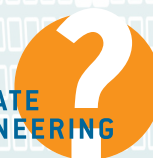


CLIMATE  
ENGINEERING



Risks, Challenges,  
Opportunities?

# CLIMATE ENGINEERING RESEARCH SYMPOSIUM 2015

## Current State and Future Perspectives

// Schedule

July 7–10 // 2015 // Berlin

BERLIN-BRANDENBURG ACADEMY OF SCIENCES AND HUMANITIES  
BERLIN-BRANDENBURGISCHE AKADEMIE DER WISSENSCHAFTEN

JULY 9 | 19:00  
PUBLIC EVENT

POINTING  
SCIENCE

Priority Programme 1689 of the  
German Research Foundation DFG

DFG

# CLIMATE ENGINEERING RESEARCH SYMPOSIUM 2015

## TUESDAY // JULY 7

**09:00 - 12:30** Engaging Pupils in the CE-debate – A Role Play (German only)

12:00 - 13:00 Snack

13:00 - 13:30 Welcome remarks  
by Andreas Oschlies (GEOMAR Helmholtz-Zentrum für Ozeanforschung Kiel)

**13:30 - 17:00** Session 1 'Scientific Feasibility of Climate Engineering Ideas'

// Chairs: Thomas Leisner (Karlsruhe Institute of Technology), Klaus Lackner (The Earth Institute Columbia University)

13:30 Introduction  
// Klaus Lackner

13:55 Cirrus Cloud Thinning  
// Jon Egill Kristjansson

14:20 Model Simulations of the Potential for Stratospheric Ozone Loss under Conditions of Enhanced Water Vapour and Sulphate Aerosol  
// Rolf Müller, Bärbel Vogel, Simone Tilmes

14:45 - 15:15 Coffee Break

15:40 Delivery Systems for SRM  
// Hugh Hunt

16:05 Low Climate Potentials but large Side-Effects of Terrestrial CO<sub>2</sub> Removal – Insights from Quantitative Model Assessments  
// Lena Boysen, Vera Heck, Wolfgang Lucht

16:30 The Role of Iron during the Open Ocean Dissolution of Olivine in a Simulated CO<sub>2</sub> Removal Experiment  
// Peter Köhler, Judith Hauck, Christoph Völker, Dieter Wolf-Gladrow

16:55 Potential Consequences of Element Release from Enhanced Weathering  
// Thorben Amann, Jens Hartmann

**17:20 - 18:05** Poster Pitch 1 + 4

**18:05 - 19:30** Posters from Session 1 + 4\*

\* small snack and beverages will be provided

# CLIMATE ENGINEERING RESEARCH SYMPOSIUM 2015

## WEDNESDAY // JULY 8

### 09:00-12:30 **Session 2 'Exploring Climate Engineering Uncertainties'**

// Chairs: Gregor Betz (Karlsruhe Institute of Technology), Ulrike Lohmann (ETH Zürich)

09:00 Keynote by Ulrike Lohmann commented by Gregor Betz

09:40 Investigating the Uncertainty of Simulated Climate Engineering

// David Keller, Andreas Oschlies

10:00 Is there a Limit of Sulfate Injections for Climate Engineering?

// Ulrike Niemeier

10:20-10:50 **Coffee Break**

10:50 Exploring the 'Termination Shock'

// Andy Parker, Peter Irvine

11:10 Atmospheric CO<sub>2</sub> Stabilization by Means of Ocean Alkalinization within the 21st Century

// Miriam Ferrer-Gonzales, Tatiana Ilyina

11:30 Synthesizing Uncertainties

// Johannes Lenhard, Martin Carrier

11:50 Impact of SRM on Preferences for Mitigation by Application of Cultural Cognition

// Matthias Honegger

### 12:10-12:30 **Poster Pitch 2+5**

12:30-13:30 **Lunch Break**

### 13:30-18:00 **Session 3 'Governing Climate Engineering Research, Potential Development and Deployment'**

// Chairs: Alexander Proelß (Trier University), Edward A. Parson (Emmett Institute on Climate Change and the Environment)

13:30 Minilateral Governance of Solar Geoengineering

// Joshua Horton

14:00 Strategic Conflicts on the Horizon: R&D Incentives for Environmental Technologies

// Daniel Heyen

14:30 Leveraging a Solar Climate Engineering Patent Pool for International Regulation of Field Experiments

// Jesse Reynolds

15:00 A Survey of Dynamic Games in the Exploration of Global Geoengineering Governance

// Weili Weng, Ying Cheng

15:30-16:00 **Coffee Break**

16:00 The Role of Human Rights in Considering Climate Engineering Research

// Michael Thompson, Will Burns, Brian Citro, Patrick Smith

16:30 Regulation of Radiation Management: Uncertainty and Incentives

// Wilfried Rickels, Martin Quaas

17:00 Understanding the Slippery Slope Argument against further Climate Engineering Research

// David Morrow

### 17:30-18:00 **Poster Pitch 3**

### 18:00-19:30 **Posters from Session 2, 3 + 5\***

19:30-20:00 Understanding the Intangible: Perceiving Climate Engineering through Art and Design

// Josh Wodak

# CLIMATE ENGINEERING RESEARCH SYMPOSIUM 2015

## THURSDAY // JULY 9

- 09:00-12:30 Session 4 'A Comparative View on Climate Engineering Options and Assessment Metrics'**  
// Chairs: Hermann Held (University of Hamburg), Jon Egill Kristjansson (University of Oslo)
- 09:00 Review of the Climate Impacts of Sulphate Aerosol Injection  
// *Peter Irvine*
- 09:20 What is the Best Measure of Justice in Climate Engineering Assessment?  
// *Duncan McLaren*
- 09:40 The Normative Evaluation of CE Techniques  
// *Harald Stelzer*
- 10:00 Cost-Effective Integrated Mitigation and Solar Radiation Management Scenarios under Uncertainty  
// *Hermann Held, Marius Stankoweit, Hauke Schmidt, Elnaz Roshan*
- 10:20-10:50 **Coffee Break**
- 10:50 Simulated Impacts and Side Effects of Multi-Centennial Climate Engineering  
// *Andreas Oschlies, David Keller*
- 11:10 Comparative Assessment of Land-, Ocean-, and Atmosphere-Based Climate Engineering using the Max Planck Institute Earth System Model  
// *Sebastian Sonntag, Miriam Ferrer González, Tatiana Ilyina, Julia Pongratz, Christian Reick, Hauke Schmidt*
- 11:30 Climate-Effective Terrestrial Carbon Dioxide Removal could Induce Biogeochemical State Shifts  
// *Vera Heck, Lena Boysen, Dieter Gerten, Wolfgang Lucht*
- 11:50 Integrated assessment of mitigation and carbon dioxide removal technologies  
// *Jessica Strefler, Elmar Kriegler, Florian Humpenöder, Nico Bauer, Ulrich Kreidenweis, Alexander Popp*
- 12:10 Panel Discussion
- 12:30-13:30 **Lunch Break**
- 13:30-17:30 Session 5 'Perceptions of and Perspectives on Climate Engineering Research and Deployment'**  
// Chairs: Katrin Rehdanz (Kiel Institute for the World Economy), Jack Stilgoe (University College London)
- 13:30 Geoengineering as Collective Experimentation  
// *Jack Stilgoe*
- 14:00 Solar Radiation Management and Intergenerational Equity  
// *William Burns*
- 14:30 Climate Intervention in Africa: Perspectives based on Analogies from International Conventions on Response to Climate Change  
// *Mary Mutiso, Rose Akombo*
- 15:00 General Discussion
- 15:15-15:45 **Coffee Break**

# CLIMATE ENGINEERING RESEARCH SYMPOSIUM 2015

## THURSDAY // JULY 9

- 15:45 Does Knowledge of Stratospheric Sulphate Injection Change Individual Efforts to Mitigate Climate Change?  
*// Christine Merk, Gert Pönitzsch, Katrin Rehdanz*
- 16:15 Responsibility and Governance in the Climate Engineering Discourse of Science and Policy  
*// Nils Matzner, Daniel Barben*
- 16:45 What if we could Cure Climate Change?  
*// Tim Kruger*
- 17:15 General Discussion

**17:30-17:45** Closing Remarks by Andreas Oeschles

**17:45-19:00** Light Dinner Snacks

**19:00** Public Event "Pointing Science"

JULY 9 | 19:00  
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## FRIDAY // JULY 10

**9:00-17:00** Preparation 2nd SPP-Phase, Breakout Sessions

Please contact the conference office  
for available rooms for ad-hoc meetings.

**9:00-15:00** Perspective Matters-Young Scientist Workshop

The Young Scientist Workshop will take place  
next to the Berlin-Brandenburg Academy in the premises of the  
'Deutsches Klimakonsortium' (Markgrafstraße 37, Room 102)



## VENUE

BERLIN-BRANDENBURG ACADEMY OF SCIENCES AND HUMANITIES  
BERLIN-BRANDENBURGISCHE AKADEMIE DER WISSENSCHAFTEN  
// Leibniz Hall

Markgrafenstraße 38 (Entrance: Gendarmenmarkt)  
// 10117 Berlin

 Hausvogteiplatz (U2)

 Französische Straße (U6)

[www.spp-climate-engineering.de](http://www.spp-climate-engineering.de)