristofani*, Valeria Crippa, Maria Elena Cicardi, Paola Rusmini, Marco Maroni, Veronica Ferrari, Barbara Tedesco, Mariarita Galbiati, Gessica Sala, Carlo Ferrarese, Angelo Pololeti |
| B15 | Neuron-specific non-canonical IFN-gamma pathway in ALS  
Saikata Sengupta*, Thanh Tu Le, Vedrana Tadic, Silke Keiner, Beatrice Stubendorff, Tino Prell, Otto W Witte, Julian Grosskreutz |
| B16 | TDP-43 protein and SUMOylation  
Anna Maria Maraschi, Valentina Gumina, Claudia Colombrita, Clara Volpe, Marco Feligioni, Vincenzo Silani, Antonia Ratti A* |
| B17 | Regulation of exosome secretion to diminish toxicity of the muscle secretome in ALS myotubes  
Owen Connolly*, Virginie Mariot, Laura Le Gall, Geetha Vijayakumar, Pierre Francois Pradat, Julie Dumonceaux, William J Duddy, Stephanie Duguez |
| B18 | Perinuclear accumulation of SOD1 in sporadic ALS myotubes, and its impact on cell-cell communication  
Vanessa Milla*, Laura Le Gall, Virginie Mariot, Geetha Vijayakumar, Pierre Francois Pradat, Julie Dumonceaux, William J Duddy, Stephanie Duguez |
| B19 | Paraspeckle-like properties of G4C2 RNA foci  
Ana Bajc Česnik, Simona Darovic, Sonja Pprar Mhev, Maja Štalekar, Mirjana Malnar, Helena Motaln, Youn-Bok Lee, Julija Mazej, Jure Pohleven, Markus Grosch, Mila Modic, Marko Fonović, Boris Turk, Micha Drukker, Christopher E. Shaw, Boris Rogelj* |
| B20 | ALS associated mutations impair AchR clustering in skeletal muscle  
Maria Demestre, Julia Higelin, Frank Fillies, Erik Storkebaum, Luc Dupuis, Tobias Boeckers |
| B21 | Mitochondrial location of nuclear proteins: A common mechanism for ALS-related cellular stress?  
Chiara Rossi*, Pascual Torres, Victoria Ayala, Jordi Boada, Reinald Pampiona, and Manuel Porter-Otin |
| B22 | Modeling and mechanistic insights in C9orf72-mediated neurodegeneration  
Saul Herranz-Martin, Callum Walker, Evangelia Karyka, Pamela J Shaw, Sherif El-Khamisy, Mimoun Azzouz |
| B23 | Neuregulin 1 reduces motoneuron cell death and promotes neurite growth in an in vitro model of motoneuron degeneration  
*Guillem Módel-Caballero, Daniel Santos, Xavier Navarro, Mireia Herrando-Grabulosa |
| B24 | Neuroimaging needs time to shine: Structural brain involvement in a multimodal longitudinal study in ALS  
Hannelore van der Burgh*, Renée Walhout †, Henk-Jan Westeneng, Ruben Schmidt, Jeroen Hendrikse, Jan H. Veldink, Martijn P. van den Heuvel, Leonard H. van den Berg |
| B25 | Utilizing network medicine approaches to explore the role of muscle in ALS  
Stephen Morgan*, Stephanie Duguez, William J Duddy |
| B26 | Dying-forward or dying-back – tract-type specific fractional anisotropy as a potential biomarker for ALS  
B27  Secretion of toxic exosomes by muscle cells of ALS patients:
Interaction with FUS
Stephanie Duguez*, Laura Le Gall, William J Duddy, Sylvain Roquevière,
Virginie Mariot, Olivier Lucas Blandine Madji Hounoum, Jeanne Lainé,
Julie Dumonceaux, Pascal Leblanc, Gisele Ouandaogo, Laura Robelin,
Francesca Ratti, Alexandre Mejat, Francois Salachas, Gillian Butler
Browne, Jean Philippe Loeffler, Jose-Luis Gonzales De Aguilar, Helene
Blasco, Cedric Raoul, Cecile Martina, Pierre Francois Pradat

B28  Peak cough flow is a good biomarker that correlates with disease
progression and survival in ALS
Elisa De Mattia*, Andrea Lizio, Giulia Sannicolò, Francesca Gerardi,
Marino Iatomasi, Caterina Conti, Fabrizio Rao, Valeria Sansone, Christian
Lunetta

B29  Brain morphology is associated with C9orf72 mutation and regional
gene expression
Hannelore K van der Burgh†, Kevin van Veenhuijzen†*, Henk-Jan
Westeneng, Jan H Veldink, Leonard H van den Berg
† Authors contributed equally

B30  Prediagnostic elevated levels of phosphorylated neurofilament heavy
chain in blood of patients with amyotrophic lateral sclerosis
Maxim De Schaepdryver*, Janne Goossens, Andreas Jeromin, Britta Brix,
Rik Vandenberghe, Philip Van Damme, Koen Poesen

B31  Reading the patient’s palm – The contrary pattern of hand muscle
denervation in ALS and SMA
René Günther, Christoph Neuwirth, Jan Koch, Paul Lingor, Nathalie
Braun, Robert Untucht, Markus Weber and Andreas Hermann

B32  Chromosome conformation signatures as a clinical tool for diagnosis,
prognosis and disease understanding in ALS
M Salter, W Westra, W Elvidge, R Powell, J Back, D Mahecha, B
Foulkes, Y Ruchiy, A Ramadass, F Grand, CR Lim, J Green, L Osher, A
Thompson, J Scaber, E Feneberg, M Cudkowicz, M Turner, K Talbot, E
Hunter, A Akoulitchev*

B33  Could biochemical parameters and/or comorbidities support the
prognosis of ALS?
Nora Molina*, Laura Moreno-Martinez, Leticia Moreno-García, Miriam de
la Torre, Raquel Manzano, Pilar Zaragoza, Rosario Osta, Pilar Larrodé,
Ana Cristina Calvo

B34  Functional interhemispheric connectivity of motor cortices in ALS using
EEG source analysis
Stefan Dukic*, Roisin McMackin, Teresa Buxo, Christina Schuster, Mark
Heverin, Peter Bede, Muthuraman Muthuraman, Bahan Nasseroleslami,
Edmund Lalor, Orla Hardiman

B35  Optometric analysis in amyotrophic lateral sclerosis patients
Federica Cozza*, Stefania Bona, Giordana Donvito, Andrea Lizio, Valeria
Ada Sansone, Christian Lunetta

B36  Assessing cortico-muscular communication in motor neuron disease
Amina Coffey, Teresa Buxo*, Stefan Dukic, Roisin McMackin, Mark
Heverin, Madeleine Lowery, Richard G. Carson, Edmund Lalor, Bahan
Nasseroleslami, Orla Hardiman

B37  Combined metabolomics and lipidomics analyzes of fibroblasts from
ALS patients
Reynier P

B38  Upregulation of miR-146a in ALS mouse cortical astrocytes decrease
their reactivity and prevents miR-155 transfer into exosomes
Marta Barbosa*, Cátia Gomes, Ana Rita Vaz, Dora Brites

B39  Characterization of aged TBK1 deficient mice
Clara Bruno*, Kirsten Sieverding, Albert C. Ludolph, David Brenner and
Jochen H. Weishaupt
B40 A zebrafish model implicates hnRNPK and hnRNPA3 in C9orf72 RNA toxicity
Elke Braems*, Bart Swinnen, Wim Robberecht, Ludo Van Den Bosch

B41 Features of frontotemporal lobar degeneration in the cyclophilin A knock-out mice
Laura Pasetto*, Silvia Pozzi, Edoardo Micotti, Mirjana Carli, Gianluigi Forloni and Valentina Bonetto

B42 Developing vertebrate models to highlight the functional relevance of NEFL in ALS pathogenesis
Doris Lou Demy*, Maria-Letizia Campanari, Raphaël Munoz-Ruiz, Edor Kabashi

B43 Inhibition of histone deacetylases improves motor performances and extends survival in a FUS ALS mouse model
Elisabeth Rossaert#, Eveliina Pollari#, Matthieu Moisse, Tom Jaspers, Lawrence Van Helleputte, Katrien De Bock, Tijs Vandoorne, Ludo Van Den Bosch
# Authors contributed equally

B44 Targeted Drosophila screen reinforces nucleocytoplasmic transport to DPR pathology in C9orf72-associated ALS/FTLD
Mathias De Decker*, Joni Vanneste*, Steven Boeynaems, Elke Bogaert, Thomas Vercruysse, Jolien Steyaert, Wendy Scheveneels, Dirk Daelemans, Wim Robberecht, Philip Van Damme, Ludo Van Den Bosch

B45 Acetylation state of RelA modulated by epigenetic drugs prolongs survival and induces a neuroprotective effect on ALS murine model
Lorenzo Schiaffino*, Roberta Bonafede, Ilaria Scambi, Edoardo Parrella, Marina Pizzi, Raffaella Mariotti

B46 Impaired stress granule dynamics in motor neurons from a novel mouse model of TDP-43-associated ALS

B47 Identification and validation of nuclear and cytoplasmic TDP-43 protein binding partners in a mouse model of ALS
Dr Alinda R Fernandes, Jacqueline CMitchell, Chun Hao Wong, Dr Micheal J O’Neill, Prof Chris E Shaw

B48 Chemotherapeutic agent 5-Fluorouracil improves performance of mutant SOD1 mouse model of ALS
Amaya Rando, Miriam de la Torre, Pilar Zaragoza, Antonio Musaro, Sara Hernández, Josep E. Esquerda, Ana Martinez, Xavier Navarro, Ana Cristina Calvo*, Janne M. Toivonen, Rosario Osta

B49 Effects of gamma-carbolines on pathology caused by expression of C-terminally truncated human FUS in the nervous system of transgenic mice
Aleksey A. Ustyugov, Galina Limorenko, Valeria Goloborsheva, Tamara A. Ivanova, Kirill Chaprov, Ekaterina Vikhareva, Maria Chicheva, Pavel Mazin, Sergey O. Bachurin, Vladimir L. Buchman*

B50 The effect of intermediate polyQ expansions in Ataxin-2 on TDP-43 pathology in vivo
Emma Sudria-Lopez*, Dianne M. van den Heuvel, Teresa Calafat Pia, Giel Korsten, Christiaan van der Meer, Mark H. Broekhoven, David Gordon, Kevin Talbot, Leonhard Van den Berg and R. Jeroen Pasterkamp

B51 Conditional deletion of Id2 in oligodendrocyte progenitor cells does not ameliorate disease outcome in SOD1G93A mice
Caroline Eykens*, Cathy Jensen, Antonio iavarone, Philip van Damme (1,2,4), Ludo Van Den Bosch, Wim Robberecht

B52 Bespoke mouse models of ALS
Remya R. Nair*, Asif Nakhuda, Charlotte Tibbit, Samanta Gasco, Carmelo Milloto, Anny Devoy, Pietro Fratta, Adrian M. Isaacs, Thomas J. Cunningham #, and Elizabeth M. C. Fisher #
# Authors contributed equally
B53 A feedback loop between dipeptide repeat protein, TDP-43 and karyopherin-α mediates C9ORF72-related neurodegeneration

B54 Mutations in TARDBP show axonal transport defects in induced pluripotent stem cell-derived motor neurons
Raheem Fazal, Laura Fumagalli, Ann Swijsen, Mathias De Decker, Bart Swinnen, Matthieu Moisse, Elisabeth Rossaert, Robert Ciaran Prior, Wenting Guo, Ruben Boon, Pieter Vanden Berghe, Wim Robberecht, Catherine Verfaillie, Ludo Van Den Bosch, and Philip Van Damme

B55 Design of an inducible system to test the toxicity of dipeptide repeats in C9orf72 iPSC-derived motor neurons from ALS patients
Paola Barbagallo*, Sally Cowley, Ruxandra Dafinca, Kevin Talbot

B56 C9orf72 iPSC-derived motor neurons have altered cytosolic and mitochondrial calcium buffering
Ruxandra Dafinca*, Nidaa Ababneh, Paola Barbagallo, Ana Candalija, Kevin Talbot

B57 Using iPSC-derived motor neurons to explore protein misaccumulation and cellular dysfunction in motor neuron disease
Jenny Greig*, Naomi Hartopp, Sebastien Paillusson, Graham Cocks, Chris Shaw

B58 Development of a human stem cell-derived neuromuscular in vitro system
Jik Nijsse, Gill Pollmeier*, Rein Hoogstraaten, Julio Cesar Aguilera, Eva Hedlund

B59 Motor neuron differentiation of iPSCs from peripheral blood of a TARDBP mutated ALS patient
Patrizia Bossolasco*, Francesca Sassone, Valentina Gumina, Vincenzo Silani

B60 Neuronal excitability of ALS patient-derived motor neurons
Ann Swijsen*, Raheem Fazal, Laura Fumagalli, Tijs Vandoorne, Catherine Verfaillie, Ludo Van Den Bosch and Philip Van Damme

B61 Ryanodine receptor and IP3 receptor role in the ER-mitochondria-calcium-cycle of iPSC derived ALS motor neurons
Benjamin Vlad*, Vedrana Tadic, Saikata Sengupta, Beatrice Stubendorff, Otto W. Witte, Andreas Hermann, Julian Grosskreutz
Seminar Room A:

**D01** The effect of a healthcare training programme on clinical usage of the Edinburgh Cognitive and Behavioural ALS Screen (ECAS)
Faith Hodgins*, Steve Bell, Sharon Abrahams

**D02** Usability of eyetracking computer systems and impact on psychological wellbeing in patients with advanced amyotrophic lateral sclerosis
Katharina Linse, Elisa Aust, Wolfgang Rüger, Markus Joos, Henning Schmitz-Peiffer, Alexander Storch, Andreas Hermann

**D03** The Edinburgh Cognitive and Behavioural ALS Screen: Relationship to age, education, IQ and the Addenbrooke’s Cognitive Examination-III
*Mónica M. De Icaza Valenzuela, Dr. Thomas H. Bak, Dr. Suvankar Pal, Professor Sharon Abrahams*

**D04** Characterising psychological trauma resulting from being given a diagnosis of Motor Neuron Disease (MND)
Eleonora Volpato*, Deepti Marchment, Francesco Pagnini, Paolo Banfi, Laura H. Goldstein, Ammar Al-Chalabi

**D05** The Edinburgh Cognitive and Behavioural ALS Screen (ECAS) in Alzheimer’s Disease and behavioural variant Frontotemporal Dementia
*Mónica M. De Icaza Valenzuela*, Dr. Thomas H. Bak, Shuna Colville, Dr. Suvankar Pal, Professor Sharon Abrahams

**D06** The relationship between cognitive impairment and motor phenotypes in ALS: A population-based study
Cristina Moglia*, Andrea Calvo, Barbara Iazzolino, Antonio Canosa, Umberto Manera, Maria Francesca Sarnelli, Valentina Solara, Fabiola De Marchi, Letizia Mazzini, Fabrizio D’Ovidio, Adriano Chiò

**D07** Behavioural correlates of attentional function in ALS patients
Maher Zoubi, Marcel Daamen, Patrick Weydt, Xenia Kobeleva

**D08** The rate of weight loss at diagnosis in ALS is more important than BMI in predicting outcome
Maurizio Grassano*, Andrea Calvo, Antonio Canosa, Fabrizio D’Ovidio, Umberto Manera, Cristina Moglia, Adriano Chiò

**D09** Percutaneous endoscopic gastrostomy with noninvasive mechanical ventilation in patients with amyotrophic lateral sclerosis
Annette Zevallos, Ana Hernandez, Javier Sayas, Pilar Cordero, Jesús Esteban*

**D10** Organ donation after cardiac death in ALS patients: Protocol and experience in a tertiary center in Spain
A Martínez*, J.F. Vázquez Costa, J Galán, R Domenech Clar, M León Fabregas, T Sevilla

**D11** Estimating the overall prevalence of ALS and of different stages of cognitive impairment in Catalonia. A retrospective population cohort design
Maria A Barceló, Janina Turón-Sans, Marc Saez*, Jordi Gascón-Bayarri, Raúl Domínguez, Andrés Paipa, Mònica Povedano

**D12** The MotOrtose project – Development of a motorized upper extremity orthosis for ALS
Tore W. Meisingset*, Geir Bråthen, Terje K Lien

**D13** The development of a Norwegian ALS registry
Tore W. Meisingset*, Geir Bråthen

**D14** Do ALS motor phenotypes develop stochastically?
Calvo Andrea*, D’Ovidio Fabrizio, Grassano Maurizio, Manera Umberto, Vasta Rosario, Canosa Antonio, Moglia Cristina, Chiò Adriano
D15  A pilot study of voice banking in amyotrophic lateral sclerosis patients
Giordana Donvito*, Lucia Catherine Greco, Andrea Lizio, Stefania Bona,
Valeria Ada Sansone, Elena Carraro, Christian Lunetta

D16  Design and implementation of an augmented reality device for
environment control in amyotrophic lateral sclerosis patients
Stefania Bona*, Giordana Donvito, Paolo Vaccari, Federica Cozza, Marco
Ciboldi, Valeria Ada Sansone, Christian Lunetta

D17  The effects of intensity, duration and time–since–quitting on the
association between total cigarette smoking and ALS risk: Euro-MOTOR
Susan Peters*, Anne E Visser, Jelle Vlaanderen, James PK Rooney,
Fabrizio D’Ovidio, Lützen Portengen, Ettore Beghi, Adriano Chiò,
Giancarlo Logroscino, Orla Hardiman, Jan Veldink, Leonard van den
Berg, Roel Vermeulen

D18  Factors influencing diagnosis delay in ALS patients referred to a
secondary center for neuromuscular diseases in Poland.
K.Szacka*, M.Kuzma-Kozakiewicz

D19  Care Audit Research and Evaluation for MND (CARE-MND): An
electronic platform for motor neurone disease in Scotland
Danielle Leighton*, Judith Newton, Harry Gordon, Giulia Melchiorre,
Shuna Colville, Laura Stephenson, Richard Davenport, Ian Morrison,
George Gorne, Robert Swingler, Siddharthan Chandran, Suvankar Pal

D20  Religiosity in Polish and German patients with amyotrophic lateral
sclerosis
Katarzyna Cieciwerska, Krzysztof Nieporęcki, Anna Maksymowicz-
Śliwińska, Maksymilian Bielecki, Peter M. Andersen, Albert C. Ludolph,
Dorothee Lule, Magdalena Kuźma-Kozakiewicz

D21  Modelling individual amyotrophic lateral sclerosis disease courses in
different centers using the D50 progression model
Nayana Gaur, Beatrice Stubendorff, Torsten Grehl, Matthieu Moisse,
Philip van Damme, Christoph Neuhr, Markus Weber, Umberto Manera,
Adriano Chiò, Jan Veldink, Leonard van den Berg, Thomas Meyer, Julian
Grosskreutz*

D22  Patterns of spreading of weakness in amyotrophic lateral sclerosis
based on patients’ reports
Verde Federico, Ticozzi Nicola, Morelli Claudia, Messina Stefano, Doretti
Alberto, Poletti Barbara, Ratti Antonia, Maderna Luca, Silani Vincenzo

D23  Characterising the metabolic profile of ALS: Results from the
EuroMotor study cohort
Alexandros P Siskos, James Rooney, Federico Casale, Fabrizio D’Ovidio,
Orla Hardiman, Adriano Chiò, Ettore Beghi, Giancarlo Logroscino, Jan
Veldink, Leonard van den Berg (on behalf of the EuroMotor consortium),
Hector Keun

D24  NeuroGUIDization of PALS population for patient-centric research and
care
Alexander Sherman*, Igor Katsovskiy, Olga Kharkovska, Alexander
Corin, Amanda Podesta, Ervin Sinani, George Tarasenko, Prasha
Vigneswaran, Yusra Wahab, Jason Walker, Merit Cuckowicz

D25  Exosomes as novel therapeutic approach for ALS
Roberta Bonafede*, Ilaria Scambi, Lorenzo Schiaffino, Alice Busato,
Pietro Bontempi, Pasquina Marzola, Raffaella Mariotti

D26  A new view of retinoic acid’s function in the neuromuscular system and
its potential as a therapeutic for amyotrophic lateral sclerosis
Azita Kouchmeshky*, Shakil Khan, Guy S. Bewick, Peter J. McCaffery

D27  Machine learning tools for improving the efficiency of drug
development clinical trials in ALS
Danielle Beaulieu, Samad Jahandideh, Albert A. Taylor, David L. Ennist

D28  People living with ALS and their caregivers’ input into drug
development in Europe
M Galvin, O Hardiman, A Laverdiere, B Charpentier, J Petrillio, K Bowyer,
Lucie Bruijn
D29  Edaravone in amyotrophic lateral sclerosis: The experience of the former 6 months therapy in the neurological clinic of Pisa
Elena Caldarazzo Ienco, Costanza Bisordi, Giuseppe Muratore, Monica Fabbbrini, Daniele Pala, Domenico Giannese, Maria Francesca Egidi, Annalisa Lo Gerfo, Lucia Chico, Gabriele Siciliano

D30  A post-hoc analysis of the edaravone phase III study 19: Regression analyses to examine long-term efficacy
Wendy Agnese, Steve Apple, Shawn Liu, Jeff Zhang, Jean Hubble

D31  A post-hoc analysis of edaravone study 19: Forced vital capacity (FVC) subgroup analysis
Wendy Agnese, Steve Apple, Shawn Liu, Jeff Zhang, Jean Hubble

D32  Towards more efficient clinical trial designs in ALS: Lessons from the edaravone development program
Joseph Palumbo, Kikumi Tsuda, Koji Takei, Steve Apple, Wendy Agnese, Shawn Liu, Jeff Zhang, Jean Hubble

D33  A phase 2, double-blind, randomized, placebo-controlled, multiple-dose study of reldesemtiv in patients with ALS (FORTITUDE-ALS)
Angela Genge*, Stacy A Rudnicki, Jinsy A Andrews, Carlayne Jackson, Noah Lechtzin, Fady I Malik, Tim Miller, Andrew A Wolff, Jeremy M Shefner

D34  A single-blind, randomized controlled clinical trial to evaluate the effects of intensive motor rehabilitation in ALS patients (ERMOsLa)
Jessica Mandrioli, Antonio Fasano*, Nicola Fini, Elisabetta Zucchi, Annalisa Gessani, Marco Vinceti, Stefano Cavazza, ERRALS group

D35  Neuregulin 1 Type III gene therapy improves SOD1-linked amyotrophic lateral sclerosis
*Mireia Herrando-Grabulosa, Guillerm Modol-Caballero, Belén García-Lareu, Assumptió Bosch, Xavier Navarro

D36  Exploring the proteome of ALS laser microdissected Purkinje cells: Method development
Connor Scott*, Simon Davis, Benedikt Kessler, Roman Fischer, Olaf Ansorge

D37  Tract pathology in amyotrophic lateral sclerosis correlates with aggressiveness of disease as defined by the D50 progression model
Robert Steinbach*, Meerim Batrybekova, Annekathrin Rödiger, Benjamin Ilse, Anne Gunkel, Annika Voss, Beatrice Stubendorff, Thomas Mayer, Otto W. Witte, Julian Grosskreutz

D38  ALS Cell Atlas: An online resource to infer gene activity in nine major CNS cell types in ALS patients and mouse models
Nathan Skene, Marta Alabrudzinska, Peter Lönnberg, Sebastian A. Lewandowski*
Information for Presenters

Presenters will have access to a built-in laptop PC in the Nelson Mandela Lecture Theatre for their talks. Please bring your talk on a USB drive as a .pptx file formatted for a Windows machine, or as a .pdf file. Presenters should arrive early on the day of their presentation at the following times in order to transfer their talks to the computer in the lecture theatre:

- Wednesday 20th June 12:00-13:00
- Thursday 21st June 08:00-09:00
- Friday 22nd June 08:00-09:00

Each plenary presentation is 25 minutes with five minutes for questions.
Each platform presentation is 12 minutes with three minutes for questions.

ENCALS Banquet Dinner

Thursday, June 21st, 2018

Keble College, Oxford, OX1 3PG

Doors open from 19:30

Dinner served at 20:00 precisely

Featuring a performance by The Men of Magdalen

Pre-registration and ticket required for admission
Guides to Oxford

Some of Oxford’s ALS researchers give you their personal guide to the best of Oxford.

Chaitra’s guide to Central Oxford

A small city, but highly diverse, Oxford has something for everyone, catering to different moods, occasions and temperaments. For your morning coffee, I recommend heading over to the Handlebar (St Michael Street), cleverly named for its bicycle decoration, both for all caffeine-related interests, and it turns into a bar in the evenings, often featuring live music from local bands. They also host themed cuisine nights! Check online to see if anything is going on while you’re here. Oxford is excellent for breakfasts whether you want a quick pastry, or relax all morning in an outdoor garden with toast, butter, jam, full English, tea and coffee. My personal recommendations include Browns on St Giles and the Old Parsonage (Banbury Rd) for a hot breakfast.

You can stay in the centre and make your way from one historical location to the next: from the Eagle and Child pub on St. Giles, a known former hangout of JRR Tolkien and CS Lewis, or hop across the road to the Lamb and Flag, owned by Oxford’s most affluent college, St John’s. If the weather is nice and you would prefer to sit outside, the Royal Oak pub, named for the tree where the future Charles II hid to escape capture from the boisterous Roundheads, has a charming garden where you can enjoy and pub meal with a glass of Pimm’s or a G&T. The Varsity Club (above the unmissable Covered Market on the High Street), is a rooftop bar with surround views of the nearby colleges and cathedral.

Finished with your drink and are looking for some entertainment? Head over to Gloucester Green, home to the famous Thirsty Meeples board game café, which houses hundreds of classic, novel and somewhat unusual games. The staff can make recommendations, set it up for you, get you started, and bring you nibbles. You’ll have 3 hours of gaming fun but be sure to book in advance! Oxford also has two excellent theatres, the New Theatre (George St) and the Oxford Playhouse (Beaumont St), which often show plays and musicals straight off the London West End – keep a look out – tickets are much easier to come by here, and cheaper too!

You’re hungry now? Well, at this point you could still stick around the centre. On George St we have all the usual chain restaurants if you’re looking for something familiar. Excellent pizza can be found at the pub The White Rabbit. Edamame, a family restaurant offers the best Japanese food in Oxford – don’t be put off by the queue outside – that’s just a testament to its greatness. If you’re brave enough to venture out a little further, head to Cowley Road, just over the Magdalen Bridge. There are bars and restaurants all the way down the street. A few of my own recommendations are Kazbar for cocktails, Mario’s for Pizza and Red Star Noodlebar for fusion Asian cuisine. There are also several burger joints, Mediterranean food, sushi and several bars.

If you just want a quick bite, a sandwich or a snack, I urge you to go into Taylor’s, Oxford’s own chain café (either on the High Street or St Giles) or Green’s café (St Giles). Both have very good coffees and a great selection of freshly made sandwiches and sweet and savoury bites. Green’s is particularly friendly to the gluten intolerant.

Barlas’s suggestions for food and coffee

Pierre Victoire is a French restaurant on Little Clarendon where you can taste genuinely French meals accompanied by a delightful wine selection. The staff are very welcoming and polite. Enjoy a dinner or a special pre-theatre menu. Don’t forget to book in advance even on weekdays.

Coco Noir offers café at a place abounding with different flavors of Belgian chocolate. Coffee is very nice and if you are a cocoa fan you can try the molten coca which is an intense hot chocolate.

Emily’s guide to North Oxford and Summertown

North Parade Avenue is located south of St. Hugh’s College in between Banbury and Woodstock Road. Here you have several choices from coffee, lunch or going out in the evening. Brew is a small coffee bar and a few tables, students go there to enjoy a break over books and the coffee is one of the best in town. If you prefer to take your coffee away and have a stroll in the fresh air, then just cross the Road towards the south and you can enter the University Park on South Parks Road (don’t forget to take a slice of chocolate brownie from the organic produce store next to Brew).
The **Rose and Crown** pub is just opposite Brew and ideal to catch the last sunny spells and relax with a pint of beer just after the conference. It has a backyard and is popular with philosophers (I was told). The pub food is traditional and homemade, it is worth to try one of the meat pies on the bar. Just a little bit down North Parade Avenue a place called **Koto** allows to escape traditional English food and dive into a fantastic experience of Japanese food. It is very small and larger groups should book a table in advance, but single persons are able to grab a seat at the bar just before 8pm and the service is very welcoming. Popular are the Lunch Sets between 12-2.30pm, if you like fish the seafood kakiage Don Set is a must and the miso cod.

Further north Banbury Road, the Summertown area convinces with a vivid centre on its own, a farmer market on Sundays and **Marks & Spencer** to enjoy a special shopping on all other week days. **Laura Ashley** is further up on the left side of the street. Once you made your way all way up to the North there are two things better not to miss out: **Gatineau** a French patisserie (the window view is a temptation) and **Gail’s** an artisan bakery, always crowded, great coffee, traditional cream tea (scones, clotted cream and jam), bread, brioche. In the mornings the sun is on this side of the street and there are tables outside to enjoy your breakfast. After work, the sun is on the other side of the road and people gather for drinks on the large round tables of the **Drew Drop Inn**.

Matthew’s guide to Cowley Road and East Oxford

East Oxford (centred around Cowley Road and St. Clements) has a variety of shops, bars and restaurants away from the busy tourist areas of central Oxford. My picks are:

**Café Coco** on Cowley Road is good for brunch/all day breakfast. On St. Clements, **Cuttlefish** does great seafood and **The Coconut Tree** does excellent Sri-Lankan food. **Atomic Pizza** with it’s interesting décor on Cowley Road does good burgers and pizza.

**The City Arms** and **Cape of Good Hope** on Cowley Road are good for a cheap pint, the recently opened **Brewdog** (also on Cowley Road) has a big selection of craft beers/ales, **Café Tarifa** and **Kazbar** have a more relaxed vibe and do a good selection of cocktails.

**South Parks** is one of the biggest public parks in Oxford, and you get great views of the city at the top of the hill.

Alex’s pub guide

**The Eagle and Child**: Also known as the Bird and Baby, The Eagle and Child is located on St Giles, opposite St John’s College. The Eagle and Child is famous for being the meeting place of “The Inklings”, a literary group that included CS Lewis and JRR Tolkien. They serve a reasonable selection of ale and lager as well as classic pub foods.

**The Lamb and Flag**: Located on St Giles, opposite The Eagle and Child, The Lamb and Flag is the only remaining college-owned pub in Oxford. They serve a good selection of ale (including Lamb and Flag Gold, brewed specifically for the pub) and lager along with a limited selection of reasonably-priced pub food.

**The White Rabbit**: Tucked away in a corner of Gloucester Green, the White Rabbit is a cozy pub as much known for its excellent selection of craft beers as for its home-made organic gluten-free pizzas.

**The White Horse**: A narrow pub set in a 16th century building opposite the Sheldonian theatre on Broad Street, The White Horse is known as a hang-out of the British fictional detective Inspector Morse.

**The Kings Arms**: Found on the corner of Parks Road and Holywell Street, The Kings Arms has a lively atmosphere and serves a good selection of real ales and food and is very popular with students. The Kings Arms also has limited outside seating available.

**The Turf Tavern**: Steeped in history and somewhat difficult to find, the atmospheric (and supposedly haunted) Turf Tavern is well worth a visit. Travel down the narrow alley St Helen’s Passage, off New College Lane to a low-ceilinged pub with real ales, ciders and plenty of outside seating.

**The Bear Inn**: A tiny, cozy pub, The Bear Inn is worthy of a visit if only to see the enormous collection of ties that adorn the walls and ceilings of its two small rooms.

**The Royal Oak**: An atmospheric old pub with a good selection of beers, wine and food, The Royal Oak is situated on Woodstock Road opposite Green Templeton College.

Further afield, **The Trout Inn** occupies a beautiful spot overlooking the river Thames in Lower Wolvercote. It features in various books including Philip Pullman’s La Belle Sauvage and Evelyn Waugh’s Brideshead Revisited. It’s a one hour walk from the conference venue across Port Meadow and worth booking in advance to for eating **The Perch** in Binsey is around 30 minutes’ walk – an old pub with plenty of character and a large garden.
AB SCIENCE, developer of masitinib, is proud to Sponsor the 2018 ENCALS Annual Meeting

Meet with AB Science research partners and company representatives during the ENCALS poster sessions

Presented topics:

➢ Initiation of masitinib at a less severe stage of disease produces greater treatment-effect: Subgroup analyses from masitinib study AB10015.

➢ Sensitivity analyses from the first phase 3 clinical study of masitinib (AB10015) in ALS demonstrate robustness of the positive primary analysis.

➢ Masitinib therapeutically targets sciatic nerve pathology associated with paralysis progression in an inherited ALS model.

➢ Masitinib in the treatment of amyotrophic lateral sclerosis (ALS): Update on confirmatory phase 3 trial (AB14008).
TODAY
Orion Pharma is committed
to active discovery and
development for ALS and other
neurodegenerative diseases

30 YEARS
of bringing new therapies
for neurodegenerative
diseases to the market

100 YEARS
since Orion Pharma was founded

Notes

Adverse events should be reported. Reporting forms and information can be found at www.mhra.gov.uk/yellowcard. Adverse events should also be reported to Orion Pharma (UK) Ltd on 01635 520300.

Date of preparation: May 2018/ORI5270a