



BPRO 25800, ASTR 2(3)1700, SOCI 2(3)0531, KNOW 2(3)1700

Are We Doomed? Confronting the End of the World

Thursdays 2-4:50pm
Winter 2024
Classroom: Rosenwald 011

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TAs: Isabella Duan, Oksana Vickers, Zack Rudolph

Class Syllabus

January 4 - Introduction, Doomsday clock, Nuclear Annihilation

Topics: Nuclear dangers, close calls, treaties, destabilization and new arms race

Guest: [Rachel Bronson](#)

Readings:

1. [2023 Doomsday Clock statement](#) (including the 4 sidebars on Nuclear Risk, Climate Change, Biological Threats, and Disruptive Technologies)
2. Council on Foreign Relations video primer: [What Is Nuclear Proliferation?](#)
3. [Nowhere To Hide: How a nuclear war would kill you—and almost everyone else](#), by François Diaz-Maurin
4. [Strategic Posture Commission Report Calls For Broad Nuclear Buildup](#), FAS article by Hans Kristensen, Matt Korda, Eliana Johns, and Mackenzie Knight

Optional readings:

5. Elisabeth Eaves, [“Why is America getting a new \\$100 billion nuclear weapon?”](#)
6. Martin Hellman & Vinton Cerf, [“An existential discussion: What is the probability of nuclear war?”](#)

Movies: *Fail Safe*, *Dr. Strangelove*, *The Day After*, *On the Beach*, *War Games* (follow Box link [here](#))

Novels: Selection from [here](#)

January 11 - Revolt of the Machines

Topics: Superintelligence, the alignment problem

Guest: [Geoffrey Hinton](#)

Readings: (all unlinked readings are on the [relevant weekly page](#)).

1. Yoshua Bengio, Geoffrey Hinton, et al, "Managing AI Risks in an Era of Rapid Progress"; both the [paper](#) and [policy supplement](#).
2. Center for AI Safety, [“AI Risks that Could Lead to Catastrophe”](#)

3. Stuart Russell, [Many Experts Say We Shouldn't Worry About Superintelligent AI. They're Wrong](#), *IEEE Spectrum*, October, 2019. (Summary of HC Chapter 6)

Optional:

1. Toby Ord, "[Future Risks: Unaligned Artificial Intelligence](#)." *The Precipice*.
2. Max Tegmark, "[Prelude](#)." *Life 3.0*.
3. Stuart Russell, "[Human-Compatible Artificial](#)." In Stephen Muggleton and Nick Chater (eds.), *Human-Like Machine Intelligence*, Oxford University Press, 2021. (Summary of HC main argument)
4. [Intro to LLMs](#), Andrej Karpathy. (YouTube video, ~1 hour)
5. Hendrycks, D., Mazeika, M., & Woodside, T. (2023). [An Overview of Catastrophic AI Risks](#)

Films: *Her*, *World on a Wire*, *The Matrix*, *The Terminator*, *iRobot*, *2001*, *Blade Runner* (follow Box link [here](#))

Novels: *I Robot*, *R.U.R. (Rossum's Universal Robots)*, *2001 A Space Odyssey*, *We are Legion (We are Bob)*, *the Golden Age*, *Robopocalypse*, *Daemon*, *Ancillary Justice*, *House of Suns*, *The Lifecycle of Software Objects*, *All Systems Red*, *The Diamond Age*, *Neuromancer*, *the Moon is a Harsh Mistress*, *I Have No Mouth and I Must Scream*, *Excession*, *Ware Tetralogy*, *Hyperion*, *Accelerando*

January 18 - Uncertainty & Apocalypse

Topics: *Social media, attack on the capitol, stolen election, fake news, post-truth society*

Guest: [David Wallace-Wells](#)

Readings: (all available in the [relevant weekly page](#))

1. "Cascades" (introduction) and "Ethics at the End of the World" chapters from [The Uninhabitable Earth](#) by [David Wallace-Wells](#)
2. "Beyond Catastrophe: A New Climate Reality is Coming Into View" by [David Wallace-Wells in the New York Times](#)
3. Introduction to [Not the End of the World](#) by [Hannah Ritchie](#)
4. Three short pieces by Julian Brave Noisecat: [CJR](#), [Emergence Magazine](#), and [The Nation](#)

Optional:

5. Introduction to [Doom: The Politics of Catastrophe](#) by [Niall Ferguson](#)
6. "The Incredible Disappearing Apocalypse" by [Kyle Paoletta in Harper's Magazine](#)

Films: *Rashomon*, *Metropolis*, *Battle Royale*, *Planet of the Apes*, *Elysium*, *Snowpiercer*, *The Platform*, *The Hunger Games* (follow Box link [here](#))

Novels: *Parable of the Sower*, *The Only Harmless Great Thing*, *The Dispossessed*, *The Necessary Beggar*, *Iron Council*, *Midnight Robber*, *The Unkindness of Ghosts*, *The Binti Trilogy*

January 25 - Environmental Devastation

Topics: *Climate change, human/social consequences*

Guest: [David Archer](#)

Readings:

1. [Climate Change 2023: Synthesis report](#) from the IPCC Sixth Assessment Report (especially the "[Summary for Policymakers](#)")
2. Xu, Kohler, Lenton, & Scheffer, "[Future of the human climate niche](#)" *PNAS* 2020
3. Michael Mann, *Our Fragile Moment*, [Introduction](#)

Optional:

4. Michael Mann, *Our Fragile Moment*, [Chapter 1](#)

Movies: *An Inconvenient Sequel: Truth to Power*, *The Day After Tomorrow*, *Soylent Green*, *Nausicaä of the Valley of the Wind*, *Wall-E*, *Akira* (follow Box link [here](#))

Novels: Selection from [here](#)

February 1 - Misinformation & Conflict

Topics: Information and society, social media, hacking the human

NOTE: Class will START in Rosenwald 011; then we will MIGRATE to KPTC 106 by 3:30 for the Panel and Screening of Nuclear Now.

Guest: [Carl Bergstrom](#)

Readings: (all unlinked readings are on the relevant [weekly page](#)):

Bak-Coleman, Joseph B., Alfano, Mark, and Barfuss, Wolfram. 2021. [“Stewardship of global collective behavior.”](#) *PNAS* 118 (27) e2025764118.

Joseph Bak-Coleman, Carl T. Bergstrom, Jennifer Jacquet, James Mickens, Zeynep Tufekci & Timmons Roberts. 2023. [“Create an IPCC-like body to harness benefits and combat harms of digital tech: Emerging information technologies, including ChatGPT, require proper stewardship. An intergovernmental panel to synthesize the evidence offers the best path forward.”](#) *Nature*, 17 May 2023.

Bergstrom, Carl T., & West, Jevin D. 2021. *Calling bullshit: The art of skepticism in a data-driven world*. [Chapter 2, “Medium, Message, and Misinformation.”](#) Random House Trade Paperbacks.

Films: *The Island President*, *Zero Days*, *The Circle*, *Brazil*, *The Matrix*, *War Games* (follow Box link [here](#))

Novels: *1984*, *Parable of the Talents*, *It Can't Happen Here*, *The Handmaid's Tale*, *Fahrenheit 451*

Nuclear Now screening 3:30pm (Oliver Stone film)

February 8 - Utopia & Dystopia

Topics: Philosophy, Art, Literature, Imaginings of future possibilities

Guest: [Jacqueline Feke](#)

Readings:

1. E.M Forster, [The Machine Stops](#)
2. Selections from [Plato's Republic](#)

Movies/Novels: Any from prior weeks (follow Box link [here](#))

February 15 - Policy Responses & Government Action

Topics: Government, policy, elections, nuclear threat, sole authority

Guest: [Jerry Brown](#)

Readings: (readings available at [this Canvas page](#))

1. Jerry Brown, "[Washington's Crackpot Realism](#)," *NY Review of Books*, March 2022
2. Jerry Brown, "[Nuclear Addiction](#)," *Thought Magazine*, March 1984
3. Jerry Brown, "[A Stark Nuclear Warning](#)," *NY Review of Books*, July 2016
4. William Perry & Tom Collina, "[The Atomic Titanic](#)," in *The Button: The New Nuclear Arms Race and Presidential Power from Truman to Trump*, June 2020
5. Corinne Purtill, "[How Close Is Humanity to the Edge?](#)" *The New Yorker*, November 2020
6. Toby Ord, "[The Risk Landscape](#)" and "[Saving Humanity](#)", chapters 6 and 7 from *The Precipice: Existential Risk and the Future of Humanity*, (book available through [course library reserves](#)), March 2020

Films: Any from prior weeks involving government response. *Manchurian Candidate* (original & remake), *Wag the Dog*, *Vice*, *The unknown known* (follow Box link [here](#))

Novels: *1984*, *The Dispossessed*, *Fahrenheit 451*, *The Handmaid's Tale*

February 22 - Pandemics & Other Biological Threats

Topics: *Deadly pandemics; quarantine and distancing in complex, interdependent societies*

Guest: [Asha George](#)

Readings/Viewings:

1. Wired Magazine, *Wired Scenarios: The Future of the Future*, section "[Savior of the Plague Years](#)" ([original](#)), November 1995
2. Max Brooks, [Germ Warfare: A Very Graphic History](#), Bipartisan Commission on Biodefense, ([original](#), with video, etc.), January 2020
3. Watch the film "Contagion" (2011) ([available on Box](#)).
4. Nicholas LePan, [Visualizing the History of Pandemics](#), March 2020
5. CDC [Community Mitigation Guidance](#) ([original](#)), April 2017

Optional:

6. Nicholas Wade, "[The origin of COVID: Did people or nature open Pandora's box at Wuhan?](#)", *The Bulletin of the Atomic Scientists*, May 2021 ([original](#); easier to read)
7. Bipartisan Commission on Biodefense, "[Biodefense in Crisis](#)" ([original](#)), March 2021
8. [National Biodefense Strategy and Implementation Plan](#), whitehouse.gov ([original](#)), October 2022

Movies: *12 Monkeys*, *La Jetee*, *28 Days Later*, *Pandemic*, *I am Legend*, *World War Z* (follow Box link [here](#))

Novels: Selection from [here](#)

February 29 - The Future of Existential Threats

Topics: *Framing, Anticipating and Responding to Existential Threats*

NOTE: Class is followed by Oppenheimer Panel and Screening.

Guest: [Martin Rees](#)

Readings:

1. SJ Beard, Martin Rees, Catherine Richards, and Clarissa Rios Rojas, [The Era of Global Risk: An Introduction to Existential Risk Studies](#), "Preface" and "Introduction" ([original](#)), August 2023. You are encouraged to read the entire book, to supplement and deepen what you have learned in this class!

2. Martin Rees, "[Buckle up: We are in for a bumpy ride](#)", *Bulletin of the Atomic Scientists*, December 2020
3. Martin Rees, "[How easy would it be to snuff out humanity?](#)", *The Independent*, March 2021

Optional:

4. Martin Rees, *If Science is to Save Us* (book available through [course library reserves](#)), November 2022
5. Martin Rees, *On the Future* (book available through [course library reserves](#)), October 2018

Movies/Novels: Any from prior weeks (follow Box link [here](#))

Oppenheimer screening 3:30pm (Christopher Nolan film)
