

# CURRICULUM VITAE – Web Version

## GEORG MARTIUS

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### PERSON

Georg Martius  
1980 in Leipzig, Germany

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### EDUCATION

- 2009 – present Post-doctoral position at Max-Planck Institute for Dynamics and Self-Organization (MPI-DS), Göttingen, Germany
- 2005 – 2009 Graduate student at Bernstein Center for Computational Neuroscience (BCCN) Göttingen and Graduate student in the PhD program for Theoretical and Computational Neuroscience. Dissertation: “Goal-oriented control of self-organizing behavior in autonomous robots”.  
Received doctor rerum naturalium with ‘summa cum laude’ (highest praise).
- 2005 Graduate student, Graduate school of University Leipzig “Analysis, Geometry and their Connection to Natural Sciences”.
- 2003 – 2005 University of Leipzig, Faculty of Mathematics and Computer Science.  
Diploma in Computer Science, graduated with mark very good (1.3).  
Diploma Thesis: “Active Learning in the Sensorimotor Loop”
- 2002 – 2003 University of Edinburgh, School of Informatics, Scotland, UK. Visiting student.
- 1999 – 2002 University of Leipzig, Faculty of Mathematics and Computer Science, Pre-diploma.
- 1998 – 1999 Social service (Zivildienst) at Parkkrankenhaus Leipzig-Dösen
- 1992 – 1998 Secondary school: Abitur at Gymnasium Neue Nikolaischule Leipzig.

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### SCIENTIFIC ACTIVITY

- Conferences
- Keynote at: GSO 2009 (Second Int. Workshop on Guided Self-Organization)
  - Talks at: ECAL 2005, ALife X 2006, ECAL 2007, SAB 2008, IROS 2008, CNS 2009, Workshop on Computational Principles of Sensorimotor Learning 2009
  - Poster presentations: SAB 2006, BCCN Conferences 2006 2007 and 2008
- Invited talks
- Nov. 2009 at IPAB, School of Informatics, University of Edinburgh
  - Jul. 2008 at Ikegami Lab. in Tokyo University
  - Oct. 2007 at Laboratory of Autonomous Robotics and Artificial Life, CNR, Rome
- Internships
- Oct. – Nov. 2007 at Lab. of Autonomous Robotics and Artificial Life, CNR, Rome
  - Apr. – Jul. 2006 at Otto-Bock Healthcare GmbH, Vienna, Austria.  
Topic: EMG data analysis for hand prosthesis control.

Publications (peer reviewed papers)

- F. Hesse, **G. Martius**, R. Der, and J. M. Herrmann. A sensor-based learning algorithm for the self-organization of robot behavior. *Algorithms*, 2(1):398-409, MDPI, 2009.
- T. Ingalls, **G. Martius**, M. Hellmuth, M. Marz, and S.J. Prohaska, Converting DNA to Music: COMPOSALIGN. *Proc. of German Conference on Bioinformatics 2009*, Lecture Notes in Informatics 157:93-103, GI, 2009.
- **G. Martius**, K. Fiedler, and J. M. Herrmann. Structure from behavior in autonomous agents. *Proc. of Intelligent Robots and Systems, IROS '08*, pages 858-862, MIT Press, 2008
- **G. Martius**, S. Nolfi, and J. M. Herrmann. Emergence of interaction among adaptive agents. *From Animals to Animats 10*, Proc. SAB '08, LNCS 5040:457-466, Springer, 2008.
- **G. Martius**, J. M. Herrmann, and R. Der. Guided self-organisation for autonomous robot development. *Advances in Artificial Life 9th European Conference*, Proc. ECAL '07, LNCS 4648:766-775, Springer, 2007.
- R. Der, F. Hesse, and **G. Martius**. Learning to feel the physics of a body. *Proc. Computational Intelligence for Modelling, Control and Automation, CIMCA '06*, pages 252-257, IEEE Press, 2006.
- R. Der, **G. Martius**, and F. Hesse. Let it roll - emerging sensorimotor coordination in a spherical robot. *Proc. of Artificial Life X, ALIFE 2006*, MIT Press, 2006.
- R. Der and **G. Martius**. From motor babbling to purposive actions: Emerging self-exploration in a dynamical systems approach to early robot development. *From Animals to Animats 9*, Proc. SAB 2006, LNCS 4095:406-421, Springer, 2006.
- R. Der, F. Hesse, and **G. Martius**. Rocking stamper and jumping snake from a dynamical system approach to artificial life. *Journal of Adaptive Behavior*, 14(2):105-115, Sage, 2006.

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WORKING EXPERIENCE IN THE INDUSTRY

2004 Jul. – Aug.	Software Engineering: Remote control of special hardware, at inotec Forschungs- und Entwicklungsgesellschaft mbH, Leipzig
2003 Sep. – Oct.	Survey about taxonomy-programs for empirical data, Universität Leipzig for Olanis Expertensysteme GmbH
2000 – 2002	Software Engineering: Simulation program for special hardware, at inotec Forschungs- und Entwicklungsgesellschaft mbH, Leipzig

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MISCELLANEOUS

Languages	German (native), English (fluent), Russian (intermediate), French (basics).
Computer	C++, Haskell, Java, Perl, Mathematica, Plone CMS, Linux administration.
Software Projects	LpzRobots (3D robot simulator), SimParEx (parallel computing tool), vid.stab (video stabilization plugin for transcode). See <a href="http://georg.hronopik.de">georg.hronopik.de</a> .
Personal Interests	Cycling, RC model airplanes, table tennis, programming, juggling, Go (game).
Organization	Class representative in school (1992-1998), founding member and president of a model airplane club (2001-2009) ( <a href="http://www.mfv-holzhausen.de">www.mfv-holzhausen.de</a> ), organizer of a 2-day PhD symposium 2008, student representative of PhD program (2007-2009).