



Leibniz Lecture

Brigitte Röder Gottfried Wilhelm Leibniz Prize 2014

Sensitive Period Plasticity in Humans

Monday, October 21, 2019, 6:30pm

*The Palmer House Hilton (Salon 3)
17 E. Monroe, Chicago, IL 60603*



Reception to follow

Learning at the beginning of ontogenetic development cannot be guided by internal models of the world and thus must differ from adult learning. In fact, non-human animal work has demonstrated sensitive periods during which experience permanently shapes neural circuits and after which learning is incomplete. Since a systematic manipulation of early experience is not possible in humans, individuals who were exposed to aberrant experience have to be investigated, such as permanently blind humans and people whose sight was restored after a congenital transient phase of blindness. This research approach gives insights in the neural mechanisms and behavioral consequences of sensitive periods in humans.

The present talk will first demonstrate how infant and adult learning differ and we will speculate how this difference in learning mechanisms might result in sensitive periods. The neural mechanisms of sensitive periods in humans will be demonstrated in a series of behavioral, electrophysiological and brain imaging studies in permanently blind and in sight recovery individuals.



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Brigitte Röder studied Psychology at and received her PhD from the University of Marburg (Germany). After her postdoc sojourn at the University of Oregon (U.S.), she was awarded an Emmy-Noether grant by the German Research Foundation (DFG). In 2004 she moved to the University of Hamburg, where she continues to hold a full professorship for Biological Psychology and Neuropsychology with a second affiliation at the Medical Faculty of the University of Hamburg. Brigitte Röder's research interests comprise multisensory processes and age-dependent neuroplasticity in humans. Her main research methods include behavioral assessments, electrophysiological techniques, and brain imaging in healthy humans across the lifespan and in people with sensory defects.

Brigitte Röder is member of the German National Academy of Sciences Leopoldina and of the Academy of Sciences in Hamburg. Her most important awards are the Leibniz Award of the German Research Foundation, an Advanced Grant of the European Research Council, and the Hector Science Award.

The **Gottfried Wilhelm Leibniz Prize** is the highest honor awarded in German research. Established in 1985, the prize provides an unparalleled degree of freedom to outstanding scientists and academics to pursue their research interests. Up to ten prizes are awarded annually with a maximum of €2.5 million per award. Prize recipients are awarded the prize solely on the basis of the scientific quality of their work. The Leibniz Prize honors the well-known scientist and humanist Gottfried Wilhelm Leibniz (1646-1716), who was a leading figure in the fields of philosophy, mathematics, physics and theology.

The **German Research Foundation (DFG)** is the central, self-governing organization funding science and basic research in Germany. Serving all branches of science and the humanities, its members comprise German research universities, non-university research institutions, scientific associations and the Academies of Science and the Humanities.

The chief task of the DFG is to fund the best research projects by scientists and academics at universities and research institutions, which are selected on the basis of a multi-layered peer review process. The DFG is a cornerstone of Germany's strength as a research nation and it plays a key role in structuring academic research in Europe.

The DFG organizes Leibniz Lectures in different regions across the world in order to promote the prize, the research conducted by the prize holders, and the high quality of German science in general.