

Under the Auspices of  
Société des Sciences Médicales de Luxembourg

# EVOLUTIONARY ROOTS OF HUMAN BRAIN DISEASES

February 22-24, 2024  
Hôtel Légère Muensbach  
Luxembourg

 **CHL**  
Centre Hospitalier  
de Luxembourg  
Department of Neurology



# Scientific Committee

Chair:  
Katrin Amunts

SESSION 1  
Thursday, 22/02/2024

## Nico J Diederich, MD

Consultant in Neurology at the Centre Hospitalier de Luxembourg and Adjunct Professor of Neurology at the University of Cologne (Germany)

## Martin Brüne, MD

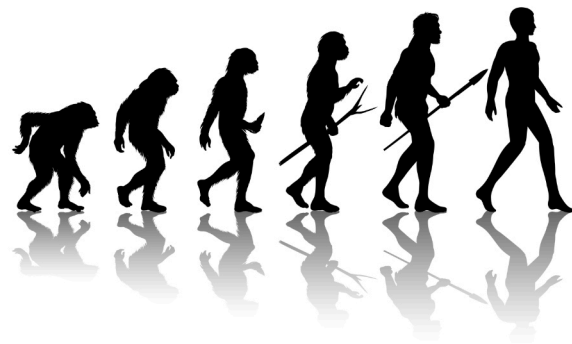
Professor of Psychiatry and Head of the Division of Social Neuropsychiatry and Evolutionary Medicine at the LWL University-Hospital, Ruhr-University Bochum (Germany)

## Katrin Amunts, MD

Professor Director of the C. and O. Vogt-Institute for Brain Research, Heinrich-Heine University Duesseldorf, and of the Institute of Neuroscience and Medicine Research Center Juelich (Germany)

## Christopher G Goetz, MD, FAAN

Professor of Neurological Sciences and Pharmacology at Rush Medical College, Chicago (USA)



14H00	<b>Welcome address</b> Guy Berchem Centre Hospitalier de Luxembourg and Luxembourg Institute of Health
14H10	<b>Introduction to the congress</b> Nico J Diederich
14H20	<b>Human telencephalization</b> Katrin Amunts <i>Keynote</i>
14H50	<b>General aspects in the evolution of glia cells</b> Corrado Cali Department of Neuroanatomy, University of Turin (Italy)
15H10	<b>Metabolic evidence supporting the evolution of glial cells</b> Pierre Magistretti Emeritus Professor, École Polytechnique Fédérale de Lausanne and King Abdullah University of Science and Technology (Switzerland and Saudi Arabia)
15H30	<b>The overstrain on mitochondria</b> Anne Grünewald Luxembourg Centre for Systems Biomedicine, Esch-Belval (Luxembourg)
16H00	<b>Break</b>
16H20	<b>Intrinsic templates for neurodegeneration</b> Toshiki Uchihara Program Director, University of Hawaii postgraduate medical education program at Okinawa Chubu Hospital, Okinawa (Japan)
16H50	<b>Goal-directed and habitual behaviours</b> Ledia F. Hernandez Network Center for Biomedical Research, Carlos III Health Institute, Madrid (Spain)
17H20	<b>Adaptive archaic introgression</b> Olga Dolgova Centre Nacional d'Anàlisi Genòmica; Centre de Regulació Genòmica, Barcelona (Spain)
17H50	<b>Round table</b> Lead: Michael T Heneka Director, Luxembourg Centre for Systems Biomedicine, Esch-Belval (Luxembourg)
18H15	<b>Cocktail Party and Networking</b>
19H15	

## SESSION 2

Friday, 23/02/2024

Chair:

Nico J Diederich

- 09H00** .....  
**Differences in brain gene expression between humans and primates**  
Geneviève Konopka  
Department of Neuroscience, University of Texas, Dallas (USA)
- 09H30** .....  
**Alzheimer's Disease, the parietal lobes, and the evolution of the human genus**  
Emiliano Bruner *Keynote*  
Centro Nacional de Investigación sobre la Evolución Humana, Burgos (Spain)
- 10H10** .....  
**Parkinson's disease - overstrain of basal ganglia and brainstem nuclei**  
Christopher G Goetz
- 10H40** .....  
**Brain diseases associated with unstable repeats**  
Peng Jin  
Department of Human Genetics, Emory University, Atlanta (USA)
- 11H00** .....  
**Pause**
- 11H30** .....  
**The Properties of Cortico-motoneuronal Connections and their Evolutionary Significance for Amyotrophic Lateral Sclerosis**  
Roger Lemon  
Department of Clinical and Movement Neurosciences, UCL Queen Square Institute of Neurology, London (United Kingdom)
- 12H00** .....  
**Round table**  
Lead: Rejko Krüger  
Centre Hospitalier de Luxembourg; Luxembourg Institute of Health (Luxembourg); Centre for Systems Biomedicine, Esch-Belval (Luxembourg)
- 12H30** .....  
**Lunch**
- 14H00** .....

Chair:

Martin Brüne

## SESSION 3

Friday, 23/02/2024

- 14H00** .....  
**REM sleep behaviour disorder: nocturnal replay of "fight and flee"?**  
Nico J Diederich
- 14H30** .....  
**Mood disorders: An evolutionary psychoneuroimmunological approach**  
Markus J Rantala  
Department of Biology, University of Turku, Turku (Finland)
- 15H00** .....  
**ADHD: lost benefit of excessive novelty**  
Annie Swanepoel  
Learning Disability team, North East NHS Foundation, London (United Kingdom)
- 15H30** .....  
**Pause**
- 15H50** .....  
**Substance abuse: An evolutionary perspective of reward and motivation principles**  
Roger Sullivan  
Department of Anthropology, California State University, Sacramento (USA)
- 16H20** .....  
**Schizophrenia: Embracing the Spectrum**  
John S Allen *Keynote*  
Department of Anthropology, Indiana University, Bloomington, Indiana (USA)
- 16H50** .....  
**Round table**  
Lead: Alfonso Troisi  
Department of Systems Medicine, University of Rome Tor Vergata, Rome (Italy)
- 17H20** .....

## SESSION 4

Saturday, 24/02/2024

Chair:

Christopher G Goetz

# Registration

- 09H00** .....  
**Conditions of comparative brain connectomics**  
Kathleen S Rockland  
Department of Anatomy and Neurobiology, Boston University School of Medicine, Boston (USA)
- 09H30** .....  
**Are evolutionary concepts helpful in designing preventive strategies for brain diseases?**  
Gilberto Levy  
Independent Researcher, Rio de Janeiro (Brazil)
- 10H00** .....  
**Evolutionary aspects of neuropsychopharmacology**  
Martin Brüne *Keynote*
- 10H40** .....  
**Pause**
- 11H00** .....  
**Ongoing human evolution?**  
Nicole Bender  
Institute of Evolutionary Medicine, University of Zürich (Switzerland)
- 11H30** .....  
**Ongoing cultural evolution outpaces ongoing biological evolution**  
Jean-Pierre Changeux  
Emeritus professor, Department of Neuroscience, Pasteur Institute and Collège de France, Paris (France)
- 12H00** .....  
**Round table discussion**  
Lead: Axel Karenberg  
Institute for the History of Medicine and Medical Ethics, University of Cologne (Germany)
- 12H30** .....  
**Wrap-up**  
Sten Grillner  
Distinguished Professor, Karolinska Institute Stockholm (Sweden)
- 12H50** .....

There are no registration fees, but **limited space available.**

Please register on  
**[www.chl.lu/fr/congress-registration-evolutionary-roots-human-brain-diseases](http://www.chl.lu/fr/congress-registration-evolutionary-roots-human-brain-diseases)**



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