



NEURO GLOBAL Seminar

Date & Time

Monday, April 20, 2026

18:00 – 19:30

Speaker

Oliver Tüscher, MD, Ph.D.

Chair, Professor of Psychiatry and Psychotherapy,
and Director of the University Hospital of Psychiatry,
Psychotherapy and Psychosomatics, Medical Faculty,
Martin Luther University Halle-Wittenberg, Halle, Germany
Leibniz Institute for Resilience Research (LIR) gGmbH, Mainz, Germany



Title

Neural network mechanisms of resilience

Venue

Auditorium, School of Medicine Building 6 (Megabank) , 1 F/ Seiryō Campus

医学部 6号館 (メガバンク) 1階 講堂 星陵キャンパス **【B08】**

【MAP】 https://www.tohoku.ac.jp/map/en/?f=SR_B08

Format On-site ONLY

Registration <https://forms.gle/AG3D69L8iaUVpRCt8>

- Neuro Globalプログラム生 (Neuro Global Program Students)
【脳科学セミナーシリーズEx】 / 【先進脳科学セミナーシリーズEx】 セミナー 1ポイント
【Brain Science Seminar Series Ex】 / 【Advanced brain science seminar series Ex】 1 point
- 医学系研究科 (Graduate School of Medicine)
【医学履修課程】 国際交流セミナー (アドバンスド講義科目) 出席1回分
【Medical Science Doctoral Course】 International Interchange Seminar (Advanced Lecture course) 1 attendance
- 生命科学研究科 (Graduate School of Life Sciences)
【単位認定セミナー】 【イノベーションセミナー (留学生対象)】 2ポイント
【Credit-granted seminar】 【Innovation seminar (For international students)】 2 points



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Title

Neural network mechanisms of resilience

Abstract

Most people exposed to intense stress continue to function normally in physiological and behavioral terms, a phenomenon known as resilience. Over the past fifteen years, research using laboratory animals and translational human work has modeled neural network processes for stress resilience and significantly advanced understanding of stress responses as well as potential treatments for human stress-related conditions such as depression, post-traumatic stress disorder (PTSD), and anxiety disorders.

Studies in rodents and humans show that resilience to chronic stress is not merely the absence of harmful stress effects. Instead, it represents an active biological process driven by specific adaptive changes that occur particularly in resilient individuals. Researchers have begun to identify these mechanisms at molecular, cellular, and neural circuit levels. Increasingly, findings from animal models are being supported by evidence from human studies. In this seminar, we will discuss the latest evidence on the role of the cognitive control and sensory circuitries in resilience.

These insights suggest new therapeutic strategies: rather than focusing solely on reversing stress-induced damage, treatments could also aim to strengthen the biological processes that naturally promote resilience, especially in people who are more vulnerable to stress. This seminar summarizes the current progress and developments in this growing research field.