

Curriculum Vitae

Dr. rer. nat. Thomas Nowotny

Assistant Research Scientist

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EDUCATION

- 2002 – 2004 **Institute for Nonlinear Science, University of California San Diego**
Postgraduate Training
Computational Neuroscience and hybrid systems.
Advisors: Henry D. I. Abarbanel, Mikhail I. Rabinovich
- Nov 2001 **Universität Leipzig**
Ph.D. in Physics
Dissertation: "Phase transitions and multifractal properties of random field Ising models"
Advisor: U. Behn
Final exams in: Statistical Physics, Stochastic Processes
- Jul 1998 **Georg-August Universität Göttingen**
Diplom in Physics
Thesis: "Untersuchung geometrischer Strukturen in zellularen Netzwerken und Graphen im Hinblick auf eine Beschreibung der Feinstruktur der physikalischen Raumzeit auf der Planckskala"
Advisor: M. Requardt
Final exams in: Theoretical Physics, Experimental Physics, Astrophysics, Probability Theory
- 1995 – 1996 **University of California Riverside**
Participant in the Education Abroad Program
- Jul 1994 **Georg-August Universität Göttingen**
Vordiplom in Physics

TEACHING EXPERIENCE

- University of California San Diego**
- 2006 Guest lecture on “The sense of a database approach in computational neuroscience”, in biological sciences division class BGGN 260¹ “Neurodynamics”
- 2004 Tutorial on “Large scale neural simulations in C++” for graduate students at the Institute for Nonlinear Science
- 2003 Guest lecture on “Synchronization and Plasticity”, in class BGGN 260¹ “Neurodynamics”
- 2002 – Participated in advising graduate students (Valentin Zhigulin, Sachin Talathi, Corinne Teeter, Jonathan Driscoll)
- Georg-August Universität Göttingen**
- 1996 – 1997 *Teaching assistant*: Assisted in the lecture “Theoretical mechanics” of Prof. H. Gönner, led weekly seminars, graded exercises and determined final grades.
- 1993 – 1994 *Assistant*: Lecture notes “Theoretical mechanics” with Prof. G. C. Hegerfeldt

POSITIONS AND ACADEMIC ACTIVITIES

- Institute for Nonlinear Science, University of California San Diego**
- 2004 – *Assistant Research Scientist*²: Independent research in Computational Neuroscience and hybrid systems.
- 2002 – 2004 *Postgraduate Researcher*: Independent research in Computational Neuroscience and hybrid systems.
- Institute for Theoretical Physics, Universität Leipzig**
- 1999 – 2001 *Network administrator*: Maintenance and administration of the Linux PC cluster of the institute in a group of three administrators.
- Institute for Theoretical Physics, Universität Leipzig**
- 1999 – 2001 *Student speaker* of the graduate program “Quantenfeldtheorie: Mathematische Struktur und ihre Anwendungen in der Elementarteilchen und Festkörperphysik.”
- Universität Leipzig**
- 1999 – 2001 *Student member* of the advisory board for appointments to the Leibniz professorship³.
- Data Processing Group, MPI for Fluid Dynamics, Göttingen**
- 1997 – 1998 *Assistant*: PC hardware maintenance, software installation and administration in an amorphous Windows, Linux and Unix cluster.
- Institute for Theoretical Physics, Georg-August Universität Göttingen**
- 1997 – 1998 *Student representative* on the executive board of the institute.

¹see <http://www.ucsd.edu/catalog/courses/BIOL.html> for a course description.

²Research Series equivalent to Assistant Professor positions, see <http://www.ucop.edu/acadadv/acadpers/apm/apm-310.pdf> for details.

MEMBERSHIPS AND PROFESSIONAL ACTIVITIES

- 2004 – Member of Society for Neuroscience
- 2003 – Participation in grant proposals to National Science Foundation (NSF), National Institutes of Health (NIH), Office of Naval Research (ONR), and Army Research Office (ARO).
- Successful grant proposal to NSF/NIH, RO1 NS050945, “Dynamical Principles of Neuronal Motor Microcircuits”, PI: A. I. Selverston, Total amount granted: \$1973840, Role: Co-Investigator
- Successful grant proposal to NSF, PHY 0414174, “Enhanced Synchronization of Neurons with Synaptic Plasticity: Its Origins and Its Role in Learning & Information Transport”, PI: H. D. I. Abarbanel, Total amount granted: \$300000, Role: Co-Investigator
- 2002 Host of the seminar series “Dynamics of Nervous Systems”
- 2002 – Referee for scientific journals (Biol. Cybern., Phys. Rev. Lett., Phys. Rev. E, J. Neurophysiol., Chem. Senses, IEEE Trans. Circ. & Systems, Europhys. Lett., Adv. Complex Syst.)
- 1997 – 2004 Member of European Physical Society
- 1997 – Member of Deutsche Physikalische Gesellschaft

AVOCATIONS

Rock climbing, beach volleyball, chess, traveling

SOFTWARE PACKAGES

- 2005 Animation software for large scale neuronal network simulations “NeurAnim”, <http://inls.ucsd.edu/~nowotny/neuranim.html>
- Co-founder and webmaster of the stock market meta-analysis website <http://marketmetanalysis.com>
- 2003 Dynamic clamp software “Stdpc” (Spike timing dependent plasticity Clamp), <http://inls.ucsd.edu/~nowotny/dynclamp.html>

³see <http://www.uni-leipzig.de/zhs/index.php>, item “Leibnizprofessur”.