

Pressemitteilung**Bernstein Netzwerk Computational Neuroscience****Dr. Claudia Duppé**

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<http://idw-online.de/de/news681491>Forschungsergebnisse
Biologie, Medizin
überregional**Puberty not only a matter of hormones**

When rats are touched at their genitals, their brain changes and puberty accelerates. Bernstein researchers at the Bernstein Center Berlin report that the representation of the genitals in the cortex doubles in size.

Berlin, September 21

Hormones or sexual experience? Which of these is crucial for the puberty of adolescent rats, in particular the reorganization of their brain? It has been known that social cues can either accelerate or delay mammal puberty. Yet, it is not clear which signals are crucial, nor how they affect body and brain. A new study by researchers of the Bernstein Center for Computational Neuroscience Berlin and Humboldt University Berlin shows that sexual touch might have a bigger influence on puberty than previously thought.

Constanze Lenschow, Johanna Sigl-Glöckner and Michael Brecht observed that the cortical representation of the genitals expands during puberty. To begin with, the study confirms the expected: sexual hormones accelerate puberty and the growth of the so-called genital cortex. A novel finding of scientists is that sexual touch does indeed accelerate puberty. Lenschow says: “the effects of sexual touch on puberty and the genital cortex are remarkable since you wouldn’t expect this area of the brain to expand at this stage of development.” Hence, the expansion of the genital cortex is not only triggered by hormones but also by sexual touch.

The researchers’ recent publication in PLOS Biology describes these results. First, they put young female rat together with male rats and measured the expansion of the genital cortex. The same acceleration of cortical expansion could be observed when the rats were touched at their genitals by experimenters. The final results are published in the open-access Journal PLOS Biology. <http://journals.plos.org/plosbiology/article?id=10.1371/journal.pbio.2001283>

„The representation of the body changes in the cerebral cortex,” says Brecht, “in particular the genital cortex doubles in size. Our results help to understand why the perception of our body changes so much during puberty.” Thus, changes of the body and the concurrent changes in the brain in puberty are not merely a matter of hormones – they are also co-determined by sexual experience.

Bernstein Center (BCCN) Berlin

The Bernstein Center (BCCN) Berlin is an institution of Humboldt-Universität Berlin, Charité Universitätsmedizin Berlin and Technische Universität Berlin, to jointly work on research projects in neuroscience. It is one of six Bernstein Centers within the Bernstein Network Computational Neuroscience.

Bernstein Network Computational Neuroscience

The Bernstein Network is a research network in the field of computational neuroscience; this field brings together experimental approaches in neurobiology with theoretical models and computer simulations. The network started in 2004 with a funding initiative of the German Federal Ministry for Education and Research to promote the transfer of theoretical insight into clinical and technical applications. Today, after 10 years of funding by the Federal Ministry, the Bernstein Network has over 200 research groups. It is named after the German scientist Julius Bernstein (1839-1917) who was the first to explain the propagation of nerve impulses.

Your contacts:

Dr. Constanze Lenschow

Phone +49 (0)30 2093 9110

Mail constanze.lenschow@bccn-berlin.de

Prof. Dr. Michael Brecht

Phone +49 (0)30 2093 6718

Mail: michael.brecht@bccn-berlin.de

Bernstein Center Berlin /

Humboldt-Universität zu Berlin

10115 Berlin

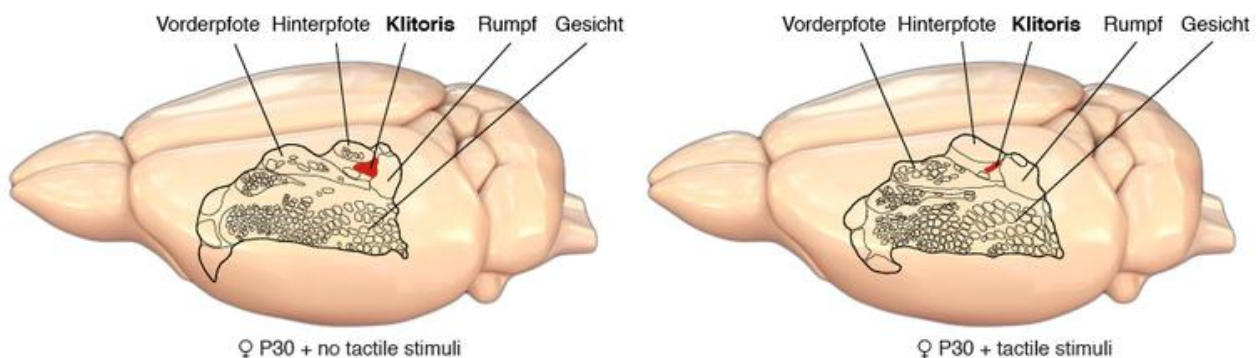
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Please note that there is an embargo on the final publication of the article mentioned in this press release until 2 pm Eastern time US, which is about 8 pm Central European time.



Scheme of the somatosensory humunculus of the rat cortex
Shimpei Ishiyama