

CURRICULUM VITAE

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Date of Birth: 01 / 01 / 1971
Nationality: Germany

PROFESSIONAL EXPERIENCE AND QUALIFICATION

- since 06 / 2010 ***Vice Chair of Research Domain III "Sustainable Solutions"***, Potsdam Institute for Climate Impact Research, Potsdam
Responsible for scientific strategy of the Research Domain
Coordinator Research Project RoSE (Roadmaps towards Sustainable Energy Futures)
Project Director EU FP7 Project AMPERE (Assessment of Mitigation Pathways and Evaluation of the Robustness of Mitigation Cost Estimates)
Topics: International integrated assessment modeling comparison projects, Development of socio-economic scenarios for IPCC AR5, Climate policy analysis under uncertainty
- 06 / 2009 - 05 / 2010 ***Senior Scientist***, Potsdam Institute for Climate Impact Research, Potsdam
Responsible for scientific strategy of Research Domain III "Sustainable Solutions"
Coordinator, Research Project RoSE (Roadmaps towards Sustainable Energy Futures)
Topics: Scientific coordination of research activities of Research Domain III; International integrated assessment modeling comparison projects; Climate policy analysis under uncertainty
- 06 / 2008 – 05 / 2009 ***Marie Curie Visiting Fellow***, Potsdam Institute for Climate Impact Research, Potsdam
Research Project WIT (What Poor Information Can Tell: Analysis of Climate Policies under Large Uncertainty about Climate Change)
Topics: Integrated Assessment of Climate Policies; Application of Imprecise Probability Theory
- 06 / 2006 – 05 / 2008 ***Marie Curie Visiting Fellow***, Department of Engineering and Public Policy, Carnegie Mellon University, Pittsburgh
Research Project WIT (What Poor Information Can Tell: Analysis of Climate Policies under Large Uncertainty about Climate Change)
Topics: Integrated Assessment of Climate Policies; Application of Imprecise Probability Theory; Expert Elicitations; Climate tipping points
- 01 / 2004 – 05 / 2006 ***Scientist***, Potsdam Institute for Climate Impact Research, Potsdam
Research project SPARK (Strategic Portfolio Analysis of Mitigation Options under Risk and Opportunity)
Topics: Algorithms to identify robust policies; Application of Imprecise

- Probability Theory; Expert Elicitations; Climate tipping points
- 2002 **External advisor to the German Advisory Council on Global Change (WBGU)**
Topics: Interactive calculation of energy scenarios; Communication of results
- 01 / 2001 – 12 / 2003 **Scientist, Potsdam Institute for Climate Impact Research, Potsdam**
Project Speaker, Research project GRAIN (Guardrails and Indicators for Climate Protection)
Topics: Representation and processing of ambiguous information; Random set and possibility theory; Technological learning curves in macroeconomic modeling; Project representation
- 03 / 1999 – 12 / 2000 **Scientist, Potsdam Institute for Climate Impact Research, Potsdam**
Research project ICLIPS (Integrated Assessment of Climate Protection Strategies)
Topics: Tolerable windows approach; Inverse calculation of emissions corridors

EDUCATION

- 02 / 2000 – 07 / 2005 Doctoral studies in Theoretical Physics, University of Potsdam
Thesis title: *Imprecise Probability Analysis for Integrated Assessment of Climate Change*
Supervisor: Prof. H.-J. Schellnhuber
Degree: Dr. rer. nat. (summa cum laude / with distinction)
- 09 / 1996 – 07 / 1998 Graduate studies in Physics, Albert-Ludwigs University Freiburg
Degree: "Diplom" (equivalent M.Sc.)
- 09 / 1995 - 08 / 1996 Visiting Graduate Student, Department of Physics, University of Washington, Seattle
- 09 / 1993 – 08 / 1995 Graduate studies in Physics, Albert-Ludwigs University Freiburg
- 09 / 1991 - 08 / 1993 Undergraduate studies in Physics, Albert-Ludwigs University Freiburg
Degree: "Vordiplom" (equivalent B.Sc.)

BOARD MEMBERSHIPS AND IPCC LEAD AUTHORSHIP

- Since 07/2010 Lead Author of Chapter 6 "Assessing Transformation Pathways" of the 5th Assessment Report of Working Group III, IPCC
- 08-11 / 2010 Scientific Steering Committee, IPCC Workshop on Socio-economic Scenarios
- Since 01 / 2010 Scientific Steering Committee, Integrated Assessment Modeling Consortium
Representative of the Potsdam Institute for Climate Impact Research in the Committee
- Since 12 / 2009 Scientific Steering Committee, Energy Modeling Forum Project 24

AWARDS

- 06 / 2006 – 05 / 2009 Marie Curie Outgoing International Fellowship, European Union
- 02 / 2000 – 01 / 2003 Ph.D. scholarship, Deutsche Bundesstiftung Umwelt (German Federal Foundation of the Environment)
- 1995 / 96 Foreign exchange student travel grant, J. William Fulbright Foreign Scholarship Board

PUBLICATIONS

Articles in ISI Journals

- E. Kriegler** (2011) *Comment on “The status and prospects of renewable energy for combating global warming”*. Energy Economics 33(4): 594-596. doi: [10.1016/j.eneco.2010.11.017](https://doi.org/10.1016/j.eneco.2010.11.017)
- M. G. W. Schmidt, A. Lorenz, H. Held, **E. Kriegler** (2011) *Climate targets under uncertainty: Challenges and remedies*. Climatic Change 104(3-4): 783-791. doi: [10.1007/s10584-010-9985-4](https://doi.org/10.1007/s10584-010-9985-4)
- E. Kriegler**, J. Hall, H. Held, R. Dawson, H.-J. Schellnhuber (2009) *Imprecise probability assessment of tipping points in the climate system*. Proceedings of the National Academy of Sciences of the United States of America (PNAS), 106(13): 5041-5046. doi: [10.1073/pnas.0809117106](https://doi.org/10.1073/pnas.0809117106)
- E. Kriegler** (2009) *Updating under unknown unknowns: An extension of Bayes' rule*. International Journal of Approximate Reasoning 50(4): 583-596. doi: [10.1016/j.ijar.2008.09.005](https://doi.org/10.1016/j.ijar.2008.09.005)
- H. Held, **E. Kriegler**, K. Lessmann, O. Edenhofer (2009) *Efficient climate policies under technology and climate uncertainty*. Energy Economics 31(1): S50-S61. doi: [10.1016/j.eneco.2008.12.012](https://doi.org/10.1016/j.eneco.2008.12.012)
- D. Patino-Echeverri, P. Fischbeck, **E. Kriegler** (2009) *Economic and environmental costs of regulatory uncertainty for coal-fired power plants*. Environmental Science & Technology 43(3): 578-584. doi: [10.1021/es800094h](https://doi.org/10.1021/es800094h)
- H. Held, T. Augustin, **E. Kriegler** (2008) *Bayesian learning for a class of priors with prescribed marginals*. International Journal of Approximate Reasoning 49(1) 2008: 212-233.
- T. Lenton, H. Held, **E. Kriegler**, J. Hall, W. Lucht, S. Rahmstorf, H.-J. Schellnhuber (2008) *Tipping Elements in the Earth's climate system*. Proceedings of the National Academy of Sciences of the United States of America (PNAS) 105(6): 1786-1793. doi: [10.1073/pnas.0705414105](https://doi.org/10.1073/pnas.0705414105)
- E. Kriegler** (2007) *On the verge of dangerous anthropogenic interference with the climate system?* Environmental Research Letters 2: 011001. doi: www.iop.org/EJ/abstract/1748-9326/2/1/011001
- O. Edenhofer, N. Bauer, **E. Kriegler** (2005) *The impact of technological change on climate protection and welfare - insights from the model MIND*. Ecological Economics 54: 277-292.
- E. Kriegler**, H. Held (2005) *Utilizing belief functions for the estimation of future climate change*. International Journal of Approximate Reasoning 39: 185-209.
- E. Kriegler**, T. Bruckner (2004) *Sensitivity analysis of emissions corridors for the 21st century*. Climatic Change 66: 345-387.

Articles in Conference Proceedings (Peer reviewed)

- E. Kriegler** (2007) *Updating and Testing Beliefs: An Open Version of Bayes' Rule*. Proceedings of the 5th International Symposium on Imprecise Probabilities and Their Applications, Prague, 16-19 July 07, 271-280
- N. Bauer, O. Edenhofer, H. Held, **E. Kriegler** (2004) *Uncertainty of the role of carbon capture and sequestration within climate change mitigation strategies*. Proceedings of 7th International Conference on Greenhouse Gas Control Technologies. Volume 1: Peer-Reviewed Paper and Plenary Presentations, Cheltenham, UK : IEA Greenhouse Gas Programme 2005.
- E. Kriegler**, H. Held (2003) *Climate Projections for the 21st Century Using Random Sets*. Proceedings

of the 3rd International Symposium on Imprecise Probabilities and Their Applications, 345-360.

- E. Kriegler**, T. Bruckner (2002) *Global and Annex I emissions corridors for the 21st century*. Integrated Assessment and Decision Support - Proceedings of the 1st biennial meeting of the International Environmental Modelling and Software Society (IEMSS 2002), Vol. 3, 151-156.

Chapters in Books (Peer reviewed)

- O. Edenhofer, R. Pietzcker, M. Kalkuhl, **E. Kriegler** (2010) *Price and quantity regulation for reducing greenhouse gas emissions*. In: Global Sustainability – A Nobel Cause. Eds.: H.J. Schellnhuber, M. Molina, N. Stern, V. Huber and S. Kadner, Cambridge University Press, Cambridge, UK and New York, USA
- O. Edenhofer, R. Pietzcker, M. Kalkuhl, **E. Kriegler** (2010). *Taxation instruments to reduce greenhouse gas emissions, and comparison with quantity instruments*. In: The Economics of Climate Change in China. Eds.: Fan G, N Stern, O Edenhofer, Xu S, K Eklund, F Ackerman, Li L, K Hallding, Earthscan, UK.
- E. Kriegler**, H. Held, T. Bruckner (2007) *Climate protection strategies under ambiguity about catastrophic consequences*. In: Advanced methods for decision making and risk management in sustainability science. Eds.: J. Kropp, J. Scheffran, pp. 3-42. Nova Science Publishers, New York.

Selected other publications (Non peer reviewed)

- M. D. Mastrandrea, C. B. Field, T. F. Stocker, O. Edenhofer, K. L Ebi, D. J. Frame, H. Held, **E. Kriegler**, K. J. Mach, P. R. Matschoss, G.-K. Plattner, G. W. Yohe, F. W. Zwiers (2010) *Guidance note for lead authors of the IPCC Fifth Assessment Report on Consistent Treatment of Uncertainties*. IPCC Cross-Working Group Meeting on Consistent Treatment of Uncertainties (Jasper Ridge, CA 2010).
- K. Tanaka, **E. Kriegler**, T. Bruckner, G. Hooss, W. Knorr, T. Raddatz (2007) Aggregated carbon cycle, atmospheric chemistry, and climate model (ACC2). Max Planck Institute for Meteorology, Hamburg. 188 p. Reports on Earth System Science No. 40
- E. Kriegler** (2005) Imprecise probability analysis for integrated assessment of climate change. Ph.D. thesis, University of Potsdam, 258 p.
- O. Edenhofer, **E. Kriegler**, N. Bauer (2002) Szenarien zum Umbau des Energiesystems (Scenarios for a transition of the energy system). External report to the German Advisory Council on Global Change (WBGU), in German.
- Partly published in: Chapter 4.5.1, WBGU (2003) World in Transition - Towards Sustainable Energy Systems, Earthscan, London.

SELECTED PRESENTATION AND LECTURES IN 2009 & 2010

- 02 Nov 2010 *Socio-economic Scenario Development for Climate Change Analysis*
IPCC Workshop on Socio-Economic Scenarios, 1-3 Nov, Berlin, Germany
- 29 Oct 2010 *Overview on the AMPERE project*
IAMC Annual Meeting, 28-29 October, Washington, USA
- 25 Oct 2010 *Overview of Global Scenario Model Comparisons #3: Comparison Across Policy Scenarios*
2nd EMF24 Meeting, 25-27 October 2010, Washington, USA
- 08 Oct 2010 *Forschungsbereich III „Nachhaltige Lösungsstrategien“:
Forschungsfragen und aktuelle Ergebnisse*
Visit of BMBF at PIK, Potsdam, Germany

- 06 Oct 2010 *The climate change challenge and response options*
Visit of US School of Journalists at PIK, Potsdam, Germany
- 16 Sep 2010 *Update on REMIND modeling activities (with Gunnar Luderer, Robert Pietzcker)*
2nd Meeting of the Climate Policy Outreach Project, Seoul, Korea
- 15 Sep 2010 *Comparability Overview (with Kate Calvin)*
3rd Meeting of the Asian Modeling Exercise, Seoul, Korea
- 10 Sep 2010 *Vom Klimawandel zum Klimaschutz: Herausforderungen und Lösungsansätze*
Joint WHU - Otto Beisheim School of Management & PIK meeting, PIK, Potsdam, Germany
- 04 Aug 2010 *Observations on the New Wind Resource Potential Estimates and Analysis of the Potential for Wind Electricity Production Using the REMIND Model (with Nico Bauer, Alex Körner)*
EMF Workshop on Climate Change Impacts and Integrated Assessment, 27 July - 4 August 2010, Snowmass, Colorado, USA
- 04 Aug 2010 *Accounting for Power Sector Variability in the REMIND Model (with Falko Ueckerdt)*
EMF Workshop on Climate Change Impacts and Integrated Assessment, 27 July - 4 August 2010, Snowmass, Colorado, USA
- 29 Jul 2010 *Perspective on the Use(fulness) of IAMs in the Policy Process*
EMF Workshop on Climate Change Impacts and Integrated Assessment, 27 July - 4 August 2010, Snowmass, Colorado, USA
- 27 Jul 2010 *Socio-economic Scenario Development for Climate Change Analysis*
EMF Workshop on Climate Change Impacts and Integrated Assessment, 27 July - 4 August 2010, Snowmass, Colorado, USA
- 22 June 2010 *The effect of uncertainty about catastrophic climate damages on optimal abatement levels revisited*
International Energy Workshop 2010, Stockholm, Sweden, 21-23 June 2010
- 20 April 2010 *Exploring technology and policy implications: A collection of relevant experiments with ReMIND*
EMF24 Project Kick-off Meeting, Stanford, USA, 20-23 April 2010
- 04 Feb 2010 *1st & 2nd best policies. Relevant aspects for mitigation and adaptation*
NAS Workshop on Describing Socio-Economic and Environmental Futures for Climate Change Research and Assessment, Washington, USA, 4-5 Feb 10
- 17 Sep 2009 *The REMIND model*
EMF Asian Modeling Meeting, Tsukuba, Japan, 17-18 Sep 09
- 15 Sep 2009 *Insights from the ADAM and RECIPE model intercomparison projects*
Annual meeting of the Integrated Assessment Modeling Consortium, Tsukuba, Japan, 15-16 Sep 09
- 14 Sep 2009 *Introduction to the research of PIK's research domain III "Sustainable Solutions"*
Seminar at the Research Center for International Environmental Policy, Tsinghua University, Beijing, China.

- 11 Sep 2009 *Climate uncertainty, climate targets, and their implications for mitigation policies*
Seminar at the National Climate Center / China, Meteorological Association, Beijing, China.
- 11 Aug 2009 *The REMIND integrated assessment model: Treatment of renewable energy technologies and insights from model intercomparisons*
Workshop on Climate Impacts and Integrated Assessment: Modeling renewable energy technologies in IAMs for mitigating future climate Change, Snowmass, USA, 5-6 August 2009
- 24 Apr 2009 *Die integrierte naturräumlich-ökonomische Analyse des Klimawandels*
ECONect seminar, Bernried, Germany, 23-24 April 2004