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Recent Publications

G.M. Edelman (2007). Learning in and from brain-based devices. *Science*, 318(5853):1103-1105. [\[pdf\]](#)

J.G. Fleischer and J.L. Krichmar (2007). Sensory integration and remapping in a medial temporal lobe model during maze navigation by a brain-based device. *Journal of Integrative Neuroscience*, 6(3):403-431. [\[pdf\]](#)

A.K. Seth and G.M. Edelman (2007). Distinguishing causal interactions in neural populations. *Neural Computation* 19(4):910-933. [\[pdf\]](#)

J.G. Fleischer, J.A. Gally, G.M. Edelman, and J.L. Krichmar (2007) Retrospective and prospective responses arising in a modeled hippocampus during maze navigation by a brain-based device. *Proc Nat Acad Sci USA* 104(9):3556-3561. [\[pdf\]](#)

J.L. Krichmar and G.M. Edelman (2006). Principles Underlying the Construction of Brain-Based Devices, In *Adaptation in Artificial and Biological Systems*, T. Kovacs, and J. A. R. Marshall, eds. (Bristol UK: Society for the Study of Artificial Intelligence and the Simulation of Behaviour), pp. 37-42. [\[pdf\]](#)

J.L. McKinstry, G.M. Edelman, J.L. Krichmar (2006) A cerebellar model for predictive motor control tested in a brain-based device *Proc Natl Acad Sci USA*, 103: 3387-3392. [\[pdf\]](#)

J.G. Fleischer, B. Szatmáry, D.B. Hutson, D.A. Moore, J.A. Snook, G.M. Edelman, J.L. Krichmar (2006) A neurally controlled robot competes and cooperates with humans in Segway Soccer. In *Proceedings of the IEEE International Conference on Robotics and Automation*, to appear. [\[pdf\]](#)

B. Szatmáry, J.G. Fleischer, D.B. Hutson, D.A. Moore, J.A. Snook,

G.M. Edelman, J.L. Krichmar (2006) A Segway-based human-robot soccer team. In Proceedings of the IEEE International Conference on Robotics and Automation, to appear. [\[pdf\]](#)

J.L. Krichmar, A.K. Seth, D.A. Nitz, J.G. Fleischer, G.M. Edelman (2005) Spatial navigation and causal analysis in a brain-based device modeling cortical-hippocampal interactions. *Neuroinformatics*, 3(3), pp. 197-222 [\[pdf\]](#).

A.K. Seth, O. Sporns, J.L. Krichmar (2005) Neurorobotic models in neuroscience and neuroinformatics. *Neuroinformatics* 3(3), pp. 167-170 [\[pdf\]](#).

J.L. Krichmar, D. A. Nitz, J.A. Gally, and G. M. Edelman (2005). Characterizing functional hippocampal pathways in a brain-based device as it solves a spatial memory task. *Proc Natl Acad Sci USA*, 102: 2111-2116. [\[Abstract\]](#) [\[Full Text\]](#) [\[Figures Only\]](#) [\[PDF\]](#) [\[Supporting Information\]](#)

A.K. Seth, J.L. McKinstry, G.M. Edelman, J.L. Krichmar (2004) Active sensing of visual and tactile stimuli by brain-based devices. *International Journal of Robotics and Automation*. 19(4):222-238 [\[pdf\]](#).

A.K. Seth, J.L. McKinstry, G.M. Edelman, and J.L. Krichmar (2004). Visual binding through reentrant connectivity and dynamic synchronization in a brain-based device. *Cerebral Cortex*, 14:11, 1185-99. Article is reprinted, with permission, from Oxford University Press. [\[full text/pdf\]](#)

A.K. Seth, J.L. McKinstry, G.M. Edelman, J.L. Krichmar (2004) Texture discrimination by an autonomous mobile brain-based device with whiskers. Proceedings of the 2004 IEEE International Conference on Robotics & Automation (ICRA), New Orleans, LA, April 2004. pp. 4925-4930 [\[pdf\]](#).

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J.L. Krichmar, J.A. Snook (2002) A Neural Approach to Adaptive Behavior and Multi-Sensor Action Selection in a Mobile Device, Proceedings of the 2002 IEEE International Conference on Robotics and Automation, 3864-3869 [\[pdf\]](#).

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Experience-dependent Perceptual Categorization in a Behaving Real-World Device, From Animals to Animats 6: Proceedings of the Sixth International Conference on the Simulation of Adaptive Behavior, MIT Press [[pdf](#)]. Article is reprinted, with permission, from **From Animals To Animats 6**, published by the MIT Press.

O. Sporns, N. Almassy, G.M. Edelman (2000) Plasticity in Value Systems and its Role in Adaptive Behavior. *Adaptive Behavior* 8:129-148.

N. Almassy, G.M. Edelman, O. Sporns (1998) Behavioral constraints in the development of neuronal properties: A cortical model embedded in a real-world device. *Cerebral Cortex* 8:346-361.

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