# **Curriculum Vitae Beate Gertrud Liepert**

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Adjunct Research Scientist Lamont Doherty Earth Observatory of Columbia University Palisades, NY 10964-1000, 61 Route 9W

#### **Scientific Interests**

Climate variability from inter-annual to centennial time scales, the water and energy cycles in a changing world are key interests in my research. I pioneered research on global dimming, which is the reduction of atmospheric transparency due to air pollution and inter-decadal cloud changes. Furthermore, I worked on implications of global dimming/brightening for climate: how and to what extend air pollution masks global warming, and how air pollution can spin down the hydrological cycle in a warmer and moister world. Some of my theoretical studies deal with climate forcing and feedbacks as studied in models and observations. I developed a climate model evaluation and ranking system that relies on first physical principles and self-consistency. Aerosol- and solar radiation measurements in urban, as well as rural environments are also part of my research agenda, as is studying the effects of light quality on plant growths and ecosystems. More recently I started applying my knowledge to solar energy resource assessments and optimizing photovoltaic systems as alternative to fossil fuel and nuclear technologies.

#### Education

1995	Doctor in Natural Science, Institute of Meteorology, Department of Physics, Ludwig - Maximilians
	University Munich, Germany
1990	Diploma in Meteorology, Institute of Meteorology and Institute of Bioclimatology and Air Pollution
	Research, Ludwig - Maximilians University Munich, Germany
1983	Abitur (qualifying degree for university) Holbein – Gymnasium Augsburg, Germany

### **Professional Affiliations**

2009 – present	Senior Research Scientist NorthWest Research Associates, Redmond, WA
2005 - 2009	Research Scientist at Lamont-Doherty Earth Observatory of Columbia University, Palisades, NY
1999 - 2005	Doherty Associate Research Scientist at Lamont-Doherty Earth Observatory of Columbia
	University, Palisades, NY
1996 – 1999	Post-doctoral Research Scientist at Lamont-Doherty Earth Observatory of Columbia University,
	Palisades, NY
Summer 1984	Internship at Meteorological Observatory Hohenpeissenberg, Germany; ozone measurements with
	Brewer and Dobson instruments

# **Management Activities**

2011 - 2014	PI manager Redmond office of NWRA
2005 - 2007	Member of Executive Committee of Lamont Observatory the governing body of the Observatory
2002 - 2005	Member of Promotion and Career sub-committee of Executive Committee of Lamont Observatory
1998 - 2000	Member of Environmental Committee of Lamont Observatory

# **Adjunct and Visiting Scientist Positions**

2009 – present	Adjunct research scientist at Lamont – Doherty Earth Observatory of Columbia
	University, Palisades, NY
Fall 2005	Adjunct professor at Barnard College, New York NY
2003 – present	Adjunct scientist at Max-Planck Institute for Meteorology, Hamburg Germany
5/2003 and 8/2003	Visiting scientist at NASA Langley Research Center, Hampton Virginia
2/2002 - 2/2003	Visiting scientist at Max-Planck Institute for Meteorology, Hamburg Germany
1996 - 2009	Adjunct scientist at NASA Goddard Institute for Space Studies, New York, NY

### **Professional Activities for the Scientific Community**

- Co-convener AGU Fall Meeting session "GC010. Understanding and Quantifying Changes in the Water Cycle" San Francisco December 9-13, 2013.
- Member of the Board of Editors of Environmental Research Letters, since 2013;
- Organizer of workshop "Climate sensitivity extremes: assessing the risk", held at NASA GISS, New York NY on April 26-28, 2010;
- Guest Editor for Environmental Research Letters special edition "Hydrological cycle and climate", 2010;
- Convener AGU Fall meeting session "Dynamic and thermodynamic controls of the global water cycle" San Francisco December 18, 2008;
- Contributing author to IPCC 4<sup>th</sup> Assessment Report Scientific Basis the "global dimming" (chapter 3.4.4.2).
- Regular article reviews for Geophysical Research Letters, Journal of Geophysical Research, Journal of Climate, International Journal of Climatology, Journal of Atmospheric Sciences, Theoretical and Applied Climatology, Science, Solar Energy, Environmental Research Letters;
- Regular proposal reviews for NSF, NOAA, NASA, Inter-American Institute, European Community Research Framework Programme, Netherlands Space Program;
- Climate model evaluation for the fourth Assessment Report of the Intergovernmental Panel on Climatic Change IPCC AR4;
- Organization of the special session: "Magnitude and possible causes of declining global solar radiation" at AGU/CGU Spring Assembly Montreal May 2004; session was selected for AGU/CGU press conference;
- International expert for the Evaluation Panel of the European Commission 6<sup>th</sup> Research Framework Programme (topic priority "Global change and Ecosystems), 2004
- Co-convener (invited by V. Ramanathan) AGU Fall Assembly session "Aerosol and Climate Interactions" San Francisco December 11, 2002;
- Member of the Atmospheric Radiation Measurement Program Science Team of Department of Energy, 1997-2000
- Member of the Global Aerosol Climatology Program Science Team of NASA and GEWEX (Global Energy and Water Experiment of United Nations World Meteorological Organisation), 1998-2001
- Organization (with W. Broecker) of conference: "Eemian Interglacial" Eemfest at Lamont Doherty Earth Observatory Palisades, New York, October 18 –19, 1999;
- Idea and organization of interdisciplinary workshop for graduate students of the Bavarian Climate Research Programme on "Impacts of anthropogenic climate change on biology, meteorology, hydrology and agriculture in the Alps", Bayerischer Wald Germany, January 1993;
- Technical Consultant for the Bavarian Corps of Engineers (TUV Bayern e.V.); author of assessment reports on impact and distribution of air pollution from industrial plants, distribution of nuclear pollution from nuclear power plants, assessment of climate impacts of planned refineries in context of the Kyoto treaty; Munich Germany, July to December 1991;

# Research Projects and Externally Funded Awards

2011 – 2014 2010 – 2013	"Effects of Stratospheric Change on Arctic Environment", NSF reward (Co-PI, and PI since 2013) "Collaborative research: The impact of stratospheric ozone depletion/recovery on Antarctic climate", award by NSF
2005 – 2010	"Interannual variability of surface radiation budget and climate feedback" award by NASA (principal investigator)
2004 - 2005	"IPCC 4 <sup>th</sup> Assessment Report: Evaluation of surface solar irradiance in coupled climate models", award by NSF (principal investigator)
2003 - 2005	"Combined impact of aerosol plus greenhouse gas forcing on surface energy budget and water cycle on a multi-decadal timescale", award by NSF (principal investigator)
2002	"Impacts of aerosols on the hydrological cycle in Echam4 experiments" Max-Planck Institute Visiting Scholar Fellowship by Max-Planck Society
2001	"Prove of concept study: low cost aerosol vertical profiling with hot-air balloons", award by Vetlessen Foundation (principal investigator)
2000	"Monitoring aerosol optical properties, ozone and water vapor column at Lamont Observatory", award by NASA (co-investigator)
1999 - 2001	"Surface solar radiation data base", award by NASA (principal investigator)

1996 – 1999	"Interdecadal variations of surface radiation and climate change", award by NOAA (principal
	investigator)
1997 - 2000	"Impact of tropospheric aerosols on the past surface radiation income: calibration with ARM site
	data", award by DOE (co-investigator)
1992 - 1994	"Decline in surface solar radiation in Germany and an analysis of possible causes", graduate
	student fellowship, Bavarian Climate Research Programme (principal investigator)

### **Teaching Experience – Mentoring**

- External member of General Education Program Advisory Committee of Digipen Institute of Technology, Redmond WA, since 2014
- PhD adviser of Kajsa Parding, Geophysical Institute, University of Bergen, Norway, 2013 ongoing
- PhD committee member Knut Makowski, ETH Zurich 4/2009
- Mentor postdoctoral researcher Micheal Previdi, LDEO, 2007
- PhD adviser of Irina Gorodetskaia, DEES Columbia University, 2004 to 2008
- Adviser of Columbia Earth Institute research assistant Peggy Hannon 2005
- Science mentor of students from minority public high schools in New York City for NASA Goddard Institute for Space Studies Educational Outreach Program "Institute on Climate and Planets" in 2003
- Adviser of senior thesis student project 2004 (Peggy Hannon)
- Adviser of two Lamont summer interns 2004 (Peggy Hannon and Colby Blitz), this project was featured on Columbia University Earth Institute home page
- Adviser of senior thesis student project 2002 (Anna Robertson)

### **Teaching Experience – Lecturer**

- Guest Lecturer Klimacampus Hamburg, Germany, April 18, 2012
- Speaker at Ingraham High school Seattle career fair, May 28, 2009
- Guest lecturer EESC W4030 "Climatic Change" R. Fairbanks in Fall 2006.
- Guest lecturer at Carroll Community College Westminster, MA "How things work" discussion series Oct. 17, 2006
- Guest lecturer at Earth2class "Saturday workshop for educators" a NSF funded program for K12 students, teachers and administrators, Jan. 14 2006
- Lecturer ESSC 2100 course: "The Climate System" at Department of Earth and Environmental Studies of Columbia University, this course was co-taught with S. Hemming and A. Gordan fall 2005
- Organization of "New Core Lab" seminar series 2000 at Lamont Doherty Earth Observatory
- Teaching Assistant at Meteorological Institute of Ludwig-Maximilians University Munich

### Field Campaigns and Field Work

- Installation of a delta-T pyranometer on the roof of Atmospheric Science Building at University of Washington Seattle WA
- Installation of a pyranometer on the roof of NWRA building on 4118 148<sup>th</sup> Ave NE Redmond, WA
- Installation of a Multifilter Rotating Shadowband Radiometer Oceanography building for monitoring aerosol
  optical properties, ozone and water vapor column content in collaboration with City College of New York,
  NOAA-CREST, November 2006
- Spatial and temporal distribution of aerosol optical properties in New York Metropolitan area compared to MODIS, field campaign in summer 2003
- Vertical profiling of aerosol properties and concentrations in New Jersey "prove of concept study" of low cost vertical profiling onboard hot-air balloons in July 2004 and July – August 2006 (featured in New Yorker Magazine "the talk of the town" section Aug. 28, 2006

#### **Public Outreach**

- Guest presenter at Solar Washington an organization to foster solar energy in WA, September 9, 2013 REI headquarters Seattle WA
- Panelist at Fordham University "Focus the Nation" January 31, 2008

- Panelist and guest lecturer "12th Annual Conference on Environmental Issues" Medgar Evers College, CUNY Brooklyn NY, March 17, 2007 (MEC is a historic black community college)
- Lamont Open House public lecture: "The Dilemma of Global Dimming and Global warming" October 2006
- Columbia West Alumni Organization guest lecturer, Los Angeles CA, 2006
- Lamont Board of Trustees guest lecturer, LDEO, 2006
- Panelist Rivertown Film Society Nyack Center Discussion of documentary "The inconvenient Truth" March 3, 2007
- Regular participation Lamont Open House
- Reviewer of popular science books and manuscripts for Columbia University Press Science Edition (1998 -2004)
- Scientific advisor to Project "Lighter than air" introduction of new generation of zeppelin air-ships Academy of Design Berlin (1994)

### **Invited Presentations and Invited Lectures**

- Seminar University of Bergen, Bjerknes Centre Bergen, Norway January 24, 2013
   Colloquium Atmospheric Sciences University of Washington, Seattle WA, September 27, 2013
   World Renewable Energy Forum, invited talk at forum session: Climate Change and Solar Energy Industry, May 15, 2012, Denver CO
   University of Washington, Atmospheric Physics Seminar, Seattle WA
   Rutgers University Institute of Marine and Coastal Science Seminar, New Brunswick, NJ
   University of Washington Atmospheric Science Colloquium Seattle WA
   Joint Ocean Atmospheric Science Colloquium Oregon State University, Corvallis OR
- 2009 Swiss Federal Institute of Technology Zurich, Institute for Atmospheric and Climate Science Seminar, Zurich Switzerland

Woods Hole Oceanographic Institute Physical Oceanography Seminar, Woods Hole, MA

- 2008 IGERT Seminar Applied Math and Physics Department Columbia University, New York, NY Workshop on "Global Dimming" Ein Gedi, Israel
- 2006 AGU Fall Meeting, San Francisco CA
  - Lecture University of California Berkeley
  - Lecture University of Cape Town South Africa
  - Lecture Institute of Marine and Coastal Sciences, Rutgers University Brunswick NJ
  - European Geophysical Society EGS Meeting, Vienna Austria
  - GEWEX Radiative Flux Assessment Workshop, Williamsburg VA
- 2005 IPCC AR4 Workshop: Analyses of Climate Model Simulations, Honolulu HI
  - Lecture Scripps Institute of Oceanography, San Diego CA
  - Lecture McGill University, Montreal Canada
  - Energy Modeling Forum, Workshop on Climate Change Impacts and Integrated Assessments, Snowmass CO
  - AGU Fall Meeting, San Francisco CA
- 2004 Australian Academy of Science Workshop on Pan Evaporation, Canberra Australia
  - Lecture Oregon State University, Corvalis OR
  - PACLIM Pacific Climate Workshop, Monterey CA
  - Workshop on Aerosols and Hydrological Cycle, Aspen Global Change Institute, Aspen CO
  - Lecture Atmosphere and Oceanic Colloquium SUNY University, Stony Brook NY
- 2003 Workshop of History of Carbonaceous Aerosols NASA GISS, New York NY
  - Lecture Federal Technical University, Zurich Switzerland
  - Lecture NASA Langley Research Center, Hampton VA
- 2002 International Global Atmospheric Chemistry Symposium, Crete Greece
  - Lecture University, Hanover Germany
  - Lecture Max-Planck Institute for Meteorology, Hamburg Germany
- 2001 Lecture Queens College, New York NY
- 2000 Lecture 38<sup>th</sup> Goddard Memorial Symposium American Astronautical Society, Greenbelt MD Lecture at Biosphere II, Tucson AZ
- 1999 Workshop "Climate Change in the Past 50 Years" NASA GISS, New York NY
- 1998 Lecture Brookhaven National Laboratory, Upton, NY,

1996 Lecture NOAA National Climate Data Center, Ashville NC Lecture Lamont-Doherty Earth Observatory, Palisades NY

# **Conference Paper Presentations**

2014	EGU General Assembly, Vienna Austria (Kajsa Parding student paper)
2012	AGU Fall Meeting, San Francisco CA (Kajsa Parding student paper)
	EGU General Assembly, Vienna Austria
2011	AGU Fall Meeting, San Francisco CA
2010	European Geosciences Union General Assembly Vienna Austria, May 3-7, 2010
2008	European Geosciences Union General Assembly Vienna Austria, April 14-18, 2008
	Chapman Conference on Water vapor, Kona, Hawaii, Oct. 2008
	AGU Fall Meeting, San Francisco CA
2007	NASA MAP (Modeling, Assimilation and Prediction) Workshop, College Park MA March 7, 2007
2006	Joint IGAC/CACGP/WMO Symposium Cape Town South Africa
	European Geophysical Society General Assembly, Vienna Austria
	First iLEAPS Conference, Boulder CO
2005	AMS Conference on Hydrology, San Diego CA
	AMMA, Dakar Senegal
	AGU Fall Meeting, San Francisco CA
2004	AGU Fall Meeting, San Francisco CA
	AGU/CGU Spring Joint Assembly, Montreal Canada
2003	AGU Fall meeting San Francisco CA
2002	AGU Fall meeting San Francisco CA
	General Assembly European Geophysical Society, Nice France
2001	AGU Chapman Conference on Atmospheric Absorption of Solar Radiation, Estes Park CO
	Conference On Global Warming and the Next Ice Age, Halifax Canada
	AMS Millennium Symposium on Atmospheric Chemistry, Albuquerque NM
2000	International Radiation Symposium, St. Petersburg Russia
	European Geophysical Society General Assembly, Den Haag Netherlands
1999	AGU Fall Meeting, San Francisco CA
	ARM DOE Science Meeting, Phoenix AZ
	AMS Conference on Climate Change Detection and Attribution, Dallas TX
1998	ARM DOE Science Team Meeting, San Antonio TX
1997	ARM DOE Science Team Meeting, Tucson AZ
1995	A&WMA International Specialty Conference on Climate Change, Phoenix AZ
1994	Third German-German Climate Conference, Potsdam Germany

Scientific Publications \*Not peer reviewed

#### 2014

Parding, K., **B. G. Liepert**, J. A. Olseth, and K. -F. Dagestad, 2014. Subarctic decadal variability of clouds, solar radiation and temperature in Bergen, Norway, *Tellus B, accepted*.

Parding, K., B. G. Liepert, J. A. Olseth, and K. -F. Dagestad, 2014. Influence of atmospheric circulation patterns on local cloud and solar variability in Bergen, Norway, *Theor. & Appl. Clim.*, *submitted*.

**Liepert, B.,** 2013: Perspective: Atmospheric rivers in changing climate. *Environ. Res. Lett. Environ. Res. Lett.* 8 (2013) 031006.

**Liepert, B. G.,** and F. Lo, 2013. CMIP5 update of 'Inter-model variability and biases of the global water cycle in CMIP3 coupled climate models', *Environmental Research Letters*, 8(2), 029401.

Previdi M., **B. G. Liepert**, D. Peteet, J. Hansen, D. J. Beerling, A. J. Broccoli, S. Frolking, J. N. Galloway, M. Heimann, C. Le Quere, S. Levitus, and V. Ramaswamy, 2013: Climate Sensitivity in the Anthropocene. *Quarterly Journal of the Royal Meteorological Society (2013)*.

#### 2012

**Liepert, B. G.**, and M. Previdi, 2012: Inter-model variability and biases of the global water cycle in CMIP3 coupled climate models. *Environ. Res. Lett.* 7 014006, doi:10.1088/1748-9326/7/1/014006.

2011

Previdi, M., and **B. G. Liepert**, 2011: Climate sensitivity and the global water cycle. *Climate Dynamics*, doi:10.1007/s00382-011-1233-8.

Previdi M., **B. G. Liepert**, D. Peteet, J. Hansen, D. J. Beerling, A. J. Broccoli, S. Frolking, J. N. Galloway, M. Heimann, C. Le Quere, S. Levitus, and V. Ramaswamy: Climate Sensitivity in the Anthropocene. *Earth Syst. Dynam. Discuss.*, 2, 531-550, doi:10.5194/esdd-2-531-2011, 2011.

#### 2010

**Liepert, B. G**.: The Physical Concept of Climate Forcing. *Wiley Interdisciplinary Reviews: Climate Change*. 1, 786-802, doi: 10.1002/wcc.75.

\*Allan, R. P. and **B. Liepert**: Introduction to Special Issue: Anticipated changes in the global atmospheric water cycle. *Environ. Res. Lett.* 5 025201, doi: 10.1088/1748-9326/5/2/025201.

Wild, M. and **B. Liepert**: Editorial: The Earth radiative balance as driver of the global hydrological cycle. *Environ. Res. Lett.* 5 025203, doi: 10.1088/1748-9326/5/2/025203.

# 2009

**Liepert, B. G.**, and M. Previdi: Do models and observations disagree on the rainfall response to global warming? *Journal of Climate*, 22, 11, p. 3156–3166.

#### 2008

Previdi M. and **B. Liepert**: Interdecadal variability in the precipitation response to global warming. *EOS* 89, 21, 193-195.

D'Arrigo, R., R. Wilson, **B. Liepert** and P. Cherubini: On the 'Divergence Problem' in Northern Forests: A Review of the Tree-Ring Evidence and Possible Causes. *Global and Planetary Change*. 60 (2008) 289 – 305.

Gorodetskaya, I., B. Tremblay, **B. Liepert**, R. Cullather, M. Cane: Modification of Arctic Ocean short-wave radiation budget due to cloud and sea ice properties in coupled models and observations. *J. Climate*, 21, p.866, doi: 10.1175/2007JCLI1614.1.

### 2007

Previdi, M. and **Liepert, B.**: Annular modes and Hadley cell expansion under global warming. *Geophys. Res. Lett.*, 34, L22701, doi:10.1029/2007GL031243.

\*Liepert, B., E. Dutton, M. Wild: Comment on "a perspective on global dimming, and brightening" EOS, 88, 45 p. 473

\*Schmidt,G., A. Romanou, **B. Liepert**: Further comment on "a perspective on global dimming, and brightening" *EOS*, 88, 45, p.473.

Romanou, N., **B. Liepert**, G. Schmidt, W. B. Rossow, R. Ruedi, Y. H. Zhang: 20<sup>th</sup> Century reductions in surface solar irradiance in simulations and observations. *Geophys. Res. Lett.* 34, L05713, doi:10.1029/2006GL028356 **2005** 

**Liepert, B.**, and A. Romanou 2005. Global dimming and brightening and the water cycle. *Bull. Amer. Meteor. Soc.* 86, 622-623.

\*Liepert, B.: Reduced surface solar radiation, global warming and the water cycle. *Proceedings of Workshop on Pan Evaporation, Australian National Academy of Sciences Canberra, Nov 22-23, 2004.* www.science.org.au/natcoms/pan-evap.pdf

#### 2004

\*Cohen, S., **B. Liepert**, G. Stanhill: Global dimming comes of age. *EOS* 85, 38, 362.

Hansen, J., T. Bond, H. Gaeggler, **B. Liepert**, T. Novakov, B. Schichtel: Carbonaceous aerosols in the industrial era. *EOS, Vol. 85, (note: peer-reviewed article)* 25, 241-244.

**Liepert, B.,** J. Feichter, U. Lohmann, and E. Roeckner: Can aerosols spin down the hydrological cycle in a moister and warmer world? *Geophy. Res. Lett.* Vol 31, L06207, doi:10.1029/2003GL019060.

Feichter, J., U. Lohmann, **B. Liepert**, and E. Roeckner: Nonlinear aspects of the climate response to greenhouse gas and aerosol forcing. *J. Climate*, Vol. 17, 12, 2384-2398.

#### 2002

**Liepert, B. G.**: Observed Reductions in Surface Solar Radiation in the United States and Worldwide from 1961 to 1990. *Geophy. Res. Lett.* 29,12.

**Liepert, B. G**. and I. Tegen: Multi-Decadal Solar Radiation Trends in the United States and Germany and Direct Tropospheric Aerosol Forcing. *J. Geophys. Res.*, 107/D12.

\*Liepert, B. G.: Multi-Decadal Solar Radiation Observations and their Relevance to Cloud and Aerosol Changes. *Proceedings 1. Intl. Conf. On Global Warming and the Next Ice Age, Halifax, Canada, August 19 - 24, 2001.* 

**Liepert, B. G**. and U. Lohmann: A Comparison of Surface Observations and ECHAM4-GCM Results relevant to the Indirect Aerosol Effect. *J. Climate*, 14/6, 1078-1091.

#### 2000

\*Liepert, B.G.: Solar Radiation, Cloud Cover and Precipitation Observations Compared to ECHAM4-GCM Experiments. *Int'l Radiation Symposium 2000: Current Problems in Atm. Radiation.* Eds. W.L. Smith, Y.M. Timofeyrv, St. Petersburg, Russia.

#### Prior 1999

Wild, M. and **B. Liepert**: Excessive Transmission of Solar Radiation through the cloud-free atmosphere in GCMs. *Geophys. Res. Letters*, 25/12, 2165-2168.

**Liepert, B. G.**: Recent Changes in Solar Radiation under Cloudy Conditions in Germany, *Int. J. Climatology*, 17, 1581-1593.

**Liepert, B. G.** and G. J. Kukla: Decline in Solar Radiation with Increased Horizontal Visibility in Germany between 1964 and 1990. *J. Climate*, 10, 2391-2401.

**Liepert, B. G**: Regionale Klimadiagnose mittels Messungen der solaren Strahlung, Universitaet Muenchen-Meteorologisches Institut, Wissenschaftliche Mitteilungen, 69, Ludwig -Maximilians University, Munich, 176pp. **Liepert, B**, .P. Fabian, H. Grassl: Solar radiation in Germany - Observed Trends and an Assessment of their Causes. Part 1: Regional Approach. *Contr. Atm. Physics*, 67/1, 15-29.

\*Liepert, B. G.: Solar Radiation in Germany - Observed Trends and their Causes. *Proceedings of A&WMA International Specialty Conference on Climate Change on April 5-8, 1994, Phoenix AR*, Eds. C.V. Mathai and G. Stensland, ISBN 0-923204-11-3.

\*Liepert, B. G.: Modellrechnungen zum natuerlichen und anthropogenen Impakt auf die solare Einstrahlung. 3. Deutsche Klimatagung, Potsdam 11.-14. April 1994, Tagungsband. PIK Reports #1, Potsdam Germany.

#### **Other Publications**

- "State of the Planet" blogs from the Earth Institute of Columbia University: http://blogs.ei.columbia.edu/2012/03/07/plugging-the-leaks-in-climate-models/
- Contributions to free online encyclopedia: <a href="http://www.wikipedia.org/Global\_dimming">http://www.wikipedia.org/Global\_dimming</a>
- Contributions to RealClimate, which is a web based commentary site on climate science by working climate scientists for the interested public and journalists:

http://www.realclimate.org/index.php/archives/2012/05/plugging-the-leaks/ http://www.realclimate.org/index.php/archives/2006/04/global-dimming-and-climate-models/ http://www.realclimate.org/index.php/archives/2005/01/global-dimming-ii/

- Freelance writer for the science section of the Berlin based newspaper "die tageszeitung":
  - "Die Flugzeugindustrie will hoch hinauf" Rund 500 Überschall-Jets werden im Jahr 2015 durch die Ozonschicht fliegen" Beate G. Liepert, 15.5.1995 taz Wissenschaft 192 lines, p. 13.

"Fehlerhafte Klimamodelle" Aus Schwefelemissionen entstehen in der Atmosphäre winzige Schwebteilchen / Sie verschleiern den Treibhauseffekt / Von den Klimaforschern sind sie bisher nicht beachtet worden by Beate G. Liepert, 6.6.1994 "die tageszeitung" Wissenschaft 167 lines, p. 13

"Auf der Suche nach den Außerirdischen" Seit über 30 Jahren fahndet die NASA erfolglos nach den "grünen Männchen" by Beate G. Liepert 11.4.1994 "die tageszeitung" Wissenschaft 146 lines, p. 13

# **Science Features on TV (selection)**

- Guest in "Nexos Alliance of Civilizations' 13 part TV series produced by Spanish TV for versions in Arabic, Turkish, English, French and Spanish broadcasters
- Guest in South African Lotus FM's breakfast show "O'Neil in the morning". Lotus FM is a national radio station based in Durban South Africa, October 2007
- Guest in Austrian live talk show "der DOKU talk" of ORF (Austrian Broadcasting Corporation), Vienna February 2007
- Production of the German language version "Schatten ueber der Erde" of the BBC TV documentary Austrian Broadcasting Cooperation ORF Vienna, February 2007
- News feature on "Global Dimming" for Carte Blanche MNET South African Satellite TV, a prominent news program aired on the African continent August, 2006

- Featured scientists in BBC documentary "Global dimming the sun" aired in the UK on January 16th 2005 and aired on BBCWorld around the globe.
- PBS Horizon "Dimming the Sun" aired in spring 2006 http://www.pbs.org/wgbh/nova/sun/
- Guest in CNN "Lou Dobbs tonight" aired May 13, 2004

# **Science Features in Print (selection)**

- The Guardian UK Earth Insight blog by Nafeez Ahmed: "Climate change to have double impact study", September, 2013
- 'Quality control' of climate models can help predict future rainfall by Kate Ravilious for environmentalresearchweb, February 2012
- Earth magazine August 2009, "Warming but not at a steady pace", interview by Nicole Branan;
- Columbia University The Record Dec. 4, 2006 "High-Flying Women Scientist" by Fred Bernstein;
- The New Yorker Magazine Aug. 28, 2006 "Talk of the Town: Fieldwork, Up, up and away" by Nick Paumgarten;
- Science News Sep. 24, 2005 "Dim View" by S. Perkins.
- The Christian Science Monitor May 12, 2005 "Can Earth take the heat of global brightening?" by Peter Spott;
- Scientific American Aug. 2004 "The Darkening Earth" by David Appell;
- Time Magazine May 24, 2004 "Cloud cover: Is earth getting darker? M. Nash.
- The New York Times May 13, 2004 "Globe grows darker as sunshine diminishes" by Ken Chang
- Nature News Service Apr. 1, 2004 "Less rain in a warmer world" by Philip Ball
- The Guardian Dec 18, 2003 "Goodbye Sunshine" by David Adam