

Bernhard Rappenglück

Associate Professor

Department of Earth and Atmospheric Sciences (EAS), University of Houston
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Professional Preparation

Munich University of Technology (TUM)	Atmos. Environ. Chem.	Habilitation	2003
University of Munich (LMU)	Physics	Ph.D.	1996
University of Munich (LMU)	Meteorology	M.S.	1991
Munich University of Technology (TUM)	Technical Physics	B.S.	1985

Appointments

Associate Professor	University of Houston Dpt. of EAS	Sept.2004 – Present
Sen. Res. Scientist	Res. Cent. Karlsruhe IMK-IFU	Apr.2001 – Aug.2004
Research Scientist	LMU/TUM, Munich Bioclim&AirPollRes	Jan.1991 – Mar.2001

Research Interests

- (1) Biosphere-atmosphere exchange, boundary layer processes and regional flow systems.
- (2) Urban air pollution (e.g. Munich, Berlin, Athens, Santiago de Chile, Mexico City, Los Angeles, Houston).
- (3) The role of volatile organic compounds (VOC) in the formation of ozone and peroxyacyl nitrates (PANs).
- (4) Anthropogenic and biogenic contributions to the formation of secondary trace gases.

Professional Experience

University of Houston

Within the Department of Earth and Atmospheric Sciences teaching addresses areas of atmospheric chemistry and meteorology. Lead in the implementation of the Master and PhD degree program in Atmospheric Science (MS approved in 2007; PhD approved in 2010).

Research foci address the determination of anthropogenic and biogenic contributions to the formation of secondary compounds in the atmosphere, more precisely the impact of volatile organic compounds (VOC) on the formation of peroxyacyl nitrates (PANs) and the role of formaldehyde and H₂O₂ in photochemical processes. Implementation of the necessary laboratory infrastructure for measurements of O₃, NO, NO₂, NO_x, CO, HCHO, H₂O₂, speciated PANs, speciated VOCs (online/offline) and meteorological parameters, including the preparation and use of different measurement platforms, e.g. ground-based and rooftop measurement sites (*TRAMP*, *H-NET*), micrometeorological towers and RASS system (*BOUNDARY II*) and aircraft (*NETAC*, *CAPCOG-I and II*, *VOC CANISTER ENVIRON*, *Vertical Mixing Experiment/TRAMP-supplement*). Participation in the NCAR PAN intercomparison experiment *PIE*. In collaboration with UNAM/Mexico City, performance of PAN and PPN measurements at the Paso de Cortes (4.000 m a.s.l.) in the outflow of Mexico City (*ALTZOMONI*) – first continuous day- and nighttime PAN and PPN measurements at this altitude in this area. Airborne measurements along the US-Mexican border to study the impact of biomass burning plumes (*MexCAmTex*).

Coordination of the ground-based supersite of the TexAQS-II campaign on the campus of the University of Houston (about 50 scientists and 20 measurement groups). Lead of the “TexAQS-II Radical Measurement Project” (*TRAMP*). In addition, responsible for atmospheric sounding activities using radiosondes, ozone-sondes, a tethered system and aircraft missions for the determination of the spatial and temporal distribution of photochemically relevant trace gases during TexAQS-II (*TRAMP-supplements*, *BOUNDARY*, *OZONE SONDE*). These studies addressed possible impacts of large scale transports and investigated boundary layer processes which are typically influenced by regional land sea breeze circulation and convective processes in the Houston-Galveston area. Major involvements in the data analysis related to TRAMP and TexAQS-II (*H86*, *H87*, *TCEQ-Data Analysis*, *TexAQS-2 Experiment*). Member of various TexAQS-II Rapid Science Synthesis Working Groups.

Co-PI on the project “Study of Houston Atmospheric Radical Precursors (SHARP)(H100)” which investigates primary emissions of radical precursors HCHO and HONO. This includes potentially aerosol induced HONO emission by traffic sources as well as HONO emissions induced on different urban surfaces. Coordination of airborne measurements to investigate radical sources in the Houston area (H103A). In collaboration with Chalmers University/Göteborg, Sweden the project *SOF* applies solar occultation flux methods to investigate emissions of highly reactive hydrocarbons from industrial sources (H102).

Supported by EPA implementation of a research grade ambient air measurement network in Houston consisting of 5 monitoring sites (H-NET).

Current experimental research focus on HONO addresses traffic emissions in Houston and Santiago de Chile (the latter in collaboration with Universidad de Chile and Universität Wuppertal), and ozone related chemistry during wintertime in the upper Green River Basin, Wyoming. Participation in the project FIONA “Formal Intercomparison of Observations of Nitrous Acid” in the EUPHORE smog chamber in Valencia/Spain.

Within the Institute for Multi-Dimensional Air Quality Studies (IMAQS) close cooperation with the working groups “Atmospheric Radiation”, e.g. to investigate photolysis processes, and “Numerical Modeling”, e.g. in the field of validation of CMAQ and the explicit representation of VOCs using SAPRC-99 in CMAQ. Currently, involved in studies for population exposures to 1,3-Butadiene in the Houston Metropolitan area using CMAQ. Initiated implementation of CMAQ 4.7, including enhanced HONO chemistry modules, in 2009. In the same year WRF was implemented with the goal to couple CMAQ with WRF. Current work also addresses issues of mass consistencies in air quality modeling.

Preparations for visiting professorship in the Programa de Doctorado en Ingeniería Ambiental of the Universidad Nacional Agraria La Molina in Lima, Perú.

Project funds come from a variety of sources, among them:

- Houston Advanced Research Center (HARC)
- Environmental Institute of Houston (EIH)
- Texas Air Research Center (TARC)
- Texas Commission on Environmental Quality (TCEQ)
- U.S. EPA
- Meteorological Solutions Inc. (MSI)
- Environ International
- NuHorizon
- National Center for Atmospheric Science (NCAR)
- European Union (EU)
- German Academic Exchange Service (DAAD)
- various universities:
 - Baylor University (BU),
 - Valparaiso University (Valpo),
 - Universidad Nacional Autónoma de México (UNAM),
 - Universidad de Santiago de Chile (USACH)

During the time frame 2005-2010 Rappenglueck served as a PI on grants which totaled \$3.1 million. He was co-PI on additional grants of \$3.2 million.

Institute for Meteorology and Climate Research, Atmospheric Environmental Research Section (IMK-IFU), Research Center Karlsruhe GmbH (FZK), Garmisch-Partenkirchen:

Focus of scientific work lies in the quantification of trace gas budgets and their dynamics in the atmosphere. These activities include the characterization of anthropogenic and biogenic sources, the determination of trace gas exchange processes, air quality studies in megacities and studies of trace gas distribution and long-range transport processes in the troposphere. Contributed to microscale studies of diffuse emissions sources at the airport of Zurich (FLUZÜ) as well as to airborne measurements aimed at intercontinental transport studies (CONTRACE, ICARTT-ITOP). Conducted air quality studies in Santiago de Chile (CHILE II). Responsible for micrometeorological studies related to biosphere-atmosphere exchanges in remote forest areas with a focus on relaxed-eddy-accumulation (REA) methods coupled to GC and PTR-MS for determining turbulent fluxes of biogenic VOC (BEWA2000). Another BEWA2000 project focused on the design of a sampling device for carboxylic acids, degradation products of biogenic hydrocarbons.

Since 2004: Head of the Air Quality QA/QC-Group at the IMK-IFU for inorganic gas-phase compounds.

Since 2002: Head of the World Calibration Center for VOC (WCC-VOC) within the WMO-GAW program. Carried out worldwide VOC-intercomparison studies and first GAW station audits (WCC-VOC). Held courses and compiled course materials for personnel from worldwide Global Atmosphere Watch (GAW) stations at the, International GAW Training & Education Center (GAWTEC) of the WMO, Environmental Research Station Schneefernerhaus – UFS (lectures: , “Chemistry and Emissions of VOCs”, “Sampling and Measurement Techniques of VOCs”, and “Quality Assurance of VOC measurements”). Since 2003 member of the Science Advisory Group for Reactive Gases (SAG-RG) of GAW

Chair of Bioclimatology and Air Pollution Research, Ludwig-Maximilians-Universität [LMU] (since 1999 Technische Universität München [TUM]), München

Since 1992: Establishment of VOC facilities / Head of VOC-Laboratory

Conducted extensive experimental research in the field of photochemical and meteorological processes in the troposphere. These investigations aimed at a better understanding of the impact of human activities upon atmospheric chemistry. A variety of studies focused on urban air quality issues (e.g. MEDPHOTRAC, MEDCAPHOT, CHILE-I, BERLIOZ) and were often related to human health aspects (e.g. KOVOX). The study of background ozone and its dependence on the chemical environment and radiation properties in remote areas was focus of the projects PAUR-I and PAUR-II. Also, biosphere-atmosphere interactions were studied, e.g. through contributions to the interdisciplinary project SFB607 and within the project ETWA focusing on forest trees that are exposed to stress ambient O₃ levels.

Apart from measurement techniques for ozone, nitrogen oxides, carbon monoxide and total VOC, measurement devices included different systems for PAN (GC/ECD, GC/Luminox) and up to 3 on-line VOC-GCs. Corresponding new laboratory facilities were implemented.

Field measurement campaigns were carried out within the framework of national and international projects, both in urban areas, e.g. Munich and Berlin/Germany, Athens/Greece and Santiago/Chile, and in rural areas, e.g. Alpine locations, mountainous regions in central Greece or on islands in the Greek Aegean Sea region (Aghios Efstratios, Crete). Within the campaigns usually a variety of scientific platforms were used, among them micrometeorological towers (SFB 607, ETWA), radio towers (Frohnau Tower, 324 m; BERLIOZ), cruising vessels (PAUR-II), cable-ways (OPAP) and a manned H₂ free balloon (BERLIOZ).

Teaching Experience

University of Houston

Since Fall 2006: Atmospheric Science Graduate Advisor

- Spring 2011:* GEOL 6332 "Air Pollution Meteorology" (3)
GEOL 4397 "Air Quality Forecasting" (11)
GEOL 3342 "Introduction to Air Pollution" (19)
GEOL 3178 "Weather Information" (5)
- Fall 2010:* GEOL 6336 "Boundary Layers and Turbulence" (3)
GEOL 3381 "Micrometeorology" (6)
GEOL 1350 "Introduction to Meteorology" (147)
GEOL 3178 "Weather Information" (9)
- Spring 2010:* GEOL 6334 "Atmospheric Chemistry" (3)
GEOL 6396 Seminar "Atmospheric Sciences" (5)
GEOL 3382 "Atmospheric Chemistry" (7)
GEOL 3178 "Weather Information" (5)
- Fall 2009:* GEOL 3378 "Principles of Atmospheric Science" (36)
GEOL 3178 "Weather Information" (8)
- Spring 2009:* GEOL 3342 "Introduction to Air Pollution" (13)
GEOL 1350 "Introduction to Meteorology" (150)
GEOL 3178 "Weather Information" (7)
- Fall 2008:* GEOL 6397 "Atmospheric Chemistry" (6)
GEOL 3382 "Atmospheric Chemistry" (5)
GEOL 1350 "Introduction to Meteorology" (150)
GEOL 3178 "Weather Information" (8)
- Spring 2008:* GEOL 3342 "Introduction to Air Pollution" (4) (co-taught with Dr. Byun)
GEOL 1350 "Introduction to Meteorology" (190)
GEOL 3178 "Weather Information" (7)
- Fall 2007:* GEOL 6379 "Integrated Biogeochemistry Studies" (4)
GEOL 1350 "Introduction to Meteorology" (109)
GEOL 3178 "Weather Information" (10)
- Spring 2007:* GEOL 6334 "Air Pollution Chemistry and Physics" (4)
GEOL 3382 "Atmospheric Chemistry" (4)
GEOL 1350 "Introduction to Meteorology" (57)
GEOL 3178 "Weather Information" (9)
- Fall 2006:* GEOL 3342 "Introduction to Air Pollution" (9)
GEOL 1350 "Introduction to Meteorology" (50)
GEOL 3178 "Weather Information" (11)
- Summer 2006* GEOL 4398 "Data Analysis in Environmental Science" (4) (co-taught with Dr. Byun)
- Spring 2006:* GEOL 3378 "Introduction to Atmospheric Sciences" (34)
- Fall 2005:* GEOL 3342 "Introduction to Air Pollution" (7)
GEOL 6379 "Integrated Biogeochemistry Studies" (3)
- Spring 2005:* GEOL 3342 "Introduction to Air Pollution" (8)

In brackets number of students.

Institute for Meteorology and Climate Research, Atmospheric Environmental Research Section (IMK-IFU),
Research Center Karlsruhe GmbH (FZK), Garmisch-Partenkirchen:

2002 – 2003, courses for personnel from Global Atmosphere Watch (GAW) stations: “Chemistry and Emissions of VOCs”, “Sampling and Measurement Techniques of VOCs”, and “Quality Assurance of VOC measurements”, International GAW Training & Education Center (GAWTEC) of the WMO, Environmental Research Station Schneefernerhaus – UFS

Munich University of Technology (TU Munich)

Winter Semester 2000/2001: Atmospheric Environmental Chemistry

Winter Semester 1999/2000: Atmospheric Environmental Chemistry

Mentoring – Research Supervision / Group Members:

Undergraduates:

José Mojica (2006)	UH Summer Undergrad. Research Fellowship 2006
Leonardo Pedemonte (2006-2008)	
Renee Boudreaux (2006-2007)	
Aaron Chow (2007)	
John Massingdale (2007-2008; since 2010)	
Mitul Patel (2007)	
Giovanna Croxatto (2008-2009)	UH Spring Undergrad. Research Scholarship 2009
Luis Ackermann Nucete (since 2009)	
Peter Nguyen (2010)	
Adam Spitzmueller (since 2010)	

Teaching Assistants:

Ryan Perna ¹⁾ (2006-2007)	MS 2007
Monica Patel ²⁾ (2007-2008)	MS 2008
Marc Taylor ³⁾ (2008-2010)	MS 2010
Richard Fuller (2008)	MS expected 2011
Cari-Sue Wilmot (since 2008)	MS expected 2011

¹⁾ now with Texas Commission on Air Quality (TCEQ), Houston/TX

²⁾ now with Weather Insight, Houston/TX

³⁾ now with Source Environmental, Houston/TX

Research Assistants:

Richard Fuller (since 2005-2008; 2009-now)	MS estimated 2011
Bridget McEvoy-Day (2006-2008)	MS 2008

Primary Advisor MS Students:

Ryan Perna ¹⁾	MS 2007
Bridget McEvoy-Day ²⁾	MS 2008
Marc Taylor ³⁾	MS 2010
Richard Fuller	MS expected 2011
Cari-Sue Wilmot	MS expected 2011
Patrick Blood	MS expected 2012

¹⁾ now with Texas Commission on Air Quality (TCEQ), Houston/TX

²⁾ now with Det Norske Veritas (DNV), Houston/TX

³⁾ now with Source Environmental, Houston/TX

Primary Advisor PhD Students:

Kelly Soich (since Spring 2009)

Tentative title:
A Study to Determine Accuracy of Wind and Temperature Models in the Middle and Upper Troposphere

Sergio Alvarez (expected Fall 2010)

Tentative Title:
Using Aircraft-based Measurements to Determine Primary and Secondary HCHO and its Impact on Ambient Ozone

Primary Supervisor PostDocs:

Dr. Michael Leuchner¹⁾ (2006-2008)

DAAD Fellow, PhD, TU München, Germany

Dr. Violeta Coarfa²⁾ (2007-2008)

PhD University of Houston

Dr. Julia Golovko (since 2008)

PhD Tomsk State University, Tomsk, Russia

Dr. Beata Czader (since 2009)

PhD University of Houston

Dr. Fong Ngan³⁾ (2009)

PhD University of Houston

¹⁾ now Research Scientist at TU München, Germany

²⁾ now Teaching Faculty at Lone Star College and Houston Community College, Houston/TX

³⁾ now Research Scientist at NOAA-ARL

Visiting Research Scholar:

Dr. In-Yong Eom^{*)} (2009)

PhD Texas Tech, Lubbock

^{*)} now Assistant Professor at Catholic University of Daegu, Dept. of Chemistry, Gyeongsan, South Korea

Research Faculty:

Dr. Peter Percell (since 2009)

PhD University of California at Berkeley

Dr. Xiangshang Li (since 2009)

PhD Tulane University

Technicians:

Leonardo Pedemonte (since 2008)

Giovanna Croxatto (since 2009)

Awards:

Bridget McEvoy-Day (2008) Best Student Oral Presentation Award, 10th Conf on Atmospheric Chemistry, Annual Meeting of the American Meteorological Society, New Orleans/LA, 20 - 24.01.2008

Giovanna Croxatto (2009) Provost's Undergraduate Research Scholarship (PURS), Spring semester 2009

Giovanna Croxatto (2009) Halliburton Excellence Award, May 2009

Cari-Sue Wilmot (2010) Rice-Houston Alliance for Graduate Education and the Professoriate (AGEP), Summer Research Stipend, Summer 2010

Member on other PhD Committees:

completed:

Oscar Correa (2006)	Dpt. of Civil and Environmental Engineering	Atmospheric Concentrations, Deposition and Modeling of Polychlorinated Dibenzo-p-Dioxins and Dibenzofurans
Craig Clements [†] (2007)	Dpt. of Geosciences [*]	Experimental Studies of Fire-Atmosphere Interactions During Grass Fires
Violeta Coarfa (2007)	Dpt. of Geosciences	Air Quality Modeling of Aromatic Hydrocarbons in the Houston-Galveston Urban and Industrial Airshed
Beata Czader (2007)	Dpt. of Geosciences	Study of the Impact of VOCs on Ozone Formation under Houston-Galveston Atmospheric Conditions
Fantine Ngan (2008)	Dpt. of Geosciences	Classification of Weather Patterns and Improvement of Meteorological Inputs For Texas-II Air Quality Simulations
Karl Pepple (2009)	Dpt. of Earth and Atmospheric Sciences	Analysis of Mobile Emissions attributable to the University of Houston – For the Development of Strategic Sustainability Goals
Dae-Gyun Lee (2009)	Dpt. of Earth and Atmospheric Sciences	Retrospective Simulations of Ozone and Aerosols Utilizing the Improved Model Inputs from Global Model in-situ and Satellite Measurements

[†] since Fall 2007 Assistant Professor at San José State University, Meteorology Department, San José/CA

ongoing:

Christine Haman (since 2009)	Dpt. of Earth and Atmospheric Sciences	Role of Boundary Layer Dynamics on Surface Ozone Levels
Jingqian Wang (since 2009)	Dpt. of Earth and Atmospheric Sciences	Investigation of the Variability of CO ₂ and O ₃ from Observations and Models

Service and Affiliations

Member in Professional Organizations:

Deutsche Meteorologische Gesellschaft (DMG; 1992) - German Meteorological Society
American Meteorological Society (AMS; 1994)
Deutsche Physikalische Gesellschaft (DPG; 1996) - German Physical Society
American Chemical Society (ACS; 1999)
American Geophysical Union (AGU; 2001)

Manuscript Reviews

Analytical Chemistry
Annales Geophysicae
Atmósfera
Atmospheric Environment
Atmospheric Chemistry and Physics
Chemosphere
Energy
Environmental Monitoring and Assessment
Environmental Pollution
Environment, Science & Pollution Research
Environmental Science & Technology
Fuel
Geophysical Research Letters
Geoscientific Model Development
Journal of the Air & Waste Management Association
Journal of Applied Meteorology
Journal of Geophysical Research
Journal of Hazardous Materials
Meteorologische Zeitschrift
Science of the Total Environment

Proposal Reviews

National Science Foundation (NSF)
Natural Environment Research Council (NERC), UK
European Science Foundation (ESF)

Member

Science Advisory Group for Reactive Gases of the World Meteorological Organization (WMO).

Peer Reviewed Publications

- Czader B.H., **Rappenglück B.**, Byun D., Ngan F., Kim S. (2011): Modeling nitrous acid and its impact on ozone in the Houston area for the Texas Air Quality Study 2006, *Atmos. Chem. Phys. Discuss.*, in revision
- Villena G., Kleffman J., Kurtenbach R., Wiesen P., Lissi E., Rubio M.A., Croxatto G., **Rappenglück B.** (2011): Vertical Gradients of HONO, NO_x and O₃ in Santiago de Chile, *Atmos. Environ.*, accepted
- Boeke N.L., Marshall J.D., Alvarez S., Chance K.V., Fried A., Kurosu P., **Rappenglück B.**, Richter D., Walega J., Weibring P., and D.B. Millet (2011): Formaldehyde columns from the Ozone Monitoring Instrument: Urban versus background levels and evaluation with aircraft data and a global model, *J. Geophys. Res.*, **116**, D05303, doi:10.1029/2010JD014870
- Wong K.W., Oh H.-J., Lefer B., **Rappenglück B.**, Stutz J. (2010): Vertical profiles of nitrous acid in the nocturnal urban atmosphere of Houston, TX, *Atmos. Chem. Phys. Discuss.*, **10**, 30129-30170
- Ganranoo L., Mishra S.K., Azad A.K., Shigihara A., Dasgupta P.K., Breitbach Z., Armstrong D.W., Grudpan K., **Rappenglueck B.** (2010): Measurement of Nitrophenols in Rain and Air by Two-dimensional Liquid Chromatography – Chemically Active Liquid Core Waveguide Spectrometry, *Anal. Chem.*, **82**, 5838-5843
- Rappenglück B.**, Dasgupta P.K., Leuchner M., Li Q., Luke W. (2010): Formaldehyde and its relation to CO, PAN, and SO₂ in the Houston-Galveston airshed, *Atmos. Chem. Phys.*, **10**, 2413-2424
- McMillan W.W., Pierce R., Sparling L., Osterman G., McCann K., Fischer M., **Rappenglück B.**, Newsom R., Turner D., Kittaka C., Evans K., Biraud S., Lefer B., Andrews A., Oltmans S. (2010): An Observational and modelling strategy to investigate the impact of remote sources on local air quality: A Houston, Texas case study from TEXAQS II, *J. Geophys. Res.*, **115**, D01301, doi:10.1029/2009JD011973
- Lefer B., **Rappenglück B. (*)** (2010): The TexAQS-II radical and aerosol measurement project (TRAMP), *Atmos. Environ.*, **44**, 3997-4004, doi:10.1016/j.atmosenv.2010.05.053
(*) corresponding author
- Lefer B., **Rappenglück B.**, Flynn J., Haman C. (2010): Photochemical and meteorological relationships during the Texas-II Radical and Aerosol Measurement Project (TRAMP), *Atmos. Environ.*, **44**, 4005-4013, doi:10.1016/j.atmosenv.2010.03.011
- Stutz J., Wong K.W., Lawrence L., Ziemba L., Flynn J., **Rappenglück B.**, Lefer B. (2010): Nocturnal NO₃ radical chemistry in Houston, TX, *Atmos. Environ.*, **44**, 4099-4106, doi:10.1016/j.atmosenv.2009.03.004
- Chen S., Ren X., Mao J., Chen Z., Brune W.H., Lefer B., **Rappenglück B.**, Flynn J., Olson J., Crawford J.H. (2010): A comparison of chemical mechanisms based on TRAMP-2006 field data, *Atmos. Environ.*, **44**, 4116-4125, doi:10.1016/j.atmosenv.2009.05.027
- Day B.M., **Rappenglück B. (*)**, Clements C.B., Tucker S.C., Brewer W.A. (2010): Nocturnal boundary layer characteristics and land breeze development in Houston, Texas, during TexAQS-II, *Atmos. Environ.*, **44**, 4014-4023, doi:10.1016/j.atmosenv.2009.01.031
(*) corresponding author
- Morris G.A., Ford B., **Rappenglück B.**, Thompson A.M., Mefferd A., Ngan F., Lefer B. (2010): An evaluation of the influence of the morning residual layer on afternoon ozone concentrations in Houston using ozonesonde data, *Atmos. Environ.*, **44**, 4024-4034, doi:10.1016/j.atmosenv.2009.06.057
- Flynn J., Lefer B., **Rappenglück B.**, Leuchner M., Perna R., Dibb J., Ziemba L., Anderson C., Stutz J., Brune W., Ren X., Mao J., Luke W., Olson J., Chen G., Crawford J. (2010): Impact of clouds and aerosol on ozone production in southeast Texas, *Atmos. Environ.*, **44**, 4126-4133, doi:10.1016/j.atmosenv.2009.09.005
- Wright M.E., Atkinson D.B., Ziemba L., Griffin R., Hiranuma N., Brooks S., Lefer B., Flynn J., Perna R., **Rappenglück B.**, Luke W., Kelley P. (2010): Extensive Aerosol Optical Properties and Aerosol-mass Related Measurements during TRAMP/TexAQS 2006 – Implications for PM Compliance and Planning, *Atmos. Environ.*, **44**, 4035-4044, doi:10.1016/j.atmosenv.2008.12.055
- Stutz J., Oh H.-J., Whitlow S.I., Anderson C.H., Dibb J.E., Flynn J., **Rappenglück B.**, Lefer B. (2010): Simultaneous DOAS and Mist-Chamber IC measurements of HONO in Houston, TX, *Atmos. Environ.*, **44**, 4090-4098, doi:10.1016/j.atmosenv.2009.02.003
- Ziemba L.D., Dibb J.E., Griffin R.J., Anderson C.H., Whitlow S.I., Lefer B.L., **Rappenglück B.**, Flynn J. (2010): Heterogeneous conversion of nitric acid to nitrous acid on the surface of primary organic aerosol in an urban atmosphere, *Atmos. Environ.*, **44**, 4081-4089, doi:10.1016/j.atmosenv.2008.12.024
- Luke W.T., Kelley P., Lefer B.L., Flynn J., **Rappenglück B.**, Leuchner M., Dibb J.E., Ziemba L.D., Anderson C.H., Buhr M. (2010): Measurements of Primary Trace Gases and NO_y Composition in Houston, Texas, *Atmos. Environ.*, **44**, 4068-4080, doi:10.1016/j.atmosenv.2009.08.014
- Brooks S., Luke W., Cohen M., Kelly P., Lefer B., **Rappenglück B.** (2010): Mercury species measured atop the Moody Tower TRAMP site, Houston, Texas, *Atmos. Environ.*, **44**, 4045-4055, doi:10.1016/j.atmosenv.2009.02.009
- Leuchner M., **Rappenglück B. (*)** (2010): VOC Source-Receptor Relationships in Houston during TexAQS-II, *Atmos. Environ.*, **44**, 4056-4067, doi:10.1016/j.atmosenv.2009.02.029
(*) corresponding author
- Mao J., Ren X., Chen S., Brune W.H., Chen Z., Martinez M., Harder H., Lefer B., **Rappenglück B.**, Flynn J., Leuchner M. (2010): Atmospheric Oxidation Capacity in the Summer of Houston 2006: Comparison with Summer Measurements in Other Metropolitan Studies, *Atmos. Environ.*, **44**, 4107-4115, doi:10.1016/j.atmosenv.2009.01.013
- Olaguer E.P., **Rappenglück B.**, Lefer B., Stutz J., Dibb J., Griffin R., Brune B., Shauck M., Buhr M., Jeffries H., Vizuete W., Pinto J. (2009): Deciphering the Role of Radical Sources during the Second Texas Air Quality Study, *J. Air Waste Man. Assoc.*, **59**, 1258-1277

- Schade G, **Rappenglück B.** (2009): Unique Meteorological Data during Hurricane Ike's Passage over Houston, *Eos*, **90**, 215
- Baumgardner D., Grutter M., Allen J., Ochoa C., **Rappenglueck B.**, Russell L., Arnott P. (2009): Evolution of the Physical and Chemical Properties of the Regional Mixed Layer of Mexico's Megapolis, *Atmos. Chem. Phys.*, **9**, 5711-5727
- Thompson A.M., Yorks J.E., Miller S.K., Witte J.C., Dougherty K.M., Morris G.A., Baumgardner D., Ladino L., **Rappenglueck B.** (2008): Free tropospheric ozone sources and wave activity over Mexico City and Houston during MI-LAGRO/Intercontinental Transport Experiment (INTEX-B) Ozonesonde Network Study, 2006 (IONS-06), *Atmos. Chem. Phys.*, **8**, 5113-5125
- Rappenglück B.**, Perna R., Zhong S., Morris G.A. (2008): An Analysis of the Vertical Structure of the Atmosphere and the Upper-Level Meteorology and their Impact on Surface Ozone Levels in Houston, Texas, *J. Geophys. Res.*, **113**, D17315, doi:10.1029/2007JD009745
- Cooper O.R., Trainer M., Thompson A.M., Oltmans S.J., Tarasick D.W., Witte J.C., Stohl A., Eckhardt S., Merrill J.T., Newchurch M.J., Johnson B.J., Kalnajs L., Dubey M.K., Leblanc T., McDermid I.S., Forbes G., Wolfe D., Lelieveld J., Carey-Smith T., Morris G.A., Lefer B., **Rappenglück B.**, Joseph E., Schmidlin F., Ravishankara A., Meagher J., Fehsenfeld F.C., Keating T.J., Van Curen R.A. (2007): Conclusive in situ evidence that the eastern North America upper tropospheric ozone maximum is a recurring summertime feature, *J. Geophys. Res.*, **112**, D10S40, D23304, doi:10.1029/2007JD008710
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- Rappenglück B., Oyola P., Olaeta I., Schmitt R., Fabian P. (1998): The evolution of photochemical smog in the Metropolitan Area of Santiago de Chile, presented at the *10th Joint Conference on the Applications of Air Pollution Meteorology with the Air and Waste Manag. Assoc.*, Phoenix AZ/USA, 11 - 16.01.1998
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- Rappenglück B. (1993): New results of aromatic hydrocarbon measurements ("BTEX") in a forest area (in German), presented at the *Second Meeting of the Biometeorological Committee of the German Meteorological Society (BIOMET)*, Freising-Weihenstephan/Germany, 20.-22.10.1993
- Rappenglück B. (1993): Quasi-continuous measurements of hydrocarbons (in German), presented at *METTOOLS II - Second International Conference on Environmental Meteorology of the German Meteorological Society*, Stuttgart-Hohenheim/Germany, 13.-17.09.1993
- Suppan P., Rappenglück B., Fabian P. (1992): Photooxidants in the urban area of Munich, *Int. Symp. on "Planning applications of urban and building climatology"*, Berlin, 14. - 15.10.1991
- Rappenglück B., Kourtidis K., Fabian P. (1991): Measurements of ozone and peroxyacetyl nitrate (PAN) in Munich, presented at the *EUROTRAC Workshop & European Geophysical Society (EGS) Conference*, Wiesbaden,/Germany 26.04.1991
- Kourtidis, K. A., Rappenglück B., Fabian P., Borchers R. (1990): Measurements of peroxyacetyl nitrate (PAN) and other photooxidants in the urban area of Munich: preliminary results. *10th Intern. Clean Air Conference*, The Clean Air Society of Australia and New Zealand, Auckland/New Zealand

Conference Convenor

AMS Annual Meeting 2011: Session "Field and modeling studies from Recent Field Campaigns: SHARP 2009 and CalNex 2010" (together with Sylvain Ménard)

- AMS Annual Meeting 2010: Session “The Study of Houston Atmospheric Radical Precursors (SHARP) – II” (together with Jochen Stutz)
- AMS Annual Meeting 2010: Session “The Study of Houston Atmospheric Radical Precursors (SHARP) - III” (together with Renyi Zhang)
- AMS Annual Meeting 2009: Session “Air quality and climate change, Part III” (together with Wallace McMillan)
- AGU Fall Meeting 2007: Session “Day and nighttime chemical processing in polluted atmospheres”; Focus: TexAQS-II und MI-LAGRO (together with Scott Herndon)

Editor

- Special Issue in Atmospheric Environment (2010) titled “The TexAQS II Radical and Aerosol Measurement Project (TRAMP)” (together with Barry Lefer)

Invited Talks

- Rappenglück B. (2010): Urban Climate and Air Pollution - Example Houston, Texas, *invited talk, Faculty of Civil Engineering and Geodesy, Munich University of Technology, Munich/Germany, 20.07.2010*
- Rappenglück B. (2010): Analysis of in-situ VOC data in a subtropical area close to the Gulf of Mexico, *invited talk, 3rd WMO/GAW expert meeting on global observations of VOCs, World Meteorological Organization, Helsinki/Finland, 29.06.2010*
- Rappenglück B. (2010): Overview of Meteorology and Chemistry Measurements during SHARP, *invited talk, Annenberg Presidential Center, Texas A&M University, College Station/Texas, 23.04.2010*
- Rappenglück B. (2009): Formaldehyde (HCHO) and Nitrous Acid (HONO) in the Houston Atmosphere, *invited seminar lecture, Department of Civil and Environmental Engineering, University of Houston, Houston/Texas, 22.09.2009*
- Rappenglück B. (2008): El Cambio Climático y América Latina, *invited talk, Gobierno Regional Cusco, Cusco/Perú, 16.10.2008*
- Rappenglück B. (2008): The Application of an Urban online VOC Network for GAW Objectives, *invited talk, GAW-VOC/CCQM-GAWG Workshop, World Meteorological Organization, Dübendorf/Switzerland, 08.07.2008*
- Rappenglück B. (2007): University of Houston Field Campaign Activities in Support of TexAQS-II in 2006, *invited seminar lecture, Harvard University, Cambridge MA/USA, 09.02.2007*
- Rappenglück B. (2006): Organic Compounds and their role in Atmospheric Chemistry (in German), *invited seminar lecture, Johann Wolfgang Goethe University, Frankfurt am Main/Germany, 15.12.2006*
- Rappenglück B. (2006): Peroxyacetylnitrates (PANs) in the Atmosphere (in Spanish), *invited seminar lecture, Centro de Ciencias de la Atmósfera - Universidad Nacional Autónoma de México (UNAM), Mexico City/Mexico, 19.05.2006*
- Rappenglück B. (2006): The 1st GAW VOC Intercomparison, *invited talk, World Meteorological Organization, Geneva/Switzerland, 30.01.2006*
- Rappenglück B. (2005): VOCs and their relation to Ozone, PAN, and Secondary Organic Aerosols in the Urban Plume of Santiago de Chile, *invited seminar lecture, Texas A & M University, College Station TX/USA, 15.04.2005*
- Rappenglück B. (2004): Results from air quality studies in Santiago de Chile, *invited seminar lecture, Department of Geosciences – University of Houston, Houston TX/USA, 29.04.2004*
- Rappenglück B. (2003): Biogenically emitted oxygenated compounds – do they indicate plant stress? (in German), *invited lecture, Science Center Weihenstephan, Technical University of Munich, Freising-Weihenstephan/ Germany, 29.10.2003*
- Rappenglück B. (2002): Interactions Between Vegetation and Atmosphere – a Focus in Ecoclimatology (in German), *invited lecture, Department of Ecology, Technical University of Munich, Freising-Weihenstephan/ Germany, 15.11.2002*
- Rappenglück B. (2002): Some Aspects of Urban Air Quality Studies (in Spanish), *invited lecture, CONAMA R.M./GTZ., Santiago de Chile, 06.11.2002*
- Rappenglück B. (2000): Ambient Air Contamination (in Spanish), *invited lecture at the Municipality of Cuzco, 31.10.2000, Cuzco, Perú*
- Rappenglück B. (2000): Photochemical Smog (in Spanish), *invited lecture at the 5th Workshop of the Initiative of Clean Air for Latin American Cities organized by the Government of the Metropolitan Region of Santiago, the World Bank, and CONAMA R.M., 25.10.2000, Santiago de Chile*
- Rappenglück B. (1998): NMHC measurements in selected urban areas using on-line gas chromatography - Case studies: Munich/Germany, Athens/Greece and Santiago de Chile, *invited seminar lecture, National Oceanic and Atmospheric Administration (NOAA) - Environmental Research Laboratories - Aeronomy Laboratory, Boulder CO/USA, 16.11.1998*
- Rappenglück B. (1994): Aromatic hydrocarbons - What is their contribution to the formation of ozone and PAN? (in German), *invited lecture in the Course of the Leipzig Meteorological Colloquium, Institute for Tropospheric Research (IFT), Leipzig/Germany, 07.07.1994*