Fighting Fire with Fire
Climate Modification and ethics in the Anthropocene

Tuesday 29th July - Thursday 31st July
University of Sydney & University of New South Wales

This event is co-sponsored by Environmental Humanities, UNSW and Sydney Environment Institute University of Sydney

UNSW Australia
Arts & Social Sciences
First proposed in the mid-1960s, climate modification and direct weather manipulation have a long history and debates about deploying these technologies to mitigate human-induced global warming have been in the background of international climate change policy for some time. In the context of the collective exasperation with the slow progress of international climate change policies there is renewed interest in scientific and policy circles in a suite of technologies through which to engineer the world’s climate. Techniques as diverse as the injection of sulphate particles into the upper atmosphere to deflect radiant energy away from the earth, the use of ocean fertilisation to promote algae growth, and the burial of charred biomass to promote carbon sequestration, are now being openly discussed as constituting a possible “Plan B” response to human-induced global warming.

“It seems,” Nigel Clark argues that we are “gearing up to fight fire with fire.” These proposals raise a host of profound social, ethical and normative questions. By bringing together an interdisciplinary group of contemporary scholars, this symposium aims to develop modes of socio-theoretical intervention that articulate the challenges posed by geoengineering and climate modification. The event will situate the geopolitical and economic milieus in which geoengineering research is being undertaken, in consideration with notions of ethics, responsibility and governance in the face of catastrophe.
Fighting Fire With Fire:
Climate Modification and Ethics in the Anthropocene

Workshop Programme

Tuesday 29th July

6.00pm Sydney Ideas Lecture

“If a Climate Emergency is Possible, is Everything Permitted?”

Stephen Gardiner
Professor of Philosophy and Ben Rabinowitz Endowed
Professor of Human Dimensions of the Environment
University of Washington

Panellists

Jim Falk
Professorial Fellow,
Melbourne School of Land and Environment
University of Melbourne

Lauren Rickards
Research Fellow
Melbourne Sustainable Society Institute
Melbourne University

Venue: Law School Foyer, Level 2, Sydney Law School, Eastern Avenue, The University of Sydney.
Wednesday 30th July

9:30-9.45 Welcome

9:45-11.00 Session 1: Grounding Geoengineering

Prof Nigel Clark
Keynote: ‘Negotiating Strata: Geoengineering and the Politics of Geology’

11:00-11:30 Morning tea

11:30-12.45

• Lauren Rickards – ‘Gilded and gliding: geoengineering as a window onto the slippery ontologies of the Anthropocene’
• Matthew Kearnes – ‘Miraculous engineering and the climate emergency: the biopolitics of planetary management’
• Josh Wodak – ‘Climate by Design: Art and Geoengineering’

12:45-1:45 Lunch

2:00-3:15 Session 2: Governing the Air

Prof. Jim Falk
Keynote: ‘Out of control? Geoengineering Proposals and the Challenge of Governance’

3:15-3.30 Afternoon Tea

3:30-4.45

• Jeremy Walker – ‘Worlds on Fire: Aboriginal versus neoliberal technologies of the Earth’
• Rebecca Pearse – ‘The political economy of failed climate policy and prospects for Plan G’
• Sam Doust – ‘Bluebird AR’
4.45-5.30  **Roundtable and Discussion**

- Ros Diprose - USNW
- Noel Castree – UoW
- Andy Pitmann – UNSW
- Stephen Gardiner – University of Washington

**Venue:**
Room 119
John Goodsell Building
University of New South Wales
Thursday 31st July

Master Class with Nigel Clark

12.30 – 1.30pm Lunch
1.30 – 4.00pm Masterclass

The masterclass will be an interactive discussion based around a set of Nigel’s’ recent writings.

The readings will include:


Chapter 1: The Earth in Physical and Social Thought

Chapter 5: Justice and Abrupt Climate Change

Chapter 8: Extending Hospitality: Global Mobility and Journeys in Deep Time.


Please contact Matthew Kearnes (m.kearnes@unsw.edu.au) for copies of the readings or see: http://goo.gl/Wt34NC

Venue: Room 309, Morven Brown Building, UNSW
Practical Information

Venues: The first evening lecture by Prof. Stephen Gardiner (Tuesday 29th July), will be held in the Law School Foyer, Level 2, Sydney Law School, Eastern Avenue, The University of Sydney.

Please see the campus map here: [http://sydney.edu.au/law/about/campus.shtml](http://sydney.edu.au/law/about/campus.shtml)

The “Fighting Fire: Climate Modification and Ethics in the Anthropocene” workshop (Wednesday 30th July) will be held in room 119 of the John Goodsell Building, UNSW.

The John Goodsell Building is at F20 on the UNSW Campus Map available at: [http://tinyurl.com/ovth6rz](http://tinyurl.com/ovth6rz)

The Masterclass With Nigel Clark (Thursday 31st July) will be held in room 309 of the Morven Brown Building, UNSW. The Morven Brown Building is at C20 on the UNSW Campus Map.

Travel: UNSW is well served by public transport. Buses to UNSW from Central Station include the UNSW Express Bus routes (890, 891, 892 and 895) which run to and from Eddy Avenue, Central Station.

For more information on getting to and from UNSW see: [http://tinyurl.com/pnzobey](http://tinyurl.com/pnzobey)

Catering: The Fighting Fire with Fire Workshop and the Masterclass with Nigel Clark will be fully catered.

More information: For more information please contact Matthew Kearnes on:

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Abstracts
Negotiating Strata: Geoengineering and the Politics of Geology

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It has often been claimed that geoengineering proposals signal a retreat from a `genuine’ politics of climate change towards the consolation of technical fixes. But it could also be argued that geoengineering debates are helping open up new political terrain by compelling us to consider how we are to negotiate the passage across thresholds in Earth systems. I want to suggest that questions about geoengineering – and the challenge of traversing `boundaries’ in Earth systems more generally – might best be seen as drawing the political into a novel engagement with the deep temporal dynamics of the Earth. To put it another way, we are beginning to see the politics of territory supplemented by a new politics of strata. But perhaps the question of how to traverse and negotiate the geological strata of our planet is not as new as it first appears. In this talk, I will explore some of the ways that different human populations have grappled with thresholds, junctures and rifts in the geological composition of the Earth, and we will begin to ask what might be learnt from this long history of `negotiating strata’ for the political issues associated with geoengineering.
Bluebird AR

Sam Doust
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Bluebird AR was a seven-week alternate reality drama that played out online across the world in 2010. The course of events was directly tied to player input and interaction with a narrative that mapped out an as-real clandestine geoengineering scenario with potentially devastating consequences. Through the lens of this unfolding drama, audience members were drawn into the real-life complexities of geoengineering science and the implications of its use on the future of our world. The project recorded a spectrum of audience engagement ranging from deep involvement to more passive engagement with the story, themes and content made available as the project unfolded. With a narrative dispersed across websites, social media and hackable content, a rich media community hub for centralising the effort of unravelling the story, and a veracious approach to climate science and geoengineering, the project was a fascinating experiment in the blending of reality and fiction, interactive storytelling and real life science. Bluebird AR’s production has subsequently been studied by both tertiary institutions and media organisations as a model for deep engagement in subject matter. External contributors to the development of the project’s world included Ken Caldeira, James Cascio, David Keith, Bjorn Lomborg and Peter Cox. Visit the comprehensive web archive: http://ab.co/Q8KCAS

Bio:
Sam Doust has worked at the ABC for over twelve years, responsible for developing a range of multi-award winning digital projects and services, including iView, Gallipoli: the First Day, Bluebird AR, The Opera House Project, and most recently The Brief. He’s presently engaged in a multitouch and VR project exploring pivotal moments from Australia’s engagement in WW1. http://samdoust.com/about/
Interest in geoengineering (or “climate engineering”) has risen in synchrony with understanding that there is a rapidly growing gap between what needs to be done to mitigate greenhouse gas emissions, and what is being done. Geoengineering has the allure of technologies not yet tested in practice. But the possibility that there might be a technical solution to a seemingly intractable and critically important political impasse has a natural attraction.

There is already a rapidly growing critical literature including both major government reports and an imposing output of journal articles from across the physical and social science disciplines which deal with the hazards associated with known, potential, or even unknown implications of the wide range of techniques that fall under the banner of geoengineering.

This presentation will focus primarily on the less well explored challenges to governance that are posed by the emerging contestation over geoengineering. Those challenges will be situated within the context of the longer history and dynamics of the evolution of atmospheric governance, themselves arising during a period of confronting global transition.
If a Climate Emergency is Possible, is Everything Permitted?

Stephen Gardiner
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In the face of escalating climate change, some scientists are pushing for a serious research program on a dramatic global “techno-fix”: the injection of sulphate particles into the stratosphere to block incoming sunlight. This approach to geoengineering - roughly, the "intentional manipulation of the planetary environment" - is often justified by appeal to the threat of a climate emergency. I argue that this argument threatens to be ethically short-sighted and to encourage creative myopia. It also underestimates what some opponents mean when they refer to sulfate injection as "a necessary evil". As a result, even if the emergency argument is in some sense valid, it misses much of what is at stake in thinking about geoengineering, especially from an ethical point of view.
Miraculous engineering and the climate emergency: the biopolitics of planetary management

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While the proposed deployment of geoengineering technologies raise a host of profound social, ethical and normative questions, to-date social scientific and ethical analyses have focused primarily on the geopolitical implications of climatic control and the possible distributional effects of deliberate climate modification. In this paper I seek to extend these interventions by developing a biopolitical reading of geoengineering. Working with Schmitt’s analysis of the relationship between the ‘state of exception’ and Catholic doctrines of the miraculous I explore the ways in which debates over the feasibility of direct climate modification are situated in broader notions of an impending ‘climate emergency’. In this context I argue that geoengineering functions by rendering the possibilities for planetary management as simultaneously a speculative technological project and a matter of calculative administrative rationality.
The political economy of failed climate policy and prospects for Plan G

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This paper explores the thesis that geoengineering is an elite strategy for crisis management that grows in legitimacy as climate policy fails. What modes of political action have failed in the history of climate action so far? What does the present political configuration tell us about the prospects for geoengineering in Australia? I argue the history of contention over climate change is a struggle over several competing political projects. These projects sometimes present as ‘Plans’ with distinct ethical content and distinct resistances. While some find common cause on occasion, there is no hegemonic unity within or across these projects. Plan A, ‘command and control’ emissions management, has rhetorically figured as a policy failure since the 1980s as experts have cultivated the consensus for Plan B, ‘market mechanisms’.

Climate policy is itself a form of contested commodification. Plan C, liberal internationalism, with its hope for ‘climate justice from above’ is a fragmenting arena, and driver of marketised climate policy. ‘Technological fixes’ are less formalised institutional and entrepreneurial projects. For Rudd in particular, global cooperation on ‘clean coal’ was an optimistic Plan D that at times undermined the move toward carbon pricing. Meanwhile, neoconservative figures have leveraged public scepticism of expert authority, liberal internationalism, marketised policy and technological fixes. Their oppositional character in Australia has strangely given rise to the now unpopular trope of ‘Direct Action’ as a Plan E in the unruly mix. Finally, political movements seeking ‘climate justice from below’ are now engaged in a kind of fire-fighting. Their Plan F involves a strategic focus on decommodifying fossil fuels, and abstention from policy debate. Certainly, Plan G for geoengineering seems likely to benefit from the disorder. However, diverse resistances to state intervention, technocratic managerialism and fossil fuel dependence will be political liabilities.
Geoengineering feels strikingly retro. Part of this stems from its origins in 1960s computing and cybernetics as well as earlier science fiction narratives about cyborg-like earths, shiny space technologies and long-standing myths about human hubris. It also stems from modern disinterest in the “geo” side of life, which, as Nigel Clark has noted, long ago passed from being a topic of daily concern or intellectual excitement to an interest of a relatively small group of scientists and enthusiasts. The coming together of these currents in our new Anthropocene age now means that the earth is under intense observation from both outer and cyber space. The perceived legitimacy of this expensive new earth systems science field is bolstered by its future-orientation and the assumed policy relevance of the many geoengineering applications it is helping to generate.

This paper uses the scientific basis of geoengineering as a starting point for identifying the multiple dialectics reverberating through geoengineering debates. It engages with the disjunctive temporalities, worldviews and ontologies at work in contrasting perspectives on geoengineering, not only to clarify the terms of debate and the political efforts at re-worlding that are occurring, but to also begin sketching out a broader framework for understanding the axes of thought along which imaginaries glide and different earth futures come into and out of view. Drawing on anthropology and literary theory as well as STS and critical theory, the paper highlights the way geoengineering slips between different modes of materiality and immateriality in a way that has eluded critical responses to date.
Worlds on Fire: Aboriginal versus neoliberal technologies of the Earth

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In this paper I consider the cosmopolitical enfolding of Western and indigenous ontologies of order and disorder implicit in the production of a 'carbon offset' by the West Arnhem Land Fire Abatement (WALFA) project. Examining the entangling of Aboriginal and late-modern geotechnical orders, I contrast ubiquitous (place-oriented) ontologies of land, law and responsibility with their Western counterparts in sovereignty, land law and economic theory. The resumption of broad-scale land management by the indigenous fire ecologists of the 'working on country' movement, is contextualized within the history of distinctions made between 'magical thinking' and 'rational' notions of agency, causality and cosmic order.

Arguing for the essential place of pyrotechnics (fire-use) in distinguishing Anthropos from the extra-human, and as the vital material process of 'the economy', I suggest that the elder Australians possess a philosophically coherent political economy grounded in detailed earth sciences and topological networks of economic practices. This reverses the anthropological mirror back upon the doctrines of the neoliberal thought collective, which when not engaging in the magical thinking of science denial or speculative geoengineering, advocates the reimposition of order on the wild climate by means of a comprehensive financialisation. I conclude by calling for a general bioeconomics of the Anthropocene as a counter to the tendency of neoliberal economics and post-foundational social inquiry to 'refuse the earth'.
Climate by Design: Art and Geoengineering

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This paper explores how art and design may articulate the challenges posed by geoengineering and climate modification. If we are inadvertently engineering the entirety of the Earth, and geoengineering is the manifest of that acknowledgement, are we now looking at a proposed climate by design, in contrast to the Holocene’s climate-as-given and the Anthropocene’s climate-by-accident?

Art offers a discrete lens through which to probe the reversal of agency implicit in geoengineering: from being shaped by things to come, to how humans may shape things to come through climate engineering interventions designed to separate existing lifeforms from six degrees of catastrophe. The notion of climate by design is garnering increased international interest, with the 2014 exhibition Strange Weather at the Science Gallery, Trinity College Dublin, being the world’s first large scale exhibition on geoengineering.

The presentation discusses how such art practice opens up new realms of understanding the issues at stake in geoengineering, including an overview of the author’s art on geoengineering in the context of the manifesto of CoClimate, the curators of Strange Weather, that “we have always been geoengineers, but we have not been very good at it” and their response to this contention in forming their think tank to “study the technologies and tactics used for sculpting the biosphere of planet Earth.”