Introductory Remarks to Symposium 23

Early information selection for robust vision

Matthias Bethge, Tübingen

Machine vision has recently made steep progress in pattern recognition facilitating numerous technological applications. A common origin for this progress has been the use of retinotopically organized artificial neural networks which roughly resemble rapid visual processing in the ventral stream of mammals. Despite this progress, the robustness of biological vision systems is still unrivalled. For example, even invisible perturbations to an image are sufficient to alter perceptual decisions of artificial neural networks in arbitrary ways. Early information selection is one candidate mechanism that could play an important role to facilitate robustness in biological vision systems. The symposium focuses on research in the early visual system of mice and monkey to reveal computational mechanisms that could play an important role in the robustness of vision.

Symposia

Symposium 23

Friday, March 22, 2019
11:30 - 13:30, Lecture Hall 103

Chair: Matthias Bethge, Tübingen

11:30   **Opening Remarks**

11:35   Matthias Bethge, Tübingen
LACK OF ROBUSTNESS IN ARTIFICIAL NEURAL NETWORKS (S23-1)

12:00   Katrin Franke, Tübingen
CHROMATIC PROCESSING IN THE MOUSE RETINA (S23-2)

12:25   Ziad M. Hafed, Tübingen
A VISION FOR ORIENTING IN PRIMATE SUPERIOR COLLICULUS (S23-3)

12:50   Zhaoping Li, Tübingen
VISUAL SELECTION (S23-4)

13:15   Yannik Bauer, Munich
MOUSE DLGN RECEIVES FUNCTIONAL INPUT FROM A DIVERSE POPULATION OF RETINAL GANGLION CELLS WITH LIMITED CONVERGENCE (S23-5)

13:25   **Concluding Remarks**

Symposia