Final Programme
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Welcome to Basel

Dear colleagues, friends and ESRS participants

It is our pleasure and privilege to welcome you to the 24th Congress of the European Sleep Research Society in Basel. As the principal Congress devoted to sleep medicine and research in Europe, the meeting provides an ideal opportunity to discover the latest advances in the field and to network with colleagues from around Europe and beyond.

The European Sleep Research Society is an international non-profit organisation whose purpose is to promote research on sleep and related areas, to improve the care for patients with sleep disorders and to facilitate the dissemination of information regarding sleep research and sleep medicine.

The Swiss Society for Sleep Research, Sleep Medicine and Chronobiology (SSSSC) brings together basic science and clinical sleep researchers, chronobiologists and sleep clinicians to promote and stimulate collaboration. The Society was founded in 1991 and has more than 300 active members.

Nestling in the heart of Europe, in the three countries corner where Switzerland, Germany and France meet, Basel is a pocket-sized metropolis that combines proverbial Swiss quality with a multicultural population. This makes the city unmistakably open-minded and innovative. The city sparkles with all kinds of culture. Nearly 40 museums with their long-established collections and spectacular special exhibitions are the foundation of Basel’s reputation as a city of art and museums.

Basel has a long-standing tradition in academia with the oldest University in Switzerland (established 1460) and is home to world leading pharmaceutical companies. In fact, the ESRS was founded 1974 in Basel by Prof Werner Koella and a banquet on a large river-boat helped very much to bring the “sleepers” from so many countries together. Thus, it is about time to bring sleep specialists and professionals back to the roots after 44 years.

Congress attendees will have the chance to benefit from scientific exchange during either the formal activities or the informal meetings with colleagues from different backgrounds. They will also have a chance to relax at the sunny banks of the Rhine, and the romantic streets of the excellently preserved Old Town.

We hope you will enjoy the meeting and we are looking forward to personally welcoming you here in this wonderful venue!

Walter McNicholas
ESRS President

Christian Cajochen
Congress Chair

Raphael Heinzer
Past President of the SSSSC
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Programme Overview

Wednesday, 26 September 2018

- **Symposium**: Unraveling the neurobiology of sleep in normal ageing and in neurodegeneration (p. 17)
- **Round Table**: Pulse wave analysis during sleep—a meaningful tool for improved phenotyping in sleep disorders (p. 24)
- **Joint Symposium**: ESR - EAN Disorder of Arousalss (ODA): an update (p. 25)
- **European Network Session**: New insights in the clinical picture of sleep apnea—findings from the European Sleep Apnea Database (ESADA) (p. 29)
- **Satellite Symposium**: New evidence for Continuous Open Airway Therapy (COAT) in OSA (p. 65)
- **Sports Networking Event (Football Match)** (p. 60)

- **Keynote Lecture**: Emmanuel Mignot (p. 28)

- **ESA Meeting Session 1**: The state of the art in sleep technology (p. 58)
- **ESA Meeting Session 2**: Hot topics in sleep medicine (p. 58)
- **ESA Meeting Session 3**: Interactive workshops (p. 58)
- **ESA Meeting Session 4**: The future of sleep technology (p. 31)
- **ESA AGM**: National delegates meeting (p. 32)
<table>
<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>08.30 – 10.30</td>
<td>Symposium: REM sleep fragmentation and emotional dysregulation: a new mechanism linking sleep and affect?</td>
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<tr>
<td>08.30 – 10.30</td>
<td>Symposium: Recent advances in Fatigue Risk Management: from fatigue countermeasure strategies to sleep science-based policy making</td>
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<td>08.30 – 10.30</td>
<td>Oral Session: Cardiovascular and other consequences and sleep apnea</td>
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<td>08.30 – 10.30</td>
<td>Joint ESRS – EBRs Symposium</td>
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<td>10.30 – 11.00</td>
<td>Coffee Break</td>
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<td>11.00 – 12.00</td>
<td>Oral Session: Restless legs syndrome and dementia</td>
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<td>11.00 – 12.00</td>
<td>Case Discussion</td>
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<td>12.00 – 13.00</td>
<td>Oral Session: Parasomnia</td>
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<td>12.00 – 13.00</td>
<td>Case Discussion</td>
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<td>13.00 – 14.15</td>
<td>Lunch Break &amp; Poster Viewing</td>
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<td>14.15 – 16.15</td>
<td>Joint Symposium: ESRS – ERS Interaction between sleep and obstructive airway disease; a cocktail party</td>
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<td>16.15 – 16.45</td>
<td>Coffee Break</td>
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<td>16.45 – 17.30</td>
<td>Keynote Lecture Susan Redline</td>
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<td>17.00 – 17.15</td>
<td>Keynote Lecture Wenbiao Gan</td>
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<td>17.30 – 19.45</td>
<td>ESRS Business Meeting</td>
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<td>20.00 – 20.15</td>
<td>Networking Get-Together</td>
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## Friday, 28 September 2018

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<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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<tbody>
<tr>
<td>08.30 – 10.30</td>
<td>Symposium on Headache and sleep</td>
<td>Lecture Hall San Francisco</td>
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<tr>
<td>08.30 – 10.30</td>
<td>Symposium on Biomarkers for sleep disruption and sleep disorders</td>
<td>Lecture Hall Montreal</td>
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<td>08.30 – 10.30</td>
<td>Symposium on Pharmacological therapy of obstructive sleep apnea. Novel tools and principles.</td>
<td>Lecture Hall Sydney</td>
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<td>08.30 – 09.30</td>
<td>Oral Session on Hypersomnia</td>
<td>Lecture Hall Singapore</td>
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<td>08.30 – 09.30</td>
<td>Oral Session on Sleep in psychiatric disorders</td>
<td>Lecture Hall Osaka</td>
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<td>09.30 – 11.00</td>
<td>Coffee Break</td>
<td>Lecture Hall Montreal</td>
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<td>11.00 – 12.00</td>
<td>Symposium on Restless legs syndrome</td>
<td>Lecture Hall San Francisco</td>
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<td>11.00 – 12.00</td>
<td>Round Table on Transcutaneous carbon dioxide during sleep in sleep-disordered breathing: the reverse side of the coin</td>
<td>Lecture Hall Montreal</td>
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<td>11.00 – 12.00</td>
<td>Round Table on Education and accreditations procedures for Sleep Medicine: meeting the needs</td>
<td>Lecture Hall Sydney</td>
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<td>11.00 – 12.00</td>
<td>Symposums on The relationship between brain oscillations during sleep, neuroplasticity and stroke</td>
<td>Lecture Hall Singapore</td>
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<td>11.00 – 12.00</td>
<td>Poster Session 3 Poster Viewing</td>
<td>Lecture Hall Osaka</td>
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<td>12.00 – 13.30</td>
<td>Lunch Break &amp; Poster Viewing</td>
<td>Lecture Hall Montreal</td>
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<td>13.30 – 15.30</td>
<td>Symposium on Narcolepsy</td>
<td>Lecture Hall San Francisco</td>
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<td>13.30 – 15.30</td>
<td>Symposium on Molecular and cellular mechanism of sleep homeostasis</td>
<td>Lecture Hall Montreal</td>
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<td>13.30 – 15.30</td>
<td>Oral Session on Sleep in children and adolescents</td>
<td>Lecture Hall Sydney</td>
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<td>13.30 – 15.30</td>
<td>Oral Session on Sleep in ageing and dementia</td>
<td>Lecture Hall Singapore</td>
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<td>15.30 – 15.45</td>
<td>Coffee Break</td>
<td>Lecture Hall Montreal</td>
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<tr>
<td>15.45 – 17.15</td>
<td>Hot Topic Symposium &amp; Closing Session</td>
<td>Lecture Hall San Francisco</td>
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- **Respiratory track**
- **Neuropsychiatry track**
- **Basic track**
- **Translational track**
- **Human sleep track**
- **General track**
- **Satellite symposium**
- **Poster Session**
Venue Overview

Ground floor | Hall 4.0

1st floor | Hall 4.1
09.00 – 12.30  Teaching Course 1

Year in review – Sleep mechanisms and functions
Chairs: T. DeBoer (Leiden, NL)
P. Peigneux (Bruxelles, BE)
P.-H. Luppi (Lyon, FR)

Circadian system
T. DeBoer (Leiden, NL)

Human sleep functions
P. Peigneux (Bruxelles, BE)

Coffee Break from 10.30 – 11.00

Human sleep functions (continued)
P. Peigneux (Bruxelles, BE)

Sleep mechanisms and functions
P.-H. Luppi (Lyon, FR)

09.00 – 12.30  Teaching Course 3

Without sleep but during sleep – the dilemma of cardio-respiratory polygraphy
A practical scoring course
Chairs: L. Grote (Gothenburg, SE)
H. Schneider (Baltimore, US)

Introduction: Scoring cardiorespiratory polygraphy: rules, obstacles and strategies
L. Grote (Gothenburg, SE)

Scoring of central sleep disordered breathing events
H. Schneider (Baltimore, US)

Arterial tonometry: a new approach to address diagnostic procedures with level 3 devices – Theory and practical examples
H. Schneider (Baltimore, US)
L. Grote (Gothenburg, SE)

Coffee Break from 10.30 – 11.00

Sleep medicine clinics – Practical scoring of patients cases studied with cardiorespiratory polygraphy – a guided, interactive scoring session
H. Schneider (Baltimore, US)
L. Grote (Gothenburg, SE)
09.00 – 12.30  Teaching Course 5

**Techniques in sleep research and medicine**  
*Chair: P. Jennum (Glostrup, DK)*

Evaluation of sleep and daytime function: Questionnaire – Uses, application and limitations in sleep research and medicine  
D. Riemann (Freiburg, DE)

Polysomnography/polygraphy. Indications, evaluation, uses of manual, semiquanted and quantitated evaluations. Pro and cons  
P. Jennum (Glostrup, DK)

Measures for vigilance: Multiple Sleep Latency Test (MSLT), Maintenence Wakefulness Test (MWT), The Sustained Attention to Response Test (SART). Strength and limitations  
M. Partinen (Helsinki, FI)

Coffee Break from 10.30 – 11.00

Circadian measures: actigraphy, temperature. Wearable devices for long term polygraphic recordings, smart phones in sleep research  
T. Penzel (Berlin, DE)

Imaging techniques (visualization of brain structures including brain stem and midbrain, fMRI, PET, others)  
D. Arnaldi (Genoa, IT)

Molecular methods in diagnosing sleep and sleep disorders (orexin, melatonin, cortisol, MCH, adenosine, histamine, GWA)  
Y. Dauvilliers (Montpellier, FR)

09.00 – 12.30  Hands-on Course

**Clinical PSG/PG scoring & interpretation workshop – Part I**  
*Organised by: Natus Neurology*  
*Trainer: A. Obeidat (Middleton, US)*

Recommended & Alternative sensors  
AASM Guidelines for Scoring Sleep Stages & Arousals  
Coffee Break from 10.30 – 11.00

Case discussion I – Scoring Sleep Stages & Arousals

12.30 – 13.00  Lunch Break
13.00 – 16.30 Teaching Course 2

Year in review – Clinical
Chair: L. Nobili (Milan, IT)

Sleep related movement disorder
M. Manconi (Lugano, CH)

Narcolepsy and hypersomnia
Y. Dauvilliers (Montpellier, FR)

Coffee Break from 14.30 – 15.00

Narcolepsy and hypersomnia (continued)
Y. Dauvilliers (Montpellier, FR)

Sleep disordered breathing (SDB)
W. Randerath (Solingen, DE)

13.00 – 16.30 Teaching Course 4

Digital Sleep: Internet and Smartphone Application for Sleep
Chair: H.-P. Landolt (Zurich, CH)

Digitalization, miniaturization and networks: medicinal-technical innovation for sleep medicine
H. Malberg (Dresden, DE)

Mobile and wearable systems for monitoring sleep and sleep disorders
W. Karlen (Zurich, CH)

Coffee Break from 14.30 – 15.00

Mobile and wearable systems for monitoring sleep and sleep disorders (continued)
W. Karlen (Zurich, CH)

Can we use smartphone behavior to learn how sleep-wake disease impacts our day-to-day lives?
A. Ghosh (Leiden, NL)
Scientific Programme

Tuesday, 25 September 2018

13.00 – 16.30 Early Career Day

**Selling your science**
Chair: E. Sif Arnardottir (Reykjavik, IS)

**Welcome and introduction**
K. Porcheret (Oxford, UK)

**Selling your science to the public**
N. Koop (Amsterdam, NL); W. Kuijpers (Amsterdam, NL)

Coffee break from 14.30 – 15.00

**Selling your science to the public**
N. Koop (Amsterdam, NL); W. Kuijpers (Amsterdam, NL)

**Selling your science to scientists**
E. Sif Arnardottir (Reykjavik, IS)

**Election for new committee members**

Early Career research Network (ECRN) session is free of charge for all ESRS members who are students and researchers/clinicians up to 10 years post Ph.D. Online registration is mandatory.

13.00 – 17.00 Hands-on Course

**Clinical PSG/PG scoring & interpretation workshop – Part II**
Organised by: Natus Neurology

Trainer: A. Obeidat (Middleton, US)

AASM Guidelines for scoring respiratory events

Case discussion II – Scoring Respiratory events

Coffee Break from 14.30 – 15.00

AASM Guidelines for scoring Limb Movements

Case Discussion III – Scoring Limb Movements

What are you missing from the interpretation of PG recording?
17.00 – 19.05 Opening Session & Young Scientists Symposium

San Francisco

Chairs: C. Cajochen (Basel, CH)  
W. McNicolas (Dublin, IE)

General Track

Welcome words & entertainment

European Sleep Science Award

Young Scientists’ Symposium

O001 Preserved neuron reactivity dynamics during prolonged wakefulness is linked to cognitive fitness in aging, independently of tau and amyloid beta burden  
M. Van Egroo, J. Narbutas, G. Besson, V. Muto,  
D. Chylinski, P. Villar-Gonzalez, G. Gaggioni,  
P. Ghaemmaghami, X. Pepin, M. Cerasuolo, M. Blanpain,  
E. Tezel, C. Le Goff, E. Cavalier, E. Lambot, S. Laloux,  
C. Hagelstein, A. Luxen, C. Degueldre, M.A. Bahri,  
P. Maquet, E. Salmon, C. Schmidt, C. Phillips, C. Bastin,  
F. Collette, G. Vandewalle (Liège, BE; Caserta, IT)

O002 Discovering the role of miR-709 in the sleep homeostatic process  
K. Kompotis, G. Mang, S. Jimenez, Y. Emmenegger,  
P. Franken (Lausanne, CH)

O003 Symptom-based clinical subtypes of obstructive sleep apnoea show differences in spectral power and immediate post-arousal dynamics  
D. Mazzotti, B. Keenan, J. Kim, M. Younes, A. Pack  
(Philadelphia, US; Winnipeg, CA)

O004 The impact of treating insomnia upon functional health, psychological wellbeing and sleep-related quality of life: a randomised controlled trial with mediation analysis  
A.I. Luik, R. Emsley, S.D. Kyle, C. Gordon, C.L. Drake,  
A. Marsden, C.A. Espie (London, Manchester, Oxford, UK; Sydney, AU; Detroit, US)

19.00 – 20.30 Networking Evening

Exhibition Area

All participants and exhibitors are kindly invited to the Networking Event, which will take place at the congress centre within the exhibition area. After a first exciting day of science and education at the congress, it is time to enjoy some delicious food in a relaxed atmosphere among your colleagues. An excellent way to end your first day at the congress.

Costs are included in the registration fee. Please make sure to wear your badge.
08.30 – 10.30 Symposium

Unraveling the neurobiology of sleep in normal ageing and in neurodegeneration

*Neuropsychiatry Track*

*Chairs: R. Osorio (New York, US) N. Gosselin (Montreal, CA)*

5 **Sleep oscillations and the pathogenesis of Alzheimer’s disease**
R.S. Osorio, A.W. Varga (New York, US)

6 **Orexin and Alzheimer’s disease**
C. Liguori (Rome, IT)

7 **Isolated RBD, an early stage of α-synucleinopathy**
B. Högl (Innsbruck, AT)

8 **Is OSA associated with pathological aging? A neuropsychological and neuroimaging perspective**
N. Gosselin (Montreal, CA)

08.30 – 10.30 Symposium

The Big Sleep: unraveling insomnia using big data

*Human Sleep Track*

*Chairs: E. Van Someren (Amsterdam, NL) V. Tucci (Genoa, IT)*

9 **Epidemiology, genetic models and epigenetics of insomnia**
T. Paunio (Helsinki, FI)

10 **Trait and life history profiles reveal stable insomnia subtypes**

11 **Genome-wide analysis of insomnia in UK Biobank and 23andMe identifies novel loci and functional pathways**

12 **Modelling sleep disorders in mice**
V. Tucci (Genova, IT)
08.30 – 10.30 Symposium

Circadian modulation of EEG brain activity and cognition, and the impact of light on sleep
Chairs: M. Münch (Berlin, DE)
S. Chellappa (Boston, US)

13 The role of light in regulating alertness and performance in mice
S. Peirson (Oxford, UK)

14 Effects of the circadian system and circadian misalignment on cognition in non-shift workers and chronic shift workers
S.L. Chellappa, C.J. Morris, F.A.J.L. Scheer (Boston, US)

15 Relationship between daytime light exposure and EEG sleep architecture, slow-wave activity, and sleep quality in young healthy office workers
M. Gordijn, M. Geerdink, E. Wams, T. Woelders, R. Hut (Groningen, NL)

16 Impact of different light exposures in the evening on EEG slow-wave activity and REM sleep
M. Münch, F. Bes, A. Papakonstantinou, C. Nowozin, J. Regente, A. Wahnschaffe, S. Hädel, G. Gruber, D. Kunz (Berlin, DE; Vienna, AT)
08.30 – 09.30 Oral Session

Sleep and driving

Chairs: J. Mathis (Berne, CH)
J.L. Pepin (Grenoble, FR)

O017 Maintenance of Wakefulness Test, real and simulated driving in narcolepsy/hypersomnia patients

O018 To predict sleep related accidental risk of patients with obstructive sleep apnea syndrome: self reported sleepiness at the wheel versus Apnea Hypopnea Index

O019 Diagnostic patterns of sleep- and vigilance tests in distinct causes of excessive daytime sleepiness
J. Mathis, D. Andres, A. Mathis, W. Schmitt, C.L. Bassetti, D.R. Schreier (Bern, CH)

O020 Moderate and severe OSA in males impair psychomotor reaction times assessed by CRD-series testing
I. Pavlinac Dodig, R. Pecotic, M. Valic, L. Lusic, Z. Dogas (Split, HR)

O021 A pre-drive ocular assessment predicts subsequent driving impairment: a naturalistic driving study in shift workers
New methods in basic and clinical sleep research
Chair: L. Tarokh (Berne, CH)

O022 Environmental influence on the behaviorally defined sleep (rest) in a wild nocturnal primate Nycticebus javanicus
K. Reinhardt, V. Vyazovskiy, K.A.I. Nekaris (Oxford, UK)

O023 Two million nights to characterize sleep heterogeneity: what objective and self report big data tell us

O024 Studying the Temporal Dynamics of Human Sleep in Real Life and Large Numbers
E. Winnebeck, D. Fischer, T. Leise, T. Roenneberg (Munich, DE; Amherst, Boston, US)

O025 Scoring sleep with artificial intelligence enables quantification of sleep stage ambiguity
P. Anderer, M. Ross, A. Cerny, A. Moreau (Vienna, AT)

O026 New spectral analysis method to identify trait-like features in NREM sleep power spectra

O027 Cognitive functioning following sleep deprivation is moderated by time-of-day: results from the Karolinska WakeApp
B.C. Holding, T. Sundelin, J. Axelsson (Stockholm, SE)

O028 A computer algorithm to quantify REM sleep without atonia
A. Papakonstantinou, J. Klemming, F. Bes, D. Kunz (Berlin, DE)

O029 Evaluation of night-to-night variability of sleep apnea in home polysomnography
L.C. Rohling, R. Tijdens, K.W. van Kralingen (Zwolle, NL)

O030 Accuracy of detecting sleep apnea using machine-held submental ultrasonography
P.-L. Lee, C.-C. Shu, E.C.H. Liu, Y.-C. Tsai, C.-W. Hsu, H.-C. Wang, A. Chen, C.-N. Chen (Taipei, TW)

O031 Cerebral free-water imaging with obstructive sleep apnea severity
08.30 – 10.30 ESST Meeting

ESST Meeting – Session 1
The state of the art in sleep technology
Chair: L. Hill (Edinburgh, UK)

Sign in and welcome
L. Hill (Edinburgh, UK)

Recent advances in sleep treatments
R. Tijdens (NL)

Beyond the AHI
E.S. Arnardottir (Reykjavik, IS)

Tracheal sounds during sleep
L. Launois (Paris, FR)

09.30 – 10.30 Oral Session

Sleep, – omics and novel cellular and molecular mechanics
Chairs: M. Tafti (Lausanne, CH)
          S. Brown (Zurich, CH)

O032 Predicted gene expression in the brain is associated with sleep macrostructure in healthy young individuals

O033 The cortical synaptic transcriptome is organized by clocks, but its proteome is driven by sleep
S. Noya (Zurich, CH)

O034 mGluR5-dependent nuclear speckle assembly drives sleep-wake transcriptomics

O035 RNA-Seq analysis of the impact of sleep deprivation in medial prefrontal cortex of young and old mice

O036 The effects of insufficient sleep on microglial morphology and functional state
H.-K. Wigren, S. Steffens, S. Piirainen, L. Tian, T. Porkka-Heiskanen (Helsinki, FI)
10.30 – 11.00 Coffee Break

11.00 – 12.00 Case Discussion

**Parasomnias, movement disorders of sleep and paroxysmal disorders**  
*Chair: B. Högl (Innsbruck, AT)*

**Standing up and walking during the night: not always a disorder of arousal**  
F. Provini (Bologna, IT)

**RBD or something else?**  
J. Santamaria (Barcelona, ES)

**PLMS without RLS: video and case discussion**  
M. Manconi (Lugano, CH)

11.00 – 12.00 Round Table Discussion

**Preclinical systematic reviews and meta-analysis in sleep research**  
*Chair: M. Andersen (São Paulo, BR)*

37 **Introduction to systematic review and meta-analysis of preclinical animal studies**  
R. de Vries (Nijmegen, NL)

38 **Meta-analysis on the relationship between sleep deprivation and anxiety in rodents**  
G.N. Pires, A.G. Bezerra, S. Tufik, M.L. Andersen (São Paulo, BR)

39 **Adenosine and sleep: a systematic review and meta-analyses of the preclinical literature**  
C.H.C. Leenaars, S.A. Savelyev, S. Van der Mierden, R.B.M. De Vries (Nijmegen, NL; St. Petersburg, RU; Hannover, DE)

40 **Systematic review on the relationship between monoamines and sleep**  
J.M.L. Menon, R.B.M. de Vries, W.H.I.M. Drinkenburg, C.H.C. Leenaars (Nijmegen, NL; Beerse, BE)

**Discussion**
### 11.00 – 12.00 Oral Session

#### Lack of sleep: effects on periphery and the brain

*Chairs: A. Lazar (Norwich, Norfolk, UK)  
M. Short (Adelaide, AU)*

**O041 Effects of sleep restriction on glucose tolerance in adolescents**
J. Gooley, D. Twan, S. Karamchedu, J. Lo, M. Chee (Singapore, SG)

**O042 The relationship between adolescents’ sleep spindles and cognitive performance following experimental sleep restriction**
C.M. Reynolds, M. Gradisar, M.A. Short (Adelaide, AU)

**O043 Association between individual impairments in glucose metabolism and cognitive performance in response to sleep restriction**
E.-M. Elmenhorst, D. Elmenhorst, E. Hennecke, D. Lange, J. Fronczek, A. Bauer, D. Aeschbach (Cologne, Jülich, DE)

**O044 Investigation of the neural substrates underlying the homeostatic sleep response in the basal forebrain**

**O045 ’Waking at a lower cost’: running wheel access reduces sleep propensity**

### 11.00 – 13.30 ESST Meeting

#### ESST Meeting – Session 2

**Hot topics in sleep medicine**

*Chair: C. Teixeira (Porto, PT)*

**Keynote: Healthy sleep, healthy brain: sleep, circadian rhythms and mechanisms of cognitive decline in the human brain**
A. Lim (Toronto, CA)

**Talk: Sleep apnoea in women**
A. Ryckx-Gheeraert (Basel, CH)

**Lunch break**

**Compumedics lunchtime talk (sponsored)**
D. Vermeiren (Brussels, BE)
11.00 – 13.30 Poster Session 1

Please refer to page 58 for details.

Poster walks take place from 12.00 – 13.00

**Cellular, molecular biology & genetics**  P001-P016
**Dreaming**  P017-P029
**Sleep physiology 1**  P030-P047
**Chronobiology 1**  P048-P066
**Behavior 1**  P067-P084
**Learning, memory & cognition 1**  P085-P098
**Methodology & computation 1**  P099-P117
**Breathing disorders 1**  P118-P136
**Breathing disorders 2**  P137-P155
**Insomnia 1**  P156-P173
**Insomnia 2**  P174-P191
**Hypersomnia 1**  P192-P205
**Neurological disorders 1**  P206-P222
**Psychiatric & behavioural disorders 1**  P223-P238
**Sleep & aging 1**  P239-P251
**Healthcare services & education**  P252-P267

12.15 – 13.15 Round Table Discussion

**Montreal**

**Pulse wave analysis during sleep – a meaningful tool for improved phenotyping in sleep disorders?**

*Chair: E.S. Arnardottir (Reykjavik, IS)*

46 **Pulse wave analysis during sleep – physiology and methodology**

T. Penzel (Berlin, DE)

**Pulse wave analysis during sleep in respiratory disease**

H. Schneider (Baltimore, US)

**Pulse wave analysis during sleep in cardiovascular disease**

D. Zou (Gothenburg, SE)

47 **Pulse wave analysis during sleep in insomnia**

N. Laharnar (Berlin, DE)

**Discussion**
12.15 – 13.15 Satellite Symposium

**Acoustical enhancement of slow wave sleep**

For further details please refer to page 65.

12.00 – 13.30 Lunch Break & Poster Viewing


**Disorder of Arousals (DOA): an update**

*Neuropsychiatry Track*

*Chairs:* L. Nobili (Milan, IT)
C. Bassetti (Berne, CH)

**An animal model of DOA: is it possible?**
P.-H. Luppi (Lyon, FR)

48 **Local aspect of sleep and wakefulness: implications for DOA**
F. Siclari (Lausanne, CH)

**Diagnostic criteria for DOA: a video-polysomnographic assessment**
R. Lopez (Montpellier, FR)

49 **Clinical and PSG features distinguishing DOA from Sleep Related Hypermotor Epilepsy-SHE**
P. Proserpio, L. Nobili (Milan, IT)

50 **Parasomnia overlap disorders**
P. Bargiotas (Berne, CH)

13.30 – 15.30 Symposium

**Asymptomatic sleep disordered breathing: who should be treated?**

*Respiratory Track*

*Chairs:* R. Heinzer (Lausanne, CH)
M. Sánchez-de-la-Torre (Lleida, ES)

51 **Predictors and biomarkers of negative outcomes in obstructive sleep apnea**
R. Heinzer (Lausanne, CH)

52 **Plasma miRNAs as predictor of CPAP response in resistant hypertension**
M. Sánchez-de-la-Torre (Lleida, ES)

53 **Breath analysis in OSA patients, new biomarkers?**
M. Kohler (Zurich, CH)

**Health consequences of untreated central sleep apnea**
W. Randerath (Solingen, DE)
13.30 – 15.30 Symposium

**Temporal constraints on sleep and cognition: importance for brain health during ageing**
*Chairs: C. Schmidt (Liège, BE) K. Wulff (Oxford, UK)*

54 The translational potential of sleep and circadian rhythm disturbances as a biomarker of Alzheimer’s disease

55 Brain molecular, histopathological and structural measures linking sleep, circadian rhythms, and dementia in community-dwelling older adults
A. Lim (Toronto, CA)

56 Age-related changes in circadian sleep-wake regulation: impact on cognitive performance and cerebral correlates
C. Schmidt, C. Reichert, M. Maire, G. Gaggioni, M. Deantoni, M. Reyt, G. Vandewalle, F. Collette, V. Muto, G. Hammad, C. Cajochen (Liège, BE; Basel, Berne, CH)

57 Dynamic LED lighting: Finding the right light at the right time for severely demented residents
K. Wulff (Oxford, UK)

13.30 – 14.30 Oral Session

**Electrophysiology of sleep**
*Chairs: T. DeBoer (Leiden, NL) G. Zoccoli (Bologna, IT)*

O058 Sharpening the paradox of REM sleep: cortical oscillations, synchronization and topographical aspects during phasic and tonic REM microstates
P. Simor, G. van der Wijk, F. Gombos, I. Kovács (Budapest, HU)

O059 Bidirectional interactions between slow waves and synaptic plasticity
M.C. Kahn, A. Langfelder, P. Antonoudiou, Y. Huang, M. Lohse, L. Upton, V. Vyazovskiy, E. Mann (Oxford, UK)

O060 Orexin-independent decreases in sleep propensity mark the onset of spontaneous torpor bouts in calorically-restricted mice
G. Zoccoli, S. Alvente, R. Amici, S. Bastianini, C. Berteotti, M. Cerri, V. Lo Martire, A. Silvani, S. Swoap, A. Valli (Bologna, IT; Williamstown, US)
O061 Electrophysiological correlates of sleep and wakefulness in Aplysia californica
A. Vorster, N. Niethardt, H. Chiel, J. Born (Tübingen, DE; Cleveland, US)

O062 Intranasal leptin treats sleep disordered breathing in obese mice

13.30 – 15.30 Symposium

Sleep problems in early childhood – perspectives into epidemiology and treatment
Chairs: T. Paunio (Helsinki, Fl)
B. Sivertsen (Bergen, NO)

63 Disturbed sleep during early infancy: findings from the CHILD-SLEEP cohort

64 Developmental trajectories of sleep problems in toddlers and later emotional and behavioral problems
B. Sivertsen, A.G. Harvey, T. Reichborn-Kjennerud, E. Ystrom, M. Hysing (Bergen, Oslo, NO; Berkeley, US)

65 Clinically oriented subtyping of chronic insomnia of childhood
O. Bruni, S. Sette, M. Angriman, E. Baumgartner, L. Selvaggini, C. Belli, R. Ferri (Bolzano, Rome, Troina, IT)

66 What have we learnt in the last 5 years of pharmacological treatments for children with sleep problem?
P. Gringras (London, UK)

13.30 – 15.30 ESST Meeting

ESST Meeting – Session 3
Interactive workshops
Chair: M. Verspaandonk (Tilburg, NL)

13.30 Workshop: Interactive PSG case studies
M. van der Mierden (NL)
H. Steinebach (NL)

14.30 Workshop: Actigraphy
R. Sharman (Oxford, UK)
14.30 – 15.30 Case Discussion  
**Managing sleep problems in psychiatry and psychotherapy**  
*Chair: C. Nissen (Berne, CH)*

- **Always twitchy and tired: differential diagnosis and treatment**  
  L. Frase (Freiburg, DE)

- **Rhythm and mood**  
  C. Nissen (Berne, CH)

- **Still wide awake after cognitive behavioral therapy for insomnia (CBT-I): what next?**  
  E. Hertenstein (Berne, CH)

15.30 – 16.00 Coffee Break

16.00 – 16.45 Keynote Lecture  
**Sleep analytics and biomarkers**  
*Chair: L. Nobili (Milan, IT)*  
E. Mignot (Palo Alto, US)

16.00 – 16.45 Keynote Lecture  
**Molecular analysis of biological clocks: beyond circadian rhythms**  
*C. Kyriacou (Leicester, UK)*
17.00 – 18.30 European Network Session – EURLSSG – You

Welcome and opening
L. Rijsman (The Hague, NL)
B. Högl (Innsbruck, AT)

17.10 PLMS Scoring demystified: a practical guide to the new scoring rules
S. Fulda (Lugano, CH)

17.40 Q&A
S. Fulda (Lugano, CH)

17.55 Discussion
B. Högl (Innsbruck, AT)
L. Rijsman (The Hague, NL)
17.00 – 18.30 European Insomnia Network Session

What's new?
Chairs: D. Riemann (Freiburg, DE)
E. Van Someren (Amsterdam, NL)

An introduction to the European guideline for the diagnosis and treatment of insomnia
K. Spiegelhalder (Freiburg, DE)

The European Academy for CBT-I – an interim report
C. Baglioni (Freiburg, DE)

Ongoing work on insomnia at the SCNI in Oxford
S. Kyle (Oxford, UK)

Ongoing work on insomnia in Amsterdam
E. Van Someren (Amsterdam, NL)

Theoretical considerations on the relationships between epigenetics, early trauma, insomnia and depression
L. Palagini (Pisa, IT)

17.00 – 18.30 Oral Session

Sleep and cognition
Chairs: P. Peigneux (Bruxelles, BE)
S. Schwartz (Geneva, CH)

O068 Selective tracking of relevant speech during human sleep
T. Andrillon, L. Guillaume, M. Koroma, S. Kouider
(Melbourne, AU; Paris, FR)

O069 Maintaining vigilance with limited sleep opportunity: is it better to consolidate or split sleep?
J. Lo, X.K. Lee, E. van Rijn, J.L. Ong, J. Gooley, M. Chee
(Outram, SG)

O070 Effect of total sleep deprivation on the recall of active avoidance response in rats
T. Oniani, T. Shetekauri, M. Tsaava, N. Khmiadashvili, T. Charekishvili, N. Oniani (Tbilisi, GE)

O071 The sleeping brain not only monitors the environment, but also detects relevant information
M. Wislowska, C. Blume, A. Michalak, N. Weisz, M. Schabus (Salzburg, AT)

O072 Neural correlates of human cognitive abilities during sleep: an EEG-fMRI study
Z. Fang, L. Ray, A.M. Owen, S. Fogel (London, Ottawa, CA)
O073 Effect of interictal epileptic spikes on sleep spindles in medial temporal regions during NREM sleep: are there consequences on memory long-term consolidation?  
A SEEG study  

O074 Bad sleepers’ night sleep quality improves after pre-sleep cognitive training  
M. Cerasuolo, F. Conte, F. Borriello, I. Di Iorio, G. Fusco, S. Malloggi, F. Giganti, G. Ficca (Caserta, Florence, IT)

17.00 – 18.30 European Network Session

Narcolepsy  
Chairs: C. Bassetti (Berne, CH)  
G. Mayer (Schwalmstadt-Treysa, DE)

EU-NN Data base: Update  
R. Khatami (Barmelweid, CH)

Etiology of human narcolepsy: what is new?  
B. Kornum (Copenhagen, DK)

Treatment of narcolepsy: what is new?  
G. Plazzi (Bologna, IT)

Genetics of familial narcolepsy  
M. Tafti (Lausanne, CH)

Narcolepsy and opiates  
R. Fronczek (Leiden, NL)

EU-NN-EAN-ESRS Narcolepsy guidelines and EU-NN centers of excellence: update  
C. Bassetti (Berne, CH)

17.00 – 17.45 ESST Meeting

ESST Meeting – Session 4
The future of sleep technology  
Chair: L. Hill (Edinburgh, UK)

Future of polysomnography: have we reached a tipping point?  
C. Teixeira (Porto, PT)

The future of the ESST & closing remarks  
L. Hill (Edinburgh, UK)
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<th>Time</th>
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<tr>
<td>17.45 – 18.45</td>
<td>ESST Meeting</td>
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<td>ESST AGM / National delegates meeting</td>
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<td><strong>Rio</strong></td>
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<td>18.40 – 19.40</td>
<td>Satellite Symposium</td>
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<td>Montreal</td>
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<td>New evidence for Continuous Open Airway Therapy (COAT) in OSA</td>
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<td>18.40 – 19.40</td>
<td>Satellite Symposium</td>
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<td>Osaka</td>
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<td>Sleep and circadian rhythms from the viewpoint of light quality</td>
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08.30 – 10.30 Symposium

REM sleep fragmentation and emotional dysregulation: evidence for a new mechanism linking sleep and affect?

Chairs: M. Gradisar (Adelaide, AU)  
A.-K. Pesonen (Helsinki, FI)

75 Restless REM sleep impedes overnight emotional resolution in insomnia


76 Awakening thresholds and (REM) sleep perception in insomnia patients and good sleeper controls

B. Feige, C. Baglioni, D. Riemann (Freiburg, DE)

77 REM sleep fragmentation and depressive symptoms in late adolescence: evidence from a community cohort

A.-K. Pesonen, M. Gradisar, L. Kuula, I. Merikanto, S. Tuominen, R. Tark, K. Räikkönen, J. Lahti (Helsinki, FI; Adelaide, AU)

78 Does school-aged children’s anxiety reduce after sleep restriction therapy via REM sleep consolidation?


08.30 – 10.30 Symposium

Information processing during sleep: recent developments and future perspectives

Chairs: P. Peigneux (Bruxelles, BE)  
A. Arzi (Cambridge, UK)

79 Associative learning during human sleep: an interplay between behavior, sleep stages and brain activity

A. Arzi (Cambridge, UK)

Neural markers of perceptual processing and learning during sleep

S. Kouider (Paris, FR)

80 The MemoSleep-Hypothesis: how does cognition influence sleep?

B. Rasch (Fribourg, CH)

81 What can be learned during sleep? Neurophysiological evidence for limitations and boundary conditions

P. Peigneux (Bruxelles, BE)
08.30 – 10.30 Symposium

**Recent advances in Fatigue Risk Management: from fatigue countermeasure strategies to sleep science-based policy making**
*Chairs: H. Van Dongen (Spokane, US)*
*V. Riethmeister (Groningen, NL)*

82 **Basic and clinical sleep and circadian science as a foundation for fatigue risk management in occupational settings**
H. Van Dongen (Spokane, US)

83 **Fatigue risk management for the offshore oil and gas industry**
V. Riethmeister, S. Brouwer, M. de Boer, U. Bültmann (Amsterdam, Groningen, NL)

84 **Alertness management strategies among long-haul truck drivers and airline pilots**
M. Sallinen (Helsinki, FI)

85 **Fatigue proofing: the next generation of fatigue risk management**
D. Dawson (Wayville, AU)

08.30 – 10.30 Oral Session

**Cardiovascular and other consequences and sleep apnea**
*Chairs: L. Grote (Gothenburg, SE)*
*M. Hatzinger (Solothurn, CH)*

O086 **Risk factors for increased daytime sleepiness in sleep apnea – results from the National Swedish Sleep Apnea Registry**
J. Hedner, L. Grote, D. Zou, C. Wartenberg, S. Franzen (Gothenburg, SE)

O087 **Differences in arousal probability and duration after apnea and hypopnea events in adult obstructive sleep apnea patients**
T. Leppänen, A. Kulkas, A. Oksenberg, B. Duce, E. Mervaala, J. Töyräs (Kuopio, FI; Raanana, IL; Brisbane, AU)

O088 **Analysing morphine-induced respiratory depression in obstructive sleep apnoea patients using new technologies: a randomised double-blind placebo-controlled study**
D. Wang, J. Wu, L. Rowsell, K. Wong, R. Thomas, B. Yee, R. Grunstein (Glebe, AU; Boston, US)
O089  **Long-term mortality depending on severity of sleep apnea in patients after acute myocardial infarction**
O. Ludka, R. Stepanova, T. Kara, J. Spinar (Brno, CZ; Rochester, US)

O090  **Nonfatal and fatal cardiovascular events in continuous positive airway pressure adherent obstructive sleep apnoea syndrome patients – a retrospective observational study**

O091  **Arrhythmias and sleep related breathing disorders: data from the European Sleep Apnoea Database (ESADA)**
C. Lombardi, A. Faini, P. Castiglioni, T. Penzel, P. Steiropoulos, L. Grote, J. Hedner, O. Marrone, O. Basoglu, P. Śliwiński, G. Trakada, J. Verbraecken, Z. Dogas, T. Saaresranta, S. Schiza, O. Ludka, G. Parati (Milan, Palermo, IT; Berlin, DE; Alexandroupolis, Athens, Heraklion, GR; Gothenburg, SE; Izmir, TR; Warsaw, PL; Antwerp, BE; Split, HR; Turku, FI; Brno, CZ)

O092  **Associations of heart rate variability and sleep apnea with hypertension**

O093  **The predictive value of loop gain measurements in determining continuous positive airway pressure efficacy in patients with obstructive sleep apnea**
Y. Li, X. Ding, F. Gao, Q. Yang, X. Wang, W. Xu, D. Han (Beijing, CN)

O094  **Psychological distress and depression preceding sleep apnea**
P. Salo, H. Tuimala, V. Aalto, M. Kivimäki, T. Oksanen (Turku, FI; London, UK)

O095  **Relationship between risk factors for obstructive sleep apnea and cognitive function in middle-aged and older adults: cross-sectional analysis of the Canadian Longitudinal Study on Aging**
08.30 – 10.30 Joint ESRS – EBRS Symposium

Chairs: W. McNicholas (Dublin, IE)
D. Skene (Guildford Surrey, UK)

General Track

96 Gene expression changes associated with chronic sleep/wake disorders: insights from Drosophila
L. Seugnet (Lyon Cedex, FR)

Sleep-activity cycles drive global dynamics of protein and phosphorylation in synapses
C. Robles (Munich, DE)

Human sleep and circadian metabolomics studies
D. Skene (Guildford Surry, UK)

A search for glymphatic like mechanisms in healthy human sleep
S. Holst (Copenhagen, DK)

10.30 – 11.00 Coffee Break

11.00 – 12.00 Oral Session

Neuropsychiatry Track

Restless legs syndrome and dementia

Chairs: B. Högl (Innsbruck, AT)
F. Provini (Bologna, IT)

O097 Non-dipping pattern in restless legs syndrome
S. Chenini, A.L. Rassu, L. Guiraud, E. Evangelista,
L. Barateau, R. Lopez, B. Carlander, I. Jaussent,
Y. Dauvilliers (Montpellier, FR)

O098 Stroke-related restless legs syndrome: an anatomo-clinical entity with clues to pathophysiology
M. Bataillard, P. Bourgin (Besançon, Strasbourg, FR)

O099 Sleep-wake fragmentation is linked to amyloid beta brain deposition in healthy ageing
J. Narbutas, M. Van Egroo, D. Chylinski, P. Villar González, G. Borrait-Amador, V. Muto, G. Hammad,
G. Besson, E. Lambot, S. Lalouz, C. Hagelstein,
P. Ghaemmaghami, C. Degueldre, C. Schmidt, P. Maquet,
E. Salmon, C. Phillips, M.A. Bahri, C. Bastin, F. Collette,
G. Vandewalle (Liège, BE)

O100 EEG functional connectivity during REM sleep: a marker of cognitive status?
A. Lafrenière, P. Brayet, J.-M. Lina, D. Petit, J.-F. Gagnon,
J. Montplaisir, N. Gösselin, J. Carrier (Montréal, CA)
O101  Serotine melatonin timing secretion in real life conditions in Alzheimer patients of mild to moderate severity
R. Manni, R. Cremascoli, C. Perretti, M. Terzaghi, S. Cerri, R. De Icco, M. Picascia, E. Sinforiani (Pavia, IT)

11.00 – 12.00  Case Discussion

Central hypersomnia – circadian disorders  Human Sleep Track
Chair: L. Nobili (Milan, IT)

Central hypersomnias: A pediatric KLS case after 2009 H1N1 vaccine
M. Lecendreux (Paris, FR)

Gait Disturbance as first sign of early onset narcolepsy
F. Pizza (Bologna, IT)

A case of paroxysmal nocturnal events associated with choking
L. Nobili (Milan, IT)

11.00 – 13.00  Symposium

Rhythms of (un)healthy sleep: understanding and modulation of multi-system oscillations  Translational Track
Chairs: P. Achermann (Zurich, CH)  G. Lavigne (Montreal, CA)

102  EEG correlates of multi-system oscillations: from visual identification to the analysis of complexity
R. Ferri (Troina, IT)

103  Autonomic background of multi-system oscillations: from humans to model organisms
A. Silvani (Bologna, IT)

The interplay between periodic leg movements, arousals and breathing events
M. Manconi (Lugano, CH)

104  The interplay between sleep bruxism, arousals and breathing or period movement related events
G. Lavigne (Montreal, CA)
11.00 – 12.30 ANSS Networking Meeting

The European situation and the main difficulties among the different national sleep societies
L. Parrino (Parma, IT)

A brief story of the ANSS activities in the last 4 years
J. Verbraecken (Edegem, Antwerp, BE)

The Beyond AHI Task Force: an update
E.S. Arnardottir (Reykjavik, IS)

Open challenges and future perspectives for the ANSS
B. Strazisar (Ljubljana, SL)

Panel Discussion
L. Parrino (Parma, IT)
J. Verbraecken (Edegem, Antwerp, BE)
E.S. Arnardottir (Reykjavik, IS)
B. Strazisar (Ljubljana, SL)
O.C. Deleanu (Bucurest, RO)
S. Khachatryan (Yerevan, AM)
L. Korostovtseva (St Petersburg, RU)
Y. van der Werf (Amsterdam, NL)

11.00 – 13.30 Poster Session 2

Please refer to page 58 for details.

Poster walks take place from 12.00 – 13.00

Sleep & aging 2 P268-P280
Biochemistry & neurobiology 1 P281-P293
Sleep physiology 2 P294-P309
Chronobiology 2 P310-P328
Behavior 2 P329-P346
Learning, memory & cognition 2 P347-P358
Sleep deprivation 1 P359-P373
Methodology & computation 2 P374-P390
Breathing disorders 3 P391-P409
Breathing disorders 4 P410-P428
Insomnia 3 P429-P446
Hypersomnia 2 P447-P460
Neurological disorders 2 P461-P477
Medical disorders 1 P478-P493
Psychiatric & behavioral disorders 2 P494-P509
Paediatrics 1 P510-P526
12.00 – 13.00 Oral session

**Parasomnias**
*Neuropsychiatry Track*

**Chairs:** Y. Dauvilliers (Montpellier, FR)
F. Siclari (Lausanne, CH)

**O105** Negative stress coping is associated with structural integrity of posterior cingulate cortex in sleep walking
M. Ramm, A. Urbanek, P. Young, C. Scherfler, A. Heidbreder (Münster, DE; Innsbruck, AT)

**O106** Topographical spectral power changes associated with NREM parasomnia episodes – a high-density EEG study
J. Cataldi, S. Lecci, G. Bernardi, F. Siclari (Lausanne, CH; Lucca, IT)

**O107** Regional patterns of neuronal activity in REM sleep behavior disorder using high-density EEG

**O108** Actigraphic differences in the rapid eye movement sleep behavior disorder patients
D. Kemlink, P. Perinova, P. Dusek, E. Ruzicka, K. Sonka (Praha, CZ)

**O109** Efficacy of prolonged release melatonin for REM sleep behaviour disorder in Parkinson’s disease: a double blind, randomised, placebo-controlled trial
M. Gilat, N. Marshall, D. Hammond, A. Coeytaux Jackson, A. Mullins, J. Hall, R. Grunstein, S. Lewis (Camperdown, Sydney, AU; Geneva, CH)

12.00 – 13.00 Case Discussion

**Montreal**

**Central hypersomnia-circadian disorders**
*Human Sleep Track*

**Chair:** P. Jennum (Glostrup, DK)

**Narcolepsy versus idiopathic hypersomnia**
Y. Dauvilliers (Montpellier, FR)

**Secondary narcolepsy**
G. Plazzi (Bologna, IT)

**Comorbid narcolepsy – psychiatric implications**
P. Jennum (Glostrup, DK)

13.00 – 14.15 Lunch Break & Poster Viewing
13.05 – 13.30 ESRS Women’s Forum

*Chair: R. Winsky-Sommerer (Surrey, UK)*

**Clearing career hurdles**
R. Winsky-Sommerer (Surrey, UK)

**Mid-career academia: opportunities and challenges**
L. Tarokh (Berne, CH)

13.05 – 14.05 Satellite Symposium

**Beyond the AHI**

For further details please refer to page 67.

13.05 – 14.05 Satellite Symposium

**A potential new treatment for the management of excessive sleepiness in narcolepsy and obstructive sleep apnoea**

For further details please refer to page 67.

14.15 – 16.15 Joint Symposium ESRS-ERS

*Interaction between sleep and obstructive airway disease: a cocktail party*

*Chair: W. McNicholas (Dublin, IE)*

110 **Sleep disorders in COPD: etiology and consequences**
W. McNicholas (Dublin, IE)

**Asthma control and disturbed sleep**
O. Marrone (Palermo, IT)

**Management of sleep disorders in COPD and asthma**
L. Grote (Gothenburg, SE)

**NIV in patients with (hypercapnic) COPD**
P. Wijkstra (Groningen, NL)
14.15 – 16.15 Symposium

The different enigmatic faces of REM sleep behavior disorder

Chairs: A. Stefani (Innsbruck, AT)
A. Heidbreder (Münster, DE)

111 Does isolated REM sleep behavior disorder exist? Lesson learned from the longstanding non-convertors
A. Stefani (Innsbruck, AT)

112 How to design a neuroprotective trial for idiopathic rem sleep behavior disorder
J. Santamaria (Barcelona, ES)

113 Why do not all patients with Parkinson disease have RBD?
F. Provini, L. Baldelli, G. Calandra-Buonaura, L. Sambati, A. Cecere, F. Mignani, P. Cortelli (Bologna, IT)

114 The universal presence of RBD in autoimmune/ neurodegenerative disorders: the anti-IgLON5 disease
A. Heidbreder (Münster, DE)

14.15 – 15.15 Oral Session

Insomnia disorder

Chairs: C. Baglioni (Freiburg, DE)
D. Riemann (Freiburg, DE)

O115 Feeling awake while asleep: a high-density EEG assessment of sleep perception
S. Lecci, J. Cataldi, G. Bernardi, J. Haba-Rubio, R. Heinzer, G. Tononi, F. Siclari (Lausanne, CH; Lucca, IT; Madison, US)

O116 Insomnia with objective short sleep duration is associated with cardiometabolic, cardiovascular and cerebrovascular disease risk
J. Fernandez-Mendoza, F. He, S. Calhoun, D. Liao, E. Bixler, A. Vgontzas (Hershey, US)

O117 Bedtime social media use and insomnia in adults
S. Hyvämäki, P. Salo (Turku, FI)

O118 Treatment response of insomnia disorder phenotypes and subtypes to standardised digital cognitive behavioural therapy
How best to sequence cognitive behavioural therapy and medication when treating chronic insomnia with and without psychiatric comorbidity?
C. Morin, J. Edinger, A. Krystal, H. Ivers, S. Bonneau-Beaulieu, B. Guay, A. Cartwright, A. Solanoa (Quebec, CA; Denver, San Francisco, US)

14.15 – 16.15 Symposium

Local Network Sleep in vivo and in vitro
Chairs: J. Krueger (Spokane, US)
M. Tafti (Lausanne, CH)

120 The slow oscillation in vitro: a model for sleep regulation
M. Tafti, S. Saberi-Moghadam (Lausanne, CH)

121 Neuronal network dynamics of sleep and wakefulness in C. elegans
M. Zimmer (Vienna, AT)

122 Local origin of slow EEG waves during sleep
I. Timofeev (Québec, CA)

123 Gene-dependent state oscillations in vivo and in vitro

14.15 – 15.15 Round Table

Should we bank our sleep and clocks? How and why creating large multimodal databases
Chair: G. Vandewalle (Liege, BE)

124 Regulations and ethics in biobanking
G. Vandewalle (Liege, BE)

125 The Canadian Sleep Research Biobank
S. Warby (Montreal, CA)

Knowledge-based, data integration and analysis: from diabetes to sleep
I. Xenarios (Lausanne, CH)

Discussion
15.15 – 16.15 Oral Session

**Sydney**

**Basic Track**

**Chronobiology**

*Chairs: C. Schmidt (Liège, BE)*

* M. Gordijn (Groningen, NL)*

**O127** Objective sleepiness is reduced by daytime polychromatic white light exposures depending on melanopic lux

**O128** Influence of habitual caffeine intake and its withdrawal on circadian phase and nap sleep in the evening
J. Weibel, Y.-S. Lin, H.-P. Landolt, C. Garbazza, M. Meyer, H. Slawik, S. Borgwardt, C. Cajochen, C. Reichert (Basel, Zurich, CH)

**O129** Entrainment of circadian system and sleep to extremely long photoperiods in modern life and nature

**O130** Greater sleep inertia in young adults in early biological morning

**O131** Subjective sleepiness and waketime are related to light perception
R. Lasauskaite, C. Cajochen (Basel, CH)
15.15 – 16.15 Oral Session

**Sleep in real life**

*Neuropsychiatry Track*

**Chairs:** T. Paunio (Helsinki, FI)

D.-J. Dijk (Surrey, UK)

O132 **Sleep, fatigue and cognitive performance on different types of fishing vessels**

A. á Høvdanum, P. Weihe, W. van Leeuwen, F. Debes (Tórshavn, FO; Stockholm, SE)

O133 **Do rats avoid a radiofrequency exposed environment to sleep?**


O134 **Exercise effects on the circadian rhythm of adolescents with extreme evening-type circadian preference: a novel treatment to improve sleep health**

C. Lang, C. Richardson, M. Short, M. Gradisar (Basel, CH; Adelaide, AU)

O135 **Chronotype, social jetlag and work performance in a sample of Japanese workers**

Y. Komada, I. Okajima, S. Kitamura, Y. Inoue (Tokyo, JP)

O136 **Dreaming of Mars: inter-individual differences in sleep, sleepiness and performance during a year-long stay in Antarctica**

O. Mairesse, D. Neu, E. Macdonald-Nethercott, N. Pattyn (Brussels, BE; Essex, UK)

16.15 – 16.45 Coffee Break

16.45 – 17.30 Keynote Lecture

*Respiratory Track*

**Chair:** W. McNicholas (Dublin, IE)

O137 **Sex and gender differences in sleep apnea: a window into understanding disease susceptibility**

S. Redline (Boston, US)
16.45 – 17.30  Keynote Lecture

Chair: P.-H. Luppi (Lyon, FR)

138  Learning and sleep-dependent dendritic spine plasticity and maintenance
W. Gan (New York, US)

17.45 – 19.45  ESRS Business Meeting
**Scientific Programme**

**Friday, 28 September 2018**

### 08.30 – 10.30 Symposium

**San Francisco**

**Headache and sleep**

*Neuropsychiatry Track*

Chairs: R. Fronczek (Leiden, NL)

P. Jennum (Glostrup, DK)

139 **Headache and sleep**

P. Jennum (Glostrup, DK)

140 **Cluster headache & the clock**

R. Fronczek (Leiden, NL)

141 **Hypnic headache – the undesired alarmer**

C. Schankin (Berne, CH)

142 **Hypothalamic pathways in headache & sleep**

P. Holland (London, UK)

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### 08.30 – 10.30 Symposium

**Montreal**

**Biomarkers for sleep disruption and sleep disorders**

*Basic Track*

Chairs: S. Archer (Guildford, UK)

A. Lahtinen (Helsinki, FI)

143 **Computational approaches to identify and validate blood transcriptome biomarkers for sleep and circadian health**

E. Laing, C. Moller-Levet, N. Santhi, S. Archer, D.-J. Dijk (Guildford, UK)

144 **Systems genetics of sleep loss in the mouse**

M. Jan, S. Diessler, Y. Emmenegger, N. Guex, B. Middleton, D.J. Skene, M. Pagni, M. Ibberson, F. Burdet, L. Götz, M. Sankar, R. Liechti, C.N. Hor, I. Xenarios, P. Franken (Lausanne, CH; Guildford, UK)

**Transcriptomic biomarkers of sleep disturbances and other symptoms induced by chronic stress in mice**

M. Nollet (London, UK)

145 **DNA methylation in blood leukocytes as putative biomarkers for insufficient sleep**

A. Lahtinen, S. Puttonen, T. Paunio (Helsinki, FI)
08.30 – 10.30 Symposium

**Pharmacological therapy of obstructive sleep apnea. Novel tools and principles.**

*Chairs: J. Hedner (Gothenburg, SE)*

*D.J. Eckert (Sydney, AU)*

146 **The challenge of designing trials in OSA**

J. Verbraecken (Antwerp, BE)

147 **Pathophysiological phenotyping as a rational for drug development**

D.J. Eckert (Randwick, Sydney, AU)

148 **Cannabinoid receptor modulation in sleep apnea**

D. Carley (Chicago, US)

149 **Carbonic anhydrase activity modulation in sleep apnea**

E. Hoff, Z. Ding, G. Ludger, K. Stenlöf, J. Hedner (Gothenburg, SE)

08.30 – 09.30 Oral Session

**Hypersomnia**

*Chairs: C. Baumann (Zurich, CH)*

Y. Dauvilliers (Montpellier, FR)

O150 **Kleine-Levin syndrome is associated with LMOD3 variants**

A. BaHammam, S. Alshareef, S. Basit, S. Li, C. Pfister, S. Pradervand, M. Lecendreux, G. Mayer, Y. Dauvilliers, V. Salpietro, H. Houlden, M. Tafti (AlMadinah, Riyadh, SA; Lausanne, CH; Montpellier, Paris, FR; Marburg, DE; London, UK)

O151 **ADHD symptoms in H1N1-vaccinated youths with narcolepsy type 1**

B.H. Hansen, S. Knudsen (Oslo, NO)

O152 **Repeated measures of hypocretin-1 level in individuals with narcolepsy type 1 and clinical controls**

E.W. Torstensen, B.R. Kornum, B. Wanscher, P.J. Jennum (Copenhagen, Glostrup, DK)

O153 **Sustained attention to response task (SART) shows impaired vigilance versatility in narcolepsy type 1: a simultaneous EEG-fMRI study**

J.K. Gool, R. Fronczek, G.J. Lammers, Y.D. van der Werf (Amsterdam, Heemstede, NL)

O154 **Alternative MSLT cutoffs for diagnosis of pediatric narcolepsy type 1**

F. Pizza, L. Barateau, S. Vandi, E. Mignot, I. Jaussent, R. Lopez, E. Antelmi, G. Plazzi, Y. Dauvilliers (Bologna, IT; Montpellier, FR; Palo Alto, US)
08.30 – 09.30 Round Table

**Acute or chronic caffeine consumption: what keeps you awake?**
*Chair: T. DeBoer (Leiden, NL)*

- 155 **Mechanisms of caffeine’s effect on sleep**
  T. Stenberg (Helsinki, FI)

- 156 **Deeper sleep during chronic caffeine consumption in mice**
  T. DeBoer (Leiden, NL)

- 157 **Acute and chronic caffeine intake and human sleep**
  H.-P. Landolt (Zurich, CH)

- 158 **Effects of chronic caffeine consumption and caffeine withdrawal on human waking performance, sleep and brain structure**
  C.F. Reichert, J. Weibel, Y.-S. Lin, C. Garbazza, M. Meyer, H. Slawik, H.-P. Landolt, S. Borgwardt, C. Cajochen (Basel, Zurich, CH)

Discussion

09.30 – 10.30 Oral Session

**Sleep in psychiatric disorders**
*Chairs: C. Nissen (Berne, CH) A. Wirz-Justice (Basel, CH)*

- O159 **The role of sleep spindles in procedural memory consolidation in depression**
  L. Bovy, M. Dresler, F.D. Weber, A. Steiger (HB Nijmegen, NL; Munich, DE)

- O160 **Poor sleep and its relation to impulsivity in forensic psychiatric patients with antisocial or borderline personality disorders**
  M. Van Veen, J. Karsten, M. Lancel (Assen, NL)

- O161 **The influence of genetic variants on sleep and health improvement in adolescents with an eveningness chronotype**
  M. Dolsen, A. Harvey (Berkeley, US)

- O162 **Synaptic mechanisms of therapeutic sleep deprivation in major depression**
  C. Nissen, M. Kuhn, B. Feige, S. Maiwald, M. Michel, J.G. Maier, S. Klöppel, D. Riemann (Berne, CH; Freiburg, DE)

- O163 **Let there be (blue-depleted) light in psychiatry**
Scientific Programme

Friday, 28 September 2018

09.30 – 10.30 Oral Session

Epidemiology of sleep
Chair: T. Åkerstedt (Stockholm, SE)
L. Grote (Gothenburg, SE)

O164 Sleep duration and mortality—does weekend sleep matter?
T. Åkerstedt, F. Ghilotti, A. Grotta, H. Zhao, H.-O. Adami,
Y. Trolle-Lagerros, R. Bellocco (Milan, Stockholm, SE;
College Station, US)

O165 Sleep fragmentation in sleep disordered breathing based
on a large database (ESADA)
T. Penzel, M. Wächter, M.R. Bonsignore, I. Bouloukaki,
P. Escourrou, I. Fietze, J.W. Kantelhardt, C. Lombardi,
O. Marrone, I. Paranicova, A. Pataka, S. Ryan, S. Schiza,
P. Sliwinski, P. Steiropoulos, J. Verbraecken, L. Grote
(Berlin, Halle, DE; Milan, Palermo, IT; Alexandroupolis,
Heraklion, Thessaloniki, GR; Paris, FR; Kosice, SK; Dublin,
IE; Warzawa, PL; Antwerp, BE; Gothenborg, SE)

O166 Sleep disturbances associated with increased risk of
mortality: UK Biobank Study
M. von Schantz, J. Ong, K. Knutson (Guildford, UK;
Chicago, US)

O167 Sleep in major psychiatric disorders: results from
nationwide SUPER Finland study
E. Cederlöf, M. Torniainen-Holm, T. Paunio, J. Suvisaari,
A. Palotie (Helsinki, FI)

O168 Seasonal differences in obstructive sleep apnea
severity. Results from the European Sleep Apnea
Database (ESADA)
R. Staats, L. Grote, T. Saaresranta, C. Gunduz, A. Pataka,
R. Riha, O. Marrone, S. Ryan, S.E. Schiza, M. Bonsignore,
J. Verbraecken, J. Hedner (Lisbon, PT; Gothenburg, SE;
Turku, FI; Izmir, TR; Crete, Thessaloniki, GR; Edinburgh,
UK; Palermo, IT; Dublin, IE; Antwerp, BE)

10.30 – 11.00 Coffee Break
11.00 – 13.00 Symposium

**Restless legs syndrome**

Chair: D. Garcia-Borreguero (Madrid, ES)

169 **Brain iron metabolism and its effects on brain neurocircuitry in RLS**
R. Allen (Baltimore, US)

170 **Balance-shift of spinal dopamine receptors during long-term treatment. A possible mechanism for augmentation**
S. Clemens, M.-L. Dinkins, P. Lallemand (Greenville, US)

171 **Hypoadenosinergic state as a driving force leading to hyperdopaminergic and hyperglutamatergic states in RLS**
S. Ferre (Baltimore, US)

172 **The search for new therapeutic targets**
D. Garcia-Borreguero (Madrid, ES)

11.00 – 12.00 Round Table

**Transcutaneous carbon dioxide during sleep in sleep-disordered breathing: the reverse side of the coin**

Chair: O. Polo (Tampere, FI)

- **Principles and practice of transcutaneous pCO2 measurement during sleep**
  O. Polo (Tampere, FI)

- **Transcutaneous pCO2 for titration and follow-up of non invasive ventilation**
  R. Staats (Lisbon, PT)

173 **Transcutaneous carbon dioxide during sleep-disordered breathing**

V. Rimpilä (Tampere, FI)

**Discussion**
11.00 – 12.00 Round Table ESRS-WSS

**Education and accreditations procedures for Sleep Medicine: meeting the needs**

*Chairs: W. McNicholas (Dublin, IE)*
*C.M. Morin (Quebec, CA)*

- Accreditation of sleep centres in Europe – current status
  D. Pevernagie (Gent, BE)
- ESRS Examination in Sleep medicine: the scope, content and vision
  T. Paunio (Helsinki, FI)
- Sleep medicine examination by WSS worldwide
  T. Penzel (Berlin, DE)
- Sleep medicine examination: past present and future
  M. Schmidt (Berne, CH)

11.00 – 13.00 Symposium

**The relationship between brain oscillations during sleep, neuroplasticity and stroke**

*Chairs: C. Bassetti (Berne, CH)*
*R. Huber (Zurich, CH)*

- Sleep and neuroplasticity during stroke recovery
  C. Bassetti (Berne, CH)
- A role for sleep-like bistability in stroke perilesional cortex?
  M. Massimini (Milan, IT)
- What can we learn from sleep EEG changes during development for stroke recovery processes
  R. Huber (Zurich, CH)

174 **Perilesional induction of sleep slow waves improves motor recovery after ischemic stroke**

L. Facchin, C. Schöne, M. Bandarabadi, K. Schindler, A. Adamantidis, C. Bassetti (Berne, CH)
11.00 – 13.30 Poster Session 3

Please refer to page 59 for details.

Poster walks take place from 12.00 – 13.00

Medical disorders 2 P527-P542
Psychiatric & behavioral disorders 3 P543-P558
Paediatrics 2 P559-P574
Sleep and gender P578-P589
Biochemistry & neurobiology 2 P590-P603
Chronobiology & circadian rhythms 3 P604-P620
Learning, memory and cognition 3 P621-P632
Sleep deprivation 2 P633-P648
Methodology & computation 3 P649-P667
Breathing disorders 5 P668-P685
Breathing disorders 6 P686-P701
Insomnia 4 P702-P719
Parasomnias P720-P738
Movement disorders P739-P757

12.00 – 13.00 Case Discussion

Chair: J. Verbraecken (Antwerp, BE)

Obese, but only mild OSA?
J. Verbraecken (Antwerp, BE)

Sleep disordered breathing in kyphoscoliosis
D. Pevernagie (Gent, BE)

Young, slim...and yet sleepy!
W. Randerath (Solingen, DE)

12.00 – 13.30 Lunch Break & Poster viewing
13.30 – 15.30 Symposium

**Narcolepsy**

*Chairs: L. Nobili (Milan, IT)  
C. Peyron (Lyon, FR)*

175 *Is cataplexy a dissociated state of paradoxical (REM) sleep?  
Role of glutamatergic neurons of the sublaterodorsal nucleus in a mouse model of narcolepsy type 1*  
A. Roman, M. Villalba, P.-A. Libourel, C. Peyron (Lyon, FR)

**Narcolepsy and H1N1 influenza and vaccinations. Fakes and News.**  
E. Mignot (Palo Alto, US)

**The 24-hour motor disorder of the childhood phenotype**  
G. Plazzi (Bologna, IT)

**Narcolepsy and autoantibodies. Lesson from the paraneoplastic forms**  
Y. Dauvilliers (Montpellier, FR)

13.30 – 15.30 Symposium

**Molecular and cellular mechanisms of sleep homeostasis**

*Chairs: H. Ueda (Tokyo, JP)  
P. Franken (Lausanne, CH)*

176 *Ca²⁺-dependent hyperpolarization pathway in sleep homeostasis*  
S. Shi, K. Yoshida, H.R. Ueda (Tokyo, JP)

[tentative] *Comprehensive RNAi screening in mammal revealed new sleep-related genes*  
S. Brown (Zurich, CH)

177 *Long- and short-term molecular consequences of sleep loss in mice*  
C.N. Hor, J. Yeung, M. Jan, Y. Emmenegger, J. Hubbard, F. Naef, P. Franken (Lausanne, CH)

178 *The gating of sleep by motivated behavior*  
M. Lazarus (Tsukuba, JP)
## 13.30 – 15.30 Oral Session

**Sleep in children and adolescents**  
*Human Sleep Track*

**Chairs:** R. Huber (Zurich, CH)  
K. Hoedlmoser (Salzburg, AT)

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<td>O179</td>
<td>Sleep mediates the association between school pressure, physical activity, screen-time and psychological distress in adolescents</td>
<td>K. Dhondt, A. Vandendriessche, A. Ghekiere, J. Van Cauwenberg, B. De Clercq, A. Desmet, M. Verlogne, D. Benedicte (Ghent, BE)</td>
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<td>O180</td>
<td>Tracking infant development: links between sleep-wake behavior and gut bacteria beta-diversity</td>
<td>S.F. Schoch, J.L. Castro-Mejía, B. Leng, W. Kot, &amp;. Krych, D.S. Nielsen, S. Kurth (Zurich, CH; Copenhagen, Roskilde, DK)</td>
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<td>O181</td>
<td>Sleep in infancy and its relation to the symptoms of attention-deficit and hyperactivity disorder at age 5 years: a longitudinal study</td>
<td>H. Huhdanpää, I. Morales Muñoz, A. Kyyliäinen, O. Saarenpää-Heikkilä, E. Aronen, E.J. Paavonen (Helsinki, Tampere, FI)</td>
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<td>O182</td>
<td>Later school start times alleviate sleep deprivation and social jetlag in adolescent high school students</td>
<td>A.M. Biller, C. Molenda, M. Vuori, T. Roenneberg, E. Winnebeck (Munich, DE)</td>
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<td>O185</td>
<td>Sleep-dependent memory consolidation enhancement from childhood to adolescence is related to developmental changes in sleep spindles and slow oscillations</td>
<td>M. Hahn, A.-K. Joechner, D. Heib, G. Gruber, M. Schabus, K. Hoedlmoser (Salzburg, Vienna, AT)</td>
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<td>O186</td>
<td>During day and night: childhood psychotic-like experiences and nightmares</td>
<td>M.E. Koopman-Verhoeff, K. Bolhuis, C.A.M. Cecil, D. Kocevska, F.C. Verhulst, M.P.C.M. Luijk, H. Tiemeier (Rotterdam, NL)</td>
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<td>O187</td>
<td>Slow wave activity topography predicts development of brain myelin in children</td>
<td>M. Le Bourgeois, S. Deoni, D. Dean, S. Kurth (Boulder, Providence, Wisconsin, US; Zurich, CH)</td>
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O188  **Beneficial effects of a lifestyle intervention program on C-reactive protein: impact of cardiorespiratory fitness in obese adolescents with sleep-related disorders**  
J. Roche, L. Isacco, F. Perret, G. Dumoulin, V. Gillet, F. Mougin (Besançon, Franois, Salins Les Bains, FR)

O188a  **The impact of the teacher-led, classroom-based, sleep education programme on adolescent sleep in UK schools: the Teensleep study**  
R. Sharman, G. Illingworth, R. Foster, C. Espie, C.-J. Harvey (Sleep and Circadian Neuroscience Institute, Nuffield Department of Clinical Neurosciences, University of Oxford, Oxford, UK)

**13.30 – 15.30 Oral Session**

**Human Sleep Track**

**Sleep in aging and dementia**
*Chairs:* G. Vandewalle (Liege, BE)  
N. Gosselin (Montreal, CA)

O189  **Association of circadian sleep-wake regulation and brain structure in older adults: a multi-modal approach**  

O190  **Impact of intraocular cataract lens replacement on circadian rhythms and sleep in older adults**  
S. Chellappa, V. Bromundt, S. Frey, A. Steinemann, C. Schmidt, T. Schlote, D. Goldblum, C. Cajochen (Boston, US; Basel, Berne, CH; Liege, BE)

O191  **Pain, depression, dementia and their association with sleep in nursing home patients – a cross-sectional study**  
K.M. Blytt, E. Flo, A. Erdal, B. Bjorvatn, B. Husebo (Bergen, NO)

O192  **Sleep, orexin and β-amyloid metabolism in obstructive sleep apnea syndrome and Alzheimer’s disease**  
C. Liguori, N.B. Mercuri, F. Izzi, M. Nuccetelli, A. Cordella, S. Bernardini, F. Placidi (Rome, IT)

O193  **Arousals during sleep are associated with brain tau and amyloid-β burden in healthy older adults**  
O194 Sleep efficiency and electroencephalographic patterns in midlife are associated with cognitive change over the adult life course
(Copenhagen, Frederiksberg, Glostrup, Kgs. Lyngby, DK)

O195 A polysomnographic sleep and resting state fMRI connectivity study in the general population
T.S. Lysen, H.I. Zonneveld, R.L. Muetzel, M.A. Ikram, M.W. Vernooij, H. Tiemeier (Rotterdam, NL)

O196 Changes in slow waves density: a matter of aging and sex or an inaccurate detection?
(Montréal, CA)

O197 Change in sleep duration at retirement: a longitudinal study using objective assessments
J. Garefelt, S. Gershagen, L. Platts, H. Westerlund, G. Kecklund (Stockholm, SE)

O198 Objectively measured sleep disturbances are associated with reduced microstructural integrity of white matter. A prospective cohort study in middle-aged and older persons
D. Kocevska, H. Tiemeier, T.S. Lysen, M.W. Vernooij, A.I. Luik (Rotterdam, NL; Oxford, UK)


199 Dreaming and consciousness
F. Siclari (Lausanne, CH)

Towards a neuroscience of insomnia
E. Van Someren (Amsterdam, NL)

200 Sleep biomarkers in insomnia and depression
T. Mikoteit, M. Hatzinger, A. Steiger, M. Pawlowski
(Solothurn, CH; Munich, DE)

15.30 – 15.45 Coffee Break
Hot Topic Symposium

Sleep duration and mortality – Does weekend sleep matter?
T. Åkerstedt (Stockholm, SE)

Quantitative phosphoproteomic analysis of the molecular substrates of sleep need
Q. Liu (Dallas, US)

ER lipid defects in neuropeptidergic neurons impair sleep patterns in Parkinson’s Disease
J.S. Valadas (Leuven, BE)

Closing session including Best poster award
Posters are displayed and presented in three different sessions at the following times. Meeting point for the Poster walks is always the first poster of the given walk.

**Poster Session 1**  
**Wednesday, 26 September 2018**

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<td>Learning, memory &amp; cognition 1 (Chair: G. Ficca)</td>
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<td>Methodology &amp; computation 1 (Chair: P. Achermann)</td>
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**Thursday, 27 September 2018**

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<td>Insomnia 3 (Chair: M. Manconi)</td>
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Posters

Poster Session 3
Friday, 28 September 2018

Poster viewing: 11.00 – 12.00 & 13.00 – 13.30
Poster walks: 12.00 – 13.00

| Medical disorders 2 (Chair: R. Heinzer) | P527-P542 |
| Psychiatric & behavioral disorders 3 (Chair: C. Nissen) | P543-P558 |
| Paediatrics 2 (Chair: S. Kurth) | P559-P574 |
| Sleep and gender (Chair: R. Winsky-Sommerer) | P578-P589 |
| Biochemistry & neurobiology 2 (Chair: M. Tafti) | P590-P603 |
| Chronobiology & circadian rhythms 3 (Chair: G. Vandewalle) | P604-P620 |
| Learning, memory and cognition 3 (Chair: G. Ficca) | P621-P632 |
| Sleep deprivation 2 (Chair: T. DeBoer) | P633-P648 |
| Methodology & computation 3 (Chair: A. Adamantidis) | P649-P667 |
| Breathing disorders 5 (Chair: L. Grote) | P668-P685 |
| Breathing disorders 6 (Chair: P. Jennum) | P686-P701 |
| Insomnia 4 (Chair: D. Riemann) | P702-P719 |
| Parasomnias (Chair: L. Nobili) | P720-P738 |
| Movement disorders (Chair: B. Högl) | P739-P757 |

Meeting point for the Poster walks is always the first poster of the given walk.

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Presenters are kindly requested to stand by their poster during the Poster viewing. The mounting and removal times are to be strictly adhered to. If the poster has not been removed by the end of the allocated removal time, it will be disposed by congress staff (Posters can be collected only during the congress).

Material to mount the posters will be available at the poster desk in the poster area.
Social Events

Networking Evening
Tuesday, 25 September 2018, 19.00 – 20.30
All participants and exhibitors are kindly invited to the Networking Evening, which will take place at the congress centre. After a first exciting day of science and education at the congress, it is time to enjoy a relaxed atmosphere to network with your colleagues and friends.

Costs are included in the registration fee. Please make sure to wear your badge.

Sportive Networking Event
Wednesday, 26 September 2018, 20.00 – 21.30
As a tradition of the ESRS congresses, the football match will take place in Basel, on Wednesday, 26 September 2018, starting at 20.00.

As a team, you will drive together to the football field, located in the beautiful suburb Riehen. By train it's just a 15' minutes' drive.

Let's continue the World Cup in Basel and help your time to bring the ESRS soccer trophy 2018 home. You decide if you play for the “North” or the “South”, depending on whether you associate with the North or the South of Europe (... or of the World). Just enter your name on the team list available in the registration area.

You do not want to play actively but would like to support your team? No problem, supporters are highly welcome.

Meeting point will be 19.30 in the main entrance hall, in front of the registration. The match will not take place in the event of rain.
Networking Get-Together
Thursday, 27 September 2018, 20.00 – 01.00

Let’s spend a great evening together at the “Alte Markthalle” in Basel. The Markthalle was built in 1929 and used for many years as a traditional market. Based on this earlier concept the hall was reopened a few years ago. Nowadays it is a prestigious location, where people meet, sit together and enjoy delicious food from all over the world.

Enjoy a great evening in this historical building, wander through the hall and enjoy the pleasant and vibrant atmosphere. A wide variety of food from Argentina, Afghanistan, Thailand, India, Caribbean, Greece and Local food, to name just a few options, are served here. You cannot decide on one food? No problem, try as many as you like. Spend the evening by meeting interesting people and even hitting the dancefloor in the lounge.

Costs: CHF 65.- (including food and two free drinks)
General Information

Abstract Publication
All accepted abstracts are published as an electronic supplement to Journal of Sleep Research (JSR), the official journal of the ESRS.

Awards
The European Science Award will be announced during the Opening ceremony on Tuesday, 25 September 2018, 17.00.
The Best Poster Award will be announced during the Closing ceremony on Friday, 28 September 2018, 16.45.

Badges
Access to all scientific and networking events will only be possible with your personal badge, which you will receive at the badge printing stations if your registration is fully paid. All participants are requested to wear their name badge throughout the congress.
If you forget your badge, we can reprint it for a deposit of CHF 30.00. The deposit will be returned once you show that you still have both badges, of which we will keep one. If you have lost your badge or do not show both badges, CHF 30.00 will be charged.
Scanning of badges: Participants are not obliged to allow exhibitors to scan their badge in the exhibition area or when entering an industry symposia. Participants must show their badge for proof of access rights, but do not need to allow a company to scan it. With allowing a company to scan, you acknowledge that your registration details will be forwarded to the exhibitor.

Certificates
Certificates of attendance indicating the CME credits are available as from Thursday, 27 September 2018, 13:00, at the self print stations.

Cloakroom
A cloakroom is available in the congress centre next to the Secretariat during the registration opening hours.

CME Accreditation
The 24th Congress of the European Sleep Research Society, Basel, Switzerland, 25/09/2018–28/09/2018 has been accredited by the European Accreditation Council for Continuing Medical Education (EACCME®) with 28 European CME credits (ECMEC®s). Each medical specialist should claim only those hours of credit that he/she actually spent in the educational activity.
Through an agreement between the Union Européenne des Médecins Spécialistes and the American Medical Association, physicians may convert EACCME® credits to an equivalent number of AMA PRA Category 1 CreditsTM. Information on the process to convert EACCME® credit to AMA credit can be found at www.ama-assn.org/education/earn-credit-participation-international-activities.
Live educational activities, occurring outside of Canada, recognised by the UEMS-EACCME® for ECMECs are deemed to be Accredited Group Learning Activities (Section 1) as defined by the Maintenance of Certification Program of the Royal College of Physicians and Surgeons of Canada.

The CME accreditation is valid for the main congress programme and the teaching courses only and does not cover the company-sponsored satellite symposia.

Coffee Breaks
Morning and afternoon coffee breaks are included in the registration fee and are served in the exhibition area. Please refer to the “Programme Overview” for the timings.

ESRS
Throughout the meeting, ESRS staff will be available at the ESRS booth to answer any questions you may have or to deal with any matters concerning the ESRS Society.

The ESRS Business meeting takes place on Thursday, 27 September 2018, 17.45 – 19.45 in lecture hall Montreal.

Evaluation
After the congress, you will receive an email with a request to fill in an online survey. Please take a moment to complete the questionnaire. Your answers will be used to evaluate the scientific content of the programme in order to continuously improve it for future meetings.

Exhibition Opening Hours
- Tuesday, 25 September 2018 19.00 – 20.30
- Wednesday, 26 September 2018 10.00 – 17.00
- Thursday, 27 September 2018 10.00 – 17.00
- Friday, 28 September 2018 10.00 – 17.00

Insurance
The congress organisers cannot accept liability for personal injuries sustained, or for loss or damage of property belonging to conference participants, either during, or as a result of the meeting. Please check the validity of your own insurance.

Language
The official language of the congress is English. No simultaneous translation will be provided. The national language of Switzerland are German/French/Italian.
Lunch
Tickets for lunch boxes were available to purchase prior to the conference for CHF 16.- per day. Participants who have ordered lunch will be scanned with their badge at the lunch catering station in order to receive their lunch box. No lunch tickets can be bought onsite. Lunch will be served in the exhibition area. Please refer to the “Programme Overview” for the times.

Registration / Secretariat Opening Hours
Tuesday, 25 September 2018 08.00 – 19.30
Wednesday, 26 September 2018 08.00 – 19.00
Thursday, 27 September 2018 08.00 – 18.30
Friday, 28 September 2018 08.00 – 17.00

Responsibility
The participant acknowledges that she / he has no right to lodge damage claims against the organisers should the holding of the congress be hindered or prevented by unexpected political or economical events or generally by „force majeure“, or should the non-appearance of speakers or other reasons necessitate programme changes. With her / his registration, the participant accepts this provison.

By accepting the general terms and conditions, the participant declares that she / he agrees to its personal and company data being processed by Congrex Switzerland, may be forwarded to the sponsors and exhibitors of the congress and that this data may be used for information purposes on congresses and events in related fields organised by Congrex Switzerland. In the opposing case, the participant notifies Congrex Switzerland in written within 5 working days after the registration.

Speakers’ Service Centre (SSC)
The Speakers’ Service Centre (SSC) is connected to all lecture halls and is located on the 2nd floor (hall 4.2) in room Nairobi. All speakers are asked to hand in their PowerPoint presentations at the SSC at least 2 hours before the start of their lecture.

Venue
Congress Center Basel
Messeplatz 21
4058 Basel / Switzerland
http://www.congress.ch

Wi-Fi
Free Wi-Fi is available throughout the congress centre during the congress.
SSID: congress_center_basel
User ID: 2480245422
Password: 9982
Satellite Symposia / Wednesday, 26 September 2018

**12.15 – 13.15 Satellite Symposium**  
Sponsored by Philips  
*Acoustical enhancement of slow wave sleep*  
*Enhancing slow wave sleep*  
P.C. Zee (Chicago, US)

**18.40 – 19.40 Satellite Symposium**  
Sponsored by SomnoMed AG  
*New evidence for Continuous Open Airway Therapy (COAT) in OSA*  
Speaker Information:  
Jagdeep Bijwadia MD MBA  
Assistant professor University of MN  
Division of Pulmonary Critical Care and Sleep  
Chair of Advisory Board SomnoMed

**18.40 – 19.40 Satellite Symposium**  
Sponsored by Toshiba  
(including networking)  
*Sleep and circadian rhythms from the viewpoint of light quality*  
*Effects of light on human sleep, alertness and mental effort*  
C. Cajochen (Basel, CH)  
*Spectrum ad a factor to describe the quality of light*  
O. Stefani (Basel, CH)  
*The potential of circadian lighting in elderly homes*  
M. Münch (Berlin, DE)  
*TRI-R LED Spectrum technology designed for circadian rhythm*  
K. Kobayashi (Yokohama, JP)  
*Q & A*
Acknowledgements

The ESRS Board expresses its thanks and appreciation to all those who are generously contributing to the success of the ESRS 2018 congress.

Gold Sponsors

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Silver Sponsors

nox medical

Jazz Pharmaceuticals
Satellite Symposia / Thursday, 27 September 2018

13.05 – 14.05 Satellite Symposium

sponsored by Nox Medical

**Beyond the AHI**

*Chair: W. McNicholas (Dublin, IE)*

13.05 – 14.05 Satellite Symposium

sponsored by Jazz Pharmaceuticals

**A potential new treatment for the management of excessive sleepiness in narcolepsy and obstructive sleep apnoea**

*Chair: G.J. Lammers (Heemstede, NL)*

A potential new wake-promoting agent: what do we know?
M. Tafti (Lausanne, CH)

**Efficacy of solriamfetol on excessive sleepiness in narcolepsy and in obstructive sleep apnoea**

Y. Dauvilliers (Montpellier, FR)

Maintenance of efficacy and safety of solriamfetol on excessive sleepiness in narcolepsy and in obstructive sleep apnoea
G. Mayer (Marburg, DE)

**Conclusion**
G.J. Lammers (Heemstede, NL)
List of Exhibitors

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Industry Information

Exhibition Dates and Hours

Wednesday, 26 September 2018 10.00 – 17.00
Thursday, 27 September 2018 10.00 – 17.00
Friday, 28 September 2018 10.00 – 17.00

B08 Physip
A11 ResMed
A09 Sleep multimedia
B07 SomnoMed
A01 SOMNOmedics GmbH
A07 Toshiba Materials
A16 Viewpoint
B01 VIVISOL
25th Congress of the
European Sleep Research Society
Seville, Spain | 22 – 25 September 2020

Save the Date

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