

Curriculum Vitae

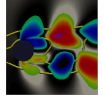
List of Publications

Dr.-Ing. I. Pantle

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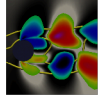
CV & List of Publications - Content

I. Curriculum Vitae

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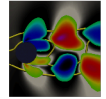
II. List of Publications

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Part I.

Curriculum Vitae



Personal Information

Name: Dr.-Ing. Iris A. Pantle

Place of Birth: Eberbach/Neckar, Germany
Nationality: German

Cellular: ++49-177-3471559

eMail: iris@pantles.de

Web-Sites: <http://www.nuberisim.de>
<https://www.pantles.de>
<https://www.karlsruhe.dhbw.de/duale-dozenten/lehrbeauftragte-der-dhbw-karlsruhe.html>

Education

2011-2014
Studies: Entrepreneurship (Studiengang Unternehmertum).
School: Cooperative State University Baden-Württemberg in Karlsruhe (DHBW-KA), Germany.
Degree: B.A. in Entrepreneurship.

1999-2002
Studies: PhD-Fellowship, Energy and Environmental Technology with focus on Computational Aero-Acoustics.
School: University of Karlsruhe (UKA, today Karlsruhe Institute of Technology/KIT), Germany.
Degree: PhD (Dr.-Ing.).

1991-1997
Studies: Technical Physics with optional courses Meteorology & Hydrology and Law & Business Science; Diploma/master's thesis at the Institute of Soil Science and Soil Physics with focus on diffusive flows.
School: University of Bayreuth, Germany.
Degree: German Diploma/MSc. (Dipl.-Phys.).

1982-1991
Secondary/High School: Auguste-Pattberg-Gymnasium Neckarelz, Germany.
Degree: German Abitur.

1978-1982
Primary School: Grundschule Diedesheim, Germany.

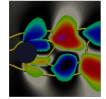
Professional and Scientific Career

03/2014-today
Company: Falquez, Pantle und Pritz GbR,
Role: Managing Partner,
Web-Site: <http://www.nuberisim.de>,
Main achievements: Acquisition of several funds and projects including publicly funded projects, development and successful deployment of NUBERISIM, the Cloud simulation platform for CFD/CAA.

05/2013-04/2014
Company: Falquez, Pantle und Pritz GbR,
Role: Founder and EXIST-Fellow,
Main achievements: Securing financial resources, founding of the company,
Annotation: Founding Falquez, Pantle und Pritz GbR offering *NUBERISIM - The Scientific Simulation Platform*; in collaboration with EXIST-fellow Dipl.-Phys. Carlos Falquez.

01/2011-07/2011
Company: Volkswagen Motorsport GmbH (VWM),
Role: Leader CFD Simulation Section,
Web-Site: https://de.wikipedia.org/wiki/Volkswagen_Motorsport,
Main achievements: Establishment of CFD simulation workflow for race car aerodynamics using an OpenFOAM sibling.

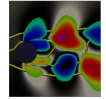
09/2010-today
Company: Self-Employed/Freelance,



	<p>Role: Counsellor and external lecturer at different schools, <u>Web-Site:</u> https://www.pantles.de, <u>Annotation:</u> Counsellor for computational methods in mechanical engineering and for European funding; evaluator/reviewer for European projects (scientific: several MSCA, CleanSky, eINFRA-HPC; business: SME, FTI); lecturer for computational methods within the engineering department of DHBW-KA (http://www.dhbw-karlsruhe.de) and at the spring school Meccanica Feminale (University of Furtwangen, http://www.meccanica-feminale.de); since 04/2020 also lecturer within the mechanical engineering faculty of KIT.</p>
08/2003-09/2010	<p>Organisation: KIT, Institute of Fluid Machinery (FSM, today part of ITS), <u>Role:</u> Researcher, lecturer & group leader, <u>Web-Site:</u> http://www.its.kit.edu, http://www.kit.edu, <u>Annotation:</u> Responsible for the aero-acoustics section of the institute with focus on development of methods for computational acoustics, machinery acoustics, compressible simulation methods, fluid-solid-acoustics interactions, biomedical flows.</p>
2002-2003	<p>Organisations: Technical University of Dresden (TUD), Hanoi Technical University (HUT), Carl Duisberg Society (CDG), <u>Role:</u> Start-up assistant, <u>Annotation:</u> Fellow for East Asian Experience of German High Potentials, granted by the <i>Heinz-Nixdorf-Programme</i> (https://de.wikipedia.org/wiki/Heinz_Nixdorf_Programm); Scientific management of the founding of the Vietnamese-German Education and Research Center as member of the Institute of Joining Technology and Assembling, University of Dresden (TUD), Germany, located at the representative office of the TUD at the Hanoi University of Technology, Vietnam.</p>
1999-2002	<p>Organisation: KIT, FSM (today part of ITS), <u>Role:</u> PhD-Fellow, researcher and lecturer, <u>Web-Site:</u> http://www.its.kit.edu, http://www.kit.edu, <u>Annotation:</u> Fellowship of the German Research Society (DFG) for the graduate course <i>Energy and Environmental Technology</i> at the FSM institute, KIT, Germany.</p>
1998-1999	<p>Company: Hewlett-Packard GmbH, Böblingen, Germany, <u>Role:</u> IT-Engineer, Trainee <u>Web-Site:</u> https://www.hpe.com, <u>Annotation:</u> Trainee in the trainee programme <i>Information Technology</i>.</p>

Lecturing & Teaching

04/2020-today	<p><u>School:</u> KIT, ITS, <u>Course:</u> Technical Acoustics, <u>Annotation:</u> examination entitlement.</p>
10/2009-today	<p><u>School:</u> University of Furtwangen/spring school <i>Meccanica Feminale 2010</i> (http://www.meccanica-feminale.de), <u>Courses:</u> Industry 4.0 (incl. Big Data, AI, IoT), Race Car Aerodynamics, Fluid Flow Simulation, Urban Air Mobility (UAM incl. VTOL, eVTOL) <u>Annotation:</u> examination entitlement.</p>
03/2009-today	<p><u>School:</u> DHBW-KA (https://www.karlsruhe.dhbw.de/duale-dozenten/lehrbeauftragte-der-dhbw-karlsruhe.html), <u>Courses:</u> Simulation Techniques (3rd year course, 2 semesters, theory and practical training), in 2023 exceptionally for Faculty Mechatronics: Simulation <u>Annotation:</u> examination entitlement.</p>
2003-2010	<p><u>School:</u> UKA/KIT, <u>Courses:</u> Technical Acoustics, Simulation Technology, integrated course Model Building and Simulation, CFD training course accompanying the lecture <i>Numerical Methods in Fluid Flow Technology</i>, <u>Annotation:</u> all lectures and trainings with examination entitlement; other responsibilities: faculty wide development of innovative, integrated study courses at the KIT.</p>



Further Responsibilities

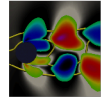
07/2019-today	Project lead of the publicly funded research and development projects residing at <i>Falquez, Pantle & Pritz GbR</i> : CloW-Vis: https://cloud-mall-bw.de/wp-content/uploads/2020/12/201202-CMBW-PP29-CloW-Vis-Transferdoku-final.pdf Astradin: http://www.astradin.de/
2016-2017	Scientific member of professorship appointment board in the Faculty of Economics, Branch Entrepreneurship at the DHBW-KA.
03/2014-today	Management of Falquez, Pantle und Pritz GbR, co-development of the NUBERISIM platform.
06/2012-today	Regular supervision of student research projects and Bachelor's Theses as representative of the DHBW-KA, random co-supervision of Master's Theses at KIT.
2010-2011	Scientific member of professorship appointment board in the Faculty of Mechanical Engineering at the KIT.
01/2011-07/2011	Team leadership (VWM): Team leader Aerodynamics Simulation
08/2003-08/2010	Team leadership and managing (KIT): Substantial experience in scientific team and project leadership, supervision of PhD students, internships, student research projects and Master Thesis' (approx. 15+), in managing technical personnel, in project management of third party requests for measurements and simulation (industry, public and private foundations); substantial experience in design, administration and maintenance of computing infrastructure incl. mid-sized scientific computing clusters (60+ multicore machines), software management.
2002-2003	Administration and maintenance of Windows-Server, clients and network.
1999-2002	Administration and maintenance of an inhomogeneous computer network (HP-UX, Linux, Windows) and a small scientific Linux cluster.

Reviewing & Evaluation Activities

European HE	Roles: Several. Programmes: REA - MSCA, Cluster 05; EISMEA - EIC Pathfinder; EuroHPC-JU - several.
European H2020	Roles: Several. Programmes: REA - MSCA, eINFRA, others; EASME - SME, FTI; Clean-Sky Joint Undertaking; CloudiFacturing.
European FP7	Roles: Mid-Term Reviewer, Final Reviewer, Evaluator. Programmes: REA - Marie-Curie-Actions; Clean-Sky Joint Undertaking; Innovation - Small-and-Medium-Enterprises.
Other	Role: Evaluator. Organisations: Polish NCRD, Spanish FCTA, Flemish FWO, European Science Foundation.
Journals	International journals: J. of Engineering Applications of Computational Fluid Mechanics http://www.tandfonline.com/loi/tcfm20 .
Conferences	German and international conferences: AIAA Aeroacoustics conference.

Research Interests

Developing computational methods for fluid flow & fluid driven acoustics	Computational Fluid Dynamics (CFD), computational methods of Fluid-Structure Interaction (FSI, hybrid CFD-CSD based) and application e.g. to bio-medical flows, Computational Aero-Acoustics (CAA) and application to hydro-acoustics.
Developing efficient prediction & simulation methods	High Performance Computing (HPC), Cloud approaches to HPC, efficient remote/in-situ and runtime Visualisation, Virtual Reality (VR) applications, interfaces, protocols and data transfer.



Automating fluid machinery layouting

Integration of artificial intelligence (AI) methods, big data analysis (BDA) and storage, optimization, validation of simulations, experiments, model reduction.

Languages

Fluency downwardly sorted

German (native), English (fluent), Spanish (good), Latin; fundamentals in French, Vietnamese, Chinese, Turkish, Polish.

General Knowledge

Operating systems Architectures

Administrative level of Linux (OpenSuSE, Fedora/CentOS, RedHat), HP-UX, Virtual Machine; Administrative level of Windows and Windows-Servers.
HPC: Linux clusters for HPC; UNIX high performance machines; Höchstleistungsrechenzentrum Stuttgart (HLRS), Steinbuch Center for Computing (SCC), Leibniz Rechenzentrum (LRZ)

Development

Cloud-Systems (for HPC): Amazon Web Services (AWS) EC2, bwCloud, FIWARE Cloud.
Programming languages, interpreters, protocols, libraries: High-Performance-Fortran (F90 and higher), MPI/MPICH-3 & OpenMPI (parallel programming), C, Scala, Perl, Shell-Scripting, Tcl/Tk, JavaScript (Scala.js, React, Angular, TypeScript, Omnicient), html/css (Bootstrap); fundamentals in CGNS, VTK, Pascal.

Software

Software: SPARC (in-house CFD research code at FSM, now integrated in the NUBERISIM platform), ANSYS-ICEMCFD, ANSYS-Fluent, Tecplot, Altair HyperMesh, Altair AcuSolve, Z88, Gambit, OpenFOAM/AeroFOAM, FreeCFD, Ensignt, Paraview, Gmsh, Octave & Scilab, GnuPlot, Orange Data Mining, fundamentals in ANSYS-CFX, MatLab, STAR-CD, TOSCA-Fluid, ANSA, FreeCAD; office and project management applications: LaTeX, Open-/LibreOffice, MS-Office, Redmine, MySQL.

Compilers & debuggers: INTEL, NAGWARE, PGI (Portable Group), Linux/UNIX standard compilers (Gnu), DDT, Totalview.

Process management applications: Git & CVS source management, batch queuing systems (NQS, PBS/Torque).

Hardware

Integration: Extensive experience in planning, assembling and installation of PCs and PC-Clusters (for HPC) incl. network integration.

Methods

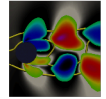
Numerical: compressible & incompressible CFD, finite volumes/differences, block-structured grids, Reynolds Averaged turbulence modeling, Large Eddy Simulation, Direct Numerical Simulation, Computational Aero-Acoustics, steady/unsteady simulations (explicit, Dual Time Stepping), fluid-solid interaction, finite elements & unstructured grids, parallelisation, optimisation, databases, Browser/API/REST, workflows.

Experimental: Basic experiences in echoic chamber, Particle Imaging Velocimetry (PIV) and wind tunnel measurements.

Fluid Machinery: Fundamentals in theoretical layouting of fans and pumps, acoustical layouting.

Teaching: University didactic methods according to the qualification seminars of the DHBW-KA *Basisworkshop Lehre* (attended 20.11.2012) and *Vertiefungsworkshop Lehre* (attended 14.04.2015); Lecture planning, learning and creativity techniques.

Examination: oral exams, paper written exams, electronical/digital exams, term papers



Memberships (alphabetical order)

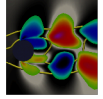
BWCon	Innovation and Entrepreneurship Association Baden-Württemberg Connected
CyberForum e.V.	Hightech Entrepreneurial Network
DEGA	German Society for Acoustics
DHV	German University Association
DHBW Alumni	Alumna of DHBW-KA
HNP Alumni	Alumna of Heinz-Nixdorf-Fellows
MECCANICA FEMINALE 2011	Temporary programme board member
TandemPlus	Alumna Scientific Mentoring and Coaching
Wikimedia	Wikimedia Germany

Private Interests

Languages and linguistics, reading, musical instruments, playing the piano and organ, assembling and investigating all kinds of technical equipment (cars, motorcycles, irrigation, in-house etc.), gardening and nature.

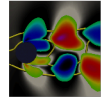
Ölbronn, June 2023

Iris A. Pantle



Part II.

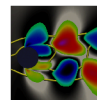
List of Publications



Annotation:

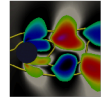
Several publications, conference contributions and interviews which I was contributing to in the frame of activities regarding our company *Falquez, Pantle und Pritz GbR* as well as the **NUBERISIM simulation platform** can be found online at <http://www.nuberisim.de/news.html>.

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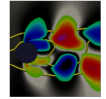


List of Publications

- (1) I. Pantle, C. Falquez Medina, and B. Pritz. Coupled Unsteady Fluid-Dynamics and Aero-Acoustics Simulations of a Realistic Car Mirror - A Comparison of Cloud and High Performance Computing. In H. G. Bock, H. X. Phu, R. Rannacher, and J. P. Schlöder, editors, *Modeling, Simulation and Optimization of Complex Processes HPSC 2015*, pages 151–164. Springer, 2017.
- (2) Iris Pantle. Softwarelizenzierung in Deutschland — Analyse der Rechtslage gängiger Modelle als Lizenznehmer und Lizenzgeber im Zusammenwirken mit Cloud-Computing, Anwendung auf das eigene Unternehmen. Bachelorarbeit, Duale Hochschule Baden-Württemberg, Karlsruhe, Germany, 2014.
- (3) C. Falquez, I. Pantle, and B. Pritz. Numerische Simulation von Schwappen und Schwappgeräuschen bei generischen Fahrzeugtanks. In Birgit Kollmeier, editor, *Proceedings DAGA 2014, 40. Jahrestagung für Akustik, Oldenburg, Germany*. Deutsche Gesellschaft für Audiologie und Deutsche Gesellschaft für Akustik e.V., 2014.
- (4) I. Pantle and M. Gabi. Application of high performance computational fluid dynamics to nose flow. In H. G. Bock, H. X. Phu, R. Rannacher, and J. P. Schlöder, editors, *Modeling, Simulation and Optimization of Complex Processes*, pages 233–246. Springer, 2012.
- (5) Ph. Mattern, F. Fröhlig, I. Pantle, and M. Gabi. Experimentelle PIV-Messung eines umströmten Zylinders mit elastischer Struktur im Nachlauf. In *Fachtagung Lasermethoden in der Strömungsmesstechnik*, 2010.
- (6) I. Pantle. Entwicklung einer integrierten, numerischen Simulationsmethode für fluidgetriebene Strukturbewegung und Akustik. In *Konferenz Dynamiksimulation in der Fahrzeugentwicklung*, 2010.
- (7) G. Bárdossy, G. Halász, I. Pantle, and M. Gabi. Fluid-Structure-Interaction: A Hybrid CFD-FEM Approach for Multiple Engineering and Biomedical Applications with Special Focus on Venous Blood Flows. In *Conference on Modelling Fluid Flow (CMFF'09), Budapest, Hungary*, page 144 ff., 2009.
- (8) I. Pantle, G. Bárdossy, and M. Gabi. A Hybrid Approach for Investigating Fluid-Structure Interactions Combining Classical CFD with FEM Methods. In *9th International Symposium on Experimental and Computational Aerothermodynamics of Internal Flows/9th ISAI, Gyeongju, Korea*, 2009.
- (9) I. Pantle, E.-J. Haberland, S. Knipping, M. Knoergen, K. Stock, and K. Neumann. Applying Computational Fluid Dynamics Methods on Nasal Flow Investigations Based on a Real Domain Generated from CT Data. In *IFMBE Proceedings, World Congress on Medical Physics and Biomedical Engineering, Munich, Germany*, volume 25/IV, page 797 ff., 2009. <http://www.springerlink.com/content/kww7027h3560g927>.



- (10) I. Pantle and M. Gabi. Application of High Performance Computational Fluid Dynamics to Biomedical Flow Investigations. In *4th International Conference on High Performance Scientific Computing/HPSC, Hanoi, Vietnam, 2009*. <http://hpsc.iwr.uni-heidelberg.de/HPSCHanoi2009/pdfshow.php?file=Pantle.pdf>.
- (11) I. Pantle and M. Gabi. Discussion of CAA Calculation Methods for Internal Flows. In *The 2008 Congress and Exposition on Noise Control Engineering (INTERNOISE), Shanghai, China, 2008*.
- (12) I. Pantle, G. Bárdossy, and M. Gabi. Numerischer Ansatz zur Simulation von Strukturschwingungen induziert durch Fluidschwingungen. In *Deutsche Jahrestagung für Akustik (DAGA08), Dresden, Germany, 2008*.
- (13) E. J. Haberland, I. Pantle, S. Knipping, M. Knoergen, K. Stock, and K. Neumann. Anwendung von Large-Eddy-Simulation auf die Luftströmung in einem aus CT-Daten generierten nasalen Strömungsraum. In *79. Jahrestagung der Deutschen Gesellschaft für Hals-Nasen-Ohren-Heilkunde, Kopf- und Halschirurgie, Bonn, Germany, 2008*. <http://www.egms.de/en/meetings/hnod2008/08hnod573.shtml>.
- (14) E. J. Haberland, I. Pantle, S. Knipping, M. Knoergen, K. Stock, and K. Neumann. Computersimulation der Wirbelbildung bei der Durchströmung des oberen Nasenganges in Hinblick auf die Riechfunktion. In *Workshop der Arbeitsgemeinschaft Olfaktologie/Gustologie der Dt. HNO-Gesellschaft, Berlin, Germany, 2007*.
- (15) I. Pantle. Computersimulation der Nasenströmung auf der Grundlage von CT-Daten. *Invited Lecture/Eingeladener Vortrag: Fortbildungs-Symposium Allergische und idiopathische Rhinitis, Univ.-HNO-Klinik Halle, 2007*. <http://www.medizin.uni-halle.de/index.php?id=363&ort=&cn=&kategorie=&akt=200710>.
- (16) I. Pantle, G. Bárdossy, and M. Gabi. Numerical approaches for flow induced structure vibrations aiming for medical applications. In *The 2007 Congress and Exposition on Noise Control Engineering (INTERNOISE), Istanbul, Turkey, 2007*.
- (17) I. Pantle, U. Serra, and M. Gabi. Flow and Acoustic Calculations in a Human Nose. In *8th International Symposium on Experimental and Computational Aerothermodynamics of Internal Flows (ISAEF8), Lyon, France, 2007*.
- (18) I. Pantle. *Invited contribution: Discussion of Numerical Noise Prediction Methods Applied to Fluid Machinery*. In *Deutsche Jahrestagung für Akustik (DAGA07), Stuttgart, Germany, 2007*.
- (19) I. Pantle and M. Gabi. CAA Calculations of Aero- and Hydrodynamically Induced Noise. In *Deutsche Jahrestagung für Akustik (DAGA07), Stuttgart, Germany, 2007*.
- (20) I. Pantle, F. Magagnato, and M. Gabi. Numerical Hydro-Acoustics for Interior Flows Using CAA Approaches. *Acta Acustica United with Acustica*, 92, Suppl. 1:42, 2006.
- (21) I. Pantle, F. Magagnato, and M. Gabi. Numerical Hydro-Acoustics for Interior Flows Using CAA Approaches. In *Euronoise 2006, 2006*.
- (22) I. Pantle and M. Gabi. Numerical Prediction Methods of Noise Propagation in Fans - Latest Developments. *VDI Berichte*, 1922, 2006.



- (23) I. Pantle, F. Magagnato, and M. Gabi. Hydro-Acoustic Flow Computations based on Computational Aero-Acoustics (CAA) Methods. In *The 2005 Congress and Exposition on Noise Control Engineering (INTERNOISE), Rio de Janeiro, Brazil, 2005*.
- (24) I. Pantle, F. Magagnato, and M. Gabi. Approach for Hydro-Acoustic Computations of Channel Flows. AIAA-paper 2005-2923, AIAA, 2005.
- (25) Contribution in: J. A. Fitzpatrick. Aeroacoustics Research in Europe: The CEAS-ASC Report on 2004 Highlights. In *Journal of Sound and Vibration*. 2005.
- (26) I. Pantle, F. Magagnato, and M. Gabi. Noise Prediction in Fluid Machinery. *International Journal of Thermal and Fluid Science*, 14(3):230–235, 248, 2005.
- (27) Contribution in: W. Schröder. Aeroacoustics Research in Europe: The CEAS-ASC Report on 2003 Highlights. In *Journal of Sound and Vibration*, volume 278, pages 1–19. 2004.
- (28) I. Pantle. Sound Prediction of Fluid Machinery based on LES. Invited Lecture/Eingeladener Vortrag; Doktoranden-Kolloquium DFG Forschergruppe 486, DLR Berlin, 2004.
- (29) I. Pantle, E. Sorgüven, F. Magagnato, and M. Gabi. Numerical Sound Prediction of Open Rotors: Methods, Results and Perspectives. In *Joint Congress: 7. Congrès Français d'Acoustique/30. Deutsche Jahrestagung für Akustik (CFA/DAGA04), Strasbourg, France, 2004*.
- (30) I. Pantle, E. Sorgüven, F. Magagnato, and M. Gabi. Numerical Noise Prediction Methods for Pumps. In *Preprints Pump/Compressor Users International Forum 2004, Karlsruhe, Germany, 2004*.
- (31) F. Magagnato, I. Pantle, and M. Gabi. Prediction of Aero-Acoustic Noise around a Circular Cylinder by Large Eddy Simulation. In *5th European Conference on Turbomachinery, Fluid Dynamics and Thermodynamics, Prague, Czech Republic, 2003*.
- (32) I. Pantle. *Strömungsakustik auf der Basis akustischer Analogie mit LES und URANS*. PhD thesis, Fakultät für Maschinenbau, Universität Karlsruhe, 2002.
- (33) Contribution in: M. J. Fisher and R. H. Self. Aeroacoustics Research in Europe: The CEAS-ASC Report on 2001 Highlights. In *Journal of Sound and Vibration*, volume 258(1), pages 1–30. 2002.
- (34) I. Pantle, F. Magagnato, and M. Gabi. Numerical Aeroacoustics Using a Combined CFD-/Ffowcs Williams-Hawkings Method. In *9th International Symposium on Transport Phenomena and Dynamics of Rotating Machinery/ISROMAC-9, Honolulu, USA, 2002*.
- (35) F. Magagnato, I. Pantle, and M. Gabi. Prediction of Aero-Acoustic Noise around a Circular Cylinder by Large Eddy Simulation. In T. Hüttli, C. Wagner, and J. Delfs, editors, *LES for Acoustics, DGLR-Report 2002-03*, pages 35–46, 2002.
- (36) I. Pantle, F. Magagnato, and M. Gabi. Aeroacoustical Computations of Unsteady Flows around a Circular Cylinder. In *ICFDP7/7th International Congress on Fluid Dynamics and Propulsion, Cairo/Sharm el Sheikh, Egypt, 2001*.
- (37) I. Pantle, F. Magagnato, and M. Gabi. Geräuschverhalten von Strömungsmaschinen: Verfahrensentwicklung auf CFD Basis. *VDI Berichte*, 1591, 2001.
- (38) I. Pantle. Gasdiffusion und - Konvektion in Böden: Optimierung des experimentellen Aufbaus. Diplomarbeit, Institut für Bodenkunde, Universität Bayreuth, 1997.