

# CURRICULUM VITAE

## PD Dr. Thilo Hinterberger

(Dr. rer. nat, Physicist)

### Present address:

Institut für Umweltmedizin und Krankenhaushygiene  
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Dettenbach 10  
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### Current positions:

- Research fellow at the Institut für Umweltmedizin und Krankenhaushygiene, Freiburg i. Br., Germany, Funded by the Samuelli Institute of Information Biology (SIIB), CA, USA.
- 'Privatdozent' at the Medical Faculty of the University of Tübingen.

### Research projects:

- development and programming of the brain computer interface "Thought Translation Device"
- various neurofeedback studies for training the self-regulation of slow cortical potentials and brain rhythms of the EEG, ECoG and MEG
- brain-computer-communication in locked-in patients
- EEG-feedback studies in combination with fMRI
- feedback studies in epilepsy therapy and attention deficit syndrom (ADS)
- sonification of brain signals (orchestral brain music)
- transpersonal EEG studies and studies of anomalistic phenomena such as direct mind-machine interaction
- Classification of states of consciousness and cognitive processing

Projects were mainly supported by the German Research Society (DFG; SFB 550) and the Samuelli Institute of Information Biology (SIIB), CA, USA.

### Research collaborations:

- Wadsworth Center Albany, New York (2000): Development of the BCI 2000 standard
- Fraunhofer Institute (FIRST), Berlin (2002): Multichannel BCI-Experiments
- University of Morelos, Cuernavaca, Mexico (2003): Development of the EEG-sonification system POSER and sonification studies.
- Universität Freiburg, Abteilung für Umweltmedizin, (2004): Project: „Correlations between separated human subjects“
- Max Planck Institute for Biological Cybernetics, Tübingen (2004/05): BCI and classification
- Technische Informatik, University of Tübingen (2003/04/05): BCI applications and classification

- National Institutes of Health (NIH), Washington, USA (2005): MEG-controlled BCI for stroke patients

**Membership in professional associations:**

Society for Psychophysiological Research  
 Deutsche Physikalische Gesellschaft (DPG)  
 Society for Psychical Research (SPR)

**Grants and funding:**

- 1997-2006: Research grant of the German Research Society in the SFB 550 / TP B5 on Brain Computer Interfaces
- January – July 2006: Stipendium from the German Research Society (GZ HI 1254/2-1) "Entwicklung eines Brain-Computer-Interfaces für den Einsatz in der Rehabilitation unilateraler Paresen"
- 2006-2007: grant from BIAL Foundation on „EEG Correlations between Distant Participants“
- 2006 ongoing: Fellow of the Samueli Institute of Information Biology (CA, USA)

**Date of birth:** Juli 10<sup>th</sup>, 1968

**Citizenship:** German

**Family status:** Unmarried

**Place of birth:** Schw. Gmünd – Mutlangen (Germany)

1975 – 1979 Primary school Wäschenbeuren

1979 – 1985 Mörike Gymnasium (grammar school) Göppingen

1985 – 1988 Technisches Gymnasium (grammar school) Göppingen

July '88 – Feb. '90 Social service at "Klinik am Eichert" (Dept. of Surgery), Göppingen

Oct. '90 – Aug. '96 Studies in Physics at the University of Ulm.

Specialisation in Physical Electronics, Biophysics, and Laser Optics.

Diploma thesis at the Dept. of Experimental Physics. Title: "Optical Measurements at Sub-Picosecond Time Resolution" (supervisor: Prof. Dr. O. Marti)

August 1996 **Diploma** (equivalent to M.Sc.), "sehr gut" equivalent to "grade A"

Sept. - Dec. '96 Research student at the University of Ulm, Dept. of Experimental Physics

Jan. - April '97 Employee at Robert-Bosch GmbH, Reutlingen with Steinbeis Transfer Center Ulm

May '97 – Dec. '99 Research assistant and Ph.D. studies in Physics at the Institute of Medical Psychology and Behavioral Neurobiology (head of department: Prof. Dr. Niels Birbaumer) Dissertation project on "Communication via Electrocortical Activity" (supervisor: Prof. Dr. Hanns Ruder).

- December 1999      **Dr. rer. nat. (Ph.D.)**, Dissertation: “Entwicklung und Optimierung eines Gehirn-Computer-Interfaces mit langsamen Hirnpotentialen“, (magna cum laude).
- Jan. '00 – Dec. '05      Postdoctoral fellow at the University of Tübingen, Institute of Medical Psychology and Behavioral Neurobiology: Research, programming and technical responsibility for various EEG-feedback studies.
- Jan. '06 – Jan. '08      Senior research fellow at the University of Northampton, School of Social Sciences, UK, department chairman: Harald Walach; funded by the German Research Society (DFG)
- April 2007              **Habilitation** in Behavioral Neurobiology and Neuro-Computer Science, Faculty of Medicine, University of Tübingen, Thesis: 'Development and Applications of the Thought-Translation-Device (TTD): A general-purpose Brain-Computer Communication System'.
- Since Feb. 2008        Research fellow at the Institut für Umweltmedizin und Krankenhaushygiene, Freiburg i. Br., Germany. Funded by the Samueli Institute of Information Biology (SIIB), CA, USA.

**Foreign Languages:** English (fluent), Latin, some Spanish

**Computer proficiency:**

various Windows applications, extended programming experience in C++, Pascal, Delphi, Visual Basic, Matlab, interface programming, networks, Linux

**Doctoral (PhD) thesis:**

Hinterberger, T. (1999) „Entwicklung und Optimierung eines Gehirn-Computer-Interfaces mit langsamen Hirnpotentialen“, *Dissertation in der Fakultät für Physik an der Eberhard-Karls-Universität Tübingen*, Schwäbische Verlagsgesellschaft: ISBN 3-88466-177-9.

**Habilitation thesis:**

Hinterberger, T. (2005) “The Thought-Translation-Device (TTD): A general-purpose Brain-Computer Communication System”, *Habilitationsschrift in der Medizinischen Fakultät der Eberhard-Karls-Universität Tübingen*.