International Centre for Genetic Engineering and Biotechnology
ARTURO FALASCHI CONFERENCE
Science for Development

1st Biennial conference on TDP-43 function and dysfunction in disease

6-8 September 2023 | Trieste, Italy

PROGRAMME

Tuesday September 5th

16.00-18.00 REGISTRATION
1st Floor Foyer, Stazione Marittima Congress Centre

Wednesday September 6th

8.30-10.00 REGISTRATION
1st Floor Foyer, Stazione Marittima Congress Centre

10.00-10.15 Welcome address by Emanuele Buratti, ICGEB, Trieste, Italy

Session 1
TDP-43 the protein
Moderator Emanuele Buratti

10.15-10.35	Regulation of TDP-43 phase separation by intrinsic and extrinsic factors	**Dorothee Dormann**, IMB Mainz, Germany
10.35-10.55	The stabilisation of TDP-43 by a cytoplasmic poly (ADP-ribose) polymerase called Tankyra	**Leeanne McGurk**, University of Dundee, UK
10.55-11.15	Determinants of TDP-43 aggregate seeding and loss of function	**Yuna Ayala**, Saint Louis University, MO, USA
11.15-11.30	Disruption of TDP43 expression leads to transcriptome-wide deregulation of polyadenylation sites	**Elmasnur Yilmaz**, Biotechnology Department, Ege University, Izmir, Türkiye
11.30-11.45	Su(var)3-9-Mediated Epigenetic Regulation of TDP-43 Expression and its Implications in Age-Related Neurodegeneration	**Fabian Feiguin**, University of Cagliari, Italy
11.45-12.00	Feedback loops that could counteract the molecular TDP-43 pathogenesis	**Martina Hallegger**, UK DRI at King's, London, UK

12.00-13.20 *Lunch*

Session 2

Phase Separation and Biomolecular Condensates

Moderator Yuna Ayala

13.20-13.30	Short presentation of ***Live Like Lou***	**Yuna Ayala**
13.30-13.50	Seeing TDP-43 phase separation, function, and ALS-associated dysfunction with atomic resolution	**Nicholas Fawzi**, Brown University, Providence, Rhode Island, USA *Lecture sponsored by* ***Live Like Lou***
13.50-14.10	The multifaceted role of the N-terminal domain in the function and malfunction of TDP-43	**Magdalini Polymenidou**, University of Zurich, Switzerland
14.10-14.30	(Dis)solving the problem of aberrant protein states	**James Shorter**, Penn University, Philadelphia, USA
14.30-14.50	Roles of biomolecular condensates in the homeostatic protein dosage regulation	**Jernej Ule**, Kings College London, UK
14.50-15.05	TDP-43 is a negative regulator of physiological FUS condensation	**Tatyana Shelkovnikova**, SITraN, the University of Sheffield, UK
15.05-15.20	Biomolecular Condensates as Crucibles for Pathological TDP-43 Aggregation	**Xiao Yan**, MPI-CBG, Dresden, Germany
15.20-15.35	Loss of PML Nuclear Bodies in Familial Amyotrophic Lateral Sclerosis-Frontotemporal Dementia	**Serena Carra**, University of Modena and Reggio Emilia, Italy
15.35-15.50	TDP-43 anterograde axonal transport is mediated by KLC1 motor adaptor	**Monica Feole**, International Clinical Research Center, Brno, Czech Republic
15.50-16.10	*Coffee break*	

Session 3

Nuclear Import and Export

Moderator Jemeen Sreedharan

16.10-16.30	RNA-based regulation of TDP-43 localization	**Lindsey Hayes**, Johns Hopkins University, Baltimore, USA
16.30-16.50	Nucleocytoplasmic transport factors as modifiers of TDP-43 proteinopathy	**Wilfried Rossoll**, Mayo Clinic Florida, Jacksonville, USA
16.50-17.10	From A to I – Regulation of TDP-43 nuclear export through RNA editing	**Rita Sattler**, Barrow Neurological Institute, Phoenix, USA
17.10-17.30	Cytoplasmic TDP-43 accumulation in the mouse cortex causes diverse biological changes across time	**Adam Walker**, Queensland Brain Institute, St Lucia QLD, Australia
17.30-17.45	TDP-43 proximity proteomics in human neurons suggest new interactors	**Eran Hornstein**, Weizmann Institute of Science, Rehovot, Israel

17.45-18.00	Selective Neuronal Vulnerability in Neocortices of Patients with C9ORF72-related Neurodegeneration	**Jimmy Tsz Hang Lee**, Wellcome Sanger Institute, Cambridge, UK
18.00-18.15	RNA-Mediated Self-Assembly Regulates TDP-43 Homeostasis and Cellular Dynamics	**Patricia Siqueira Dos Passos**, Saint Louis University, USA
18.15	*Group Photo*	
18.30	*Cocktail Caffè degli Specchi* *Sponsored by* ***QurAlis***	QurAlis

Thursday September 7th

Session 4
Mechanisms of disease
Moderator Chris Donnelly

09.00-09.20	Mechanisms of TDP-43 loss of function?	**Leonard Petrucelli**, Mayo Clinic Florida, Jacksonville, USA
09.20-09.40	TDP-43 Dysfunction Triggers Exon Skipping and Aggregation of the Epilepsy Gene KCNQ2 in ALS/FTD Patients	**Evangelos Kiskinis**, Northwestern University, Chicago, USA
09.40-10.00	Relevance of stress granules to ALS pathogenesis in vivo	**Christine Vande Velde**, University of Montreal, Canada
10.00-10.20	Loss of TDP-43 splicing repression in ALS: fluid biomarker and AAV therapeutic strategy	**Philip Wong**, Johns Hopkins University, Baltimore, USA
10.20-10.35	TDP-43-Mediated Splicing Control and RNA Stability: Unveiling Mechanisms and Disease Implications in ALS and FTD	**Anna-Leigh Brown**, University College London, UK
10.35-11.00	*Coffee break*	

Session 5
Complexities of TDP-43 pathways
Moderator Sami Barmada

11.00-11.20	Altered stress response in models of TDP-43 ALS and ALS/FTD	**Daryl Bosco**, UMass-Chan Medical School, Worcester, USA
11.20-11.40	TDP43 Axonal Condensates: Unraveling Their Significance in ALS Pathology	**Eran Perlson**, Tel Aviv University, Israel
11.40-12.00	Cortical hyperexcitability drives ALS and TDP-43 pathology *(video recorded lecture)*	**Bradley Turner**, Florey Institute, Melbourne, Australia
12.00-12.20	Modelling TDP-43 proteinopathy in *Drosophila* uncovers shared and neuron specific targets across ALS and FTD relevant circuits	**Daniela Zarnescu**, Penn State College of Medicine, Hershey, USA

12.20-12.35	Investigating the role of hypermethylation in TDP43-mediated neurotoxicity	**Caroline Hsieh**, University of Michigan, USA
12.35-12.50	Mislocalization of TDP-43 promotes motor neuron degeneration in mouse models of Amyotrophic Lateral Sclerosis (ALS)	**Aarti Sharma**, Regeneron Pharmaceuticals, Tarrytown, USA
12.50-13.05	Altered splicing in Huntington's disease via reduced TDP-43 activity accompanied by altered m6A RNA modification	**Leslie Thompson**, University of California Irvine, Costa Mesa, USA
13.05-14.00	*Lunch break*	

Session 6
Therapies
Moderator Rita Sattler

14.00-14.20	Cryptic splicing in TDP-43 proteinopathies	**Pietro Fratta**, University College London, UK
14.20-14.40	Targeting Stathmin-2 in TDP-43 proteinopathies	**Clotilde Lagier-Tourenne**, Massachusetts General Hospital, Boston, USA
14.40-15.00	Propagation Insights from Cortical Origin and Targeting hnRNPA1-Mediated Splicing Control for Therapeutic Intervention	**Osamu Onodera**, Niigata University, Japan
15.00-15.20	Axonal TDP-43 in ALS and dementia	**Chris Donnelly**, University of Pittsburgh School of Medicine, USA
15.20-15.35	Creation of de novo cryptic exons for next-generation gene therapies	**Oscar Wilkins**, UCL, London, UK
15.35-15.50	Large scale analysis of sALS and C9orf72 ALS/FTD iPSNs reveals defects in TDP-43 function repaired by genetic therapies	**Alyssa Coyne**, Johns Hopkins University School of Medicine, Baltimore, USA
15.50-16.05	Targeting the glycine-rich domain of TDP-43 with antibodies prevents its aggregation in vitro and reduces neurofilament levels in vivo	**Henrick Riemenschneider**, DZNE Munich, Germany
16.05-16.20	*Coffee Break*	

Session 7
Models 1
Moderator Christine Vande Velde

16.20-16.40	Alternative TARDBP splicing: the good, the bad and the ugly	**Sami Barmada**, University of Michigan School of Medicine, Ann Arbor, MI, USA
16.40-17.00	Functional genomic strategies to identify regulators of neuronal TDP-43 biology	**Michael Ward**, NIH/NINDS, Bethesda, USA
17.00-20.00	*Free Time*	

20.00-22.00 *Poster Session with wine and pizza*
With the participation of ***Nonino***

Friday September 8th

Session 8
Models 2
Moderator Eran Perlson

09.00-09.20	Investigating the role of interneurons in TDP-43-linked disease	**Jemeen Sreedharan**, King's College London, UK
09.20-09.40	Zebrafish models of TDP-43 and FUS *(video recorded lecture)*	**Gary Armstrong**, McGill University, Montreal, Canada
9.40-9.55	Interactions between progranulin insufficiency and TDP-43 overexpression in a mouse model of Frontotemporal Dementia	**Anna Cook**, University of Alabama at Birmingham, USA
9.55-10.10	Novel DPR knock-in mice reveal a conserved neuroprotective extracellular matrix signature in C9orf72 ALS/FTD	**Carmelo Milioto**, Division of Neuroscience, San Raffaele, Milan, Italy
10.10-10.25	Physiological tissue-specific and age-related reduction of mouse TDP-43 levels is regulated by epigenetic modifications	**Marco Baralle**, ICGEB Trieste, Italy
10.25-10.55	*Coffee break*	

Session 9
Biomarkers
Moderator Wilfried Rossol

10.55-11.15	Cellular mechanisms of amyloid entry and replication for tau, TDP-43, and α-synuclein	**Marc Diamond**, UT Southwestern Medical Center, Dallas, Texas, USA
11.15-11.35	TDP-43-controlled RNAs in platelets, a novel disease biomarker approach	**Emanuele Buratti**, ICGEB Trieste, Italy
11.35-11.50	Structures of pathological TDP-43 filaments in human neurodegenerative disease	**Diana Arseni**, MRC Laboratory of Molecular Biology, Cambridge, UK
11.50-12.05	Post-mortem tissues from the ALS/FTD disease spectrum identify new biomarkers and mechanisms for patient stratification	**Towfique Raj**, Icahn School of Medicine at Mount Sinai, New York, USA
12.05-12.20	ALS/FTD-associated C9orf72 C4G2 repeat RNA disrupts phenylalanine tRNA aminoacylation and protein production	**Boris Rogelj**, Jozef Stefan Institute, Ljubljana, Slovenia

12.20-12.30 *Poster Award*
Best poster prize sponsored by ***The FEBS Journal***

12.30-12.40 *Closing remarks*

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