

文明基盤としての共生システムに向けて
Symbiotic System as a Foundation of Civilization

Hiroaki Kitano

Sony Computer Science Laboratories, Inc.

COVID-19 ロックダウンでは不十分

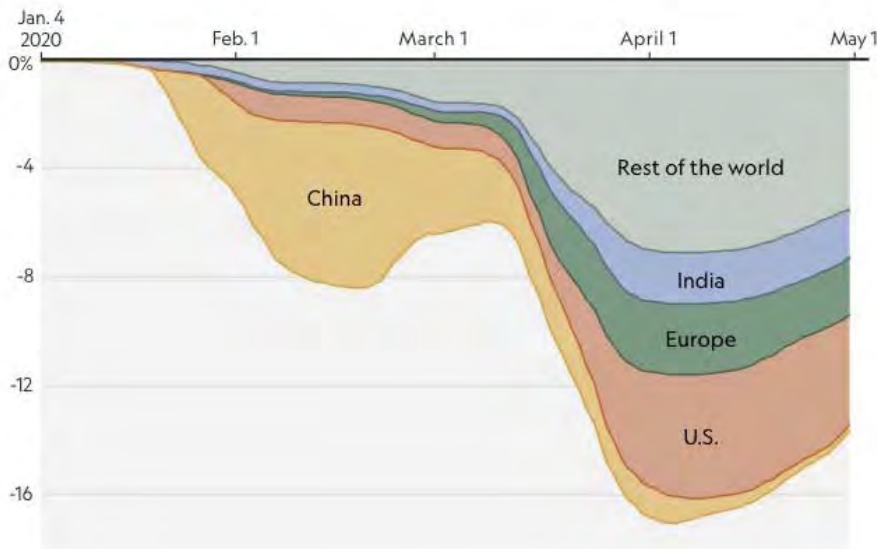


SCIENCE | CORONAVIRUS COVERAGE

Plunge in carbon emissions from lockdowns will not slow climate change

Emissions may be down, but carbon dioxide still piles up relentlessly in the atmosphere. It's more important than ever to find climate change solutions, experts say.

BY ALEJANDRA BORUHDA



NG STAFF
SOURCE: LE QUÉRÉ ET AL. NATURE CLIMATE CHANGE (2020). GLOBAL CARBON PROJECT

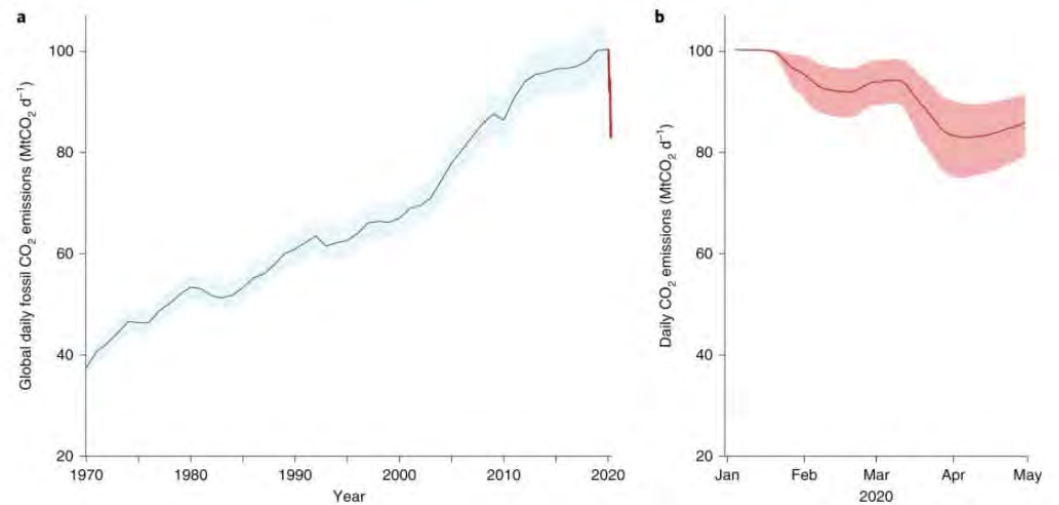


Temporary reduction in daily global CO₂ emissions during the COVID-19 forced confinement

Corinne Le Quéré^{1,2}, Robert B. Jackson^{3,4,5}, Matthew W. Jones^{6,12}, Adam J. P. Smith^{1,2}, Sam Abernethy^{3,6}, Robbie M. Andrew⁷, Anthony J. De-Gol^{1,2}, David R. Willis^{1,2}, Yuli Shan⁸, Josep G. Canadell⁹, Pierre Friedlingstein^{10,11}, Felix Creutzig^{12,13} and Glen P. Peters⁷

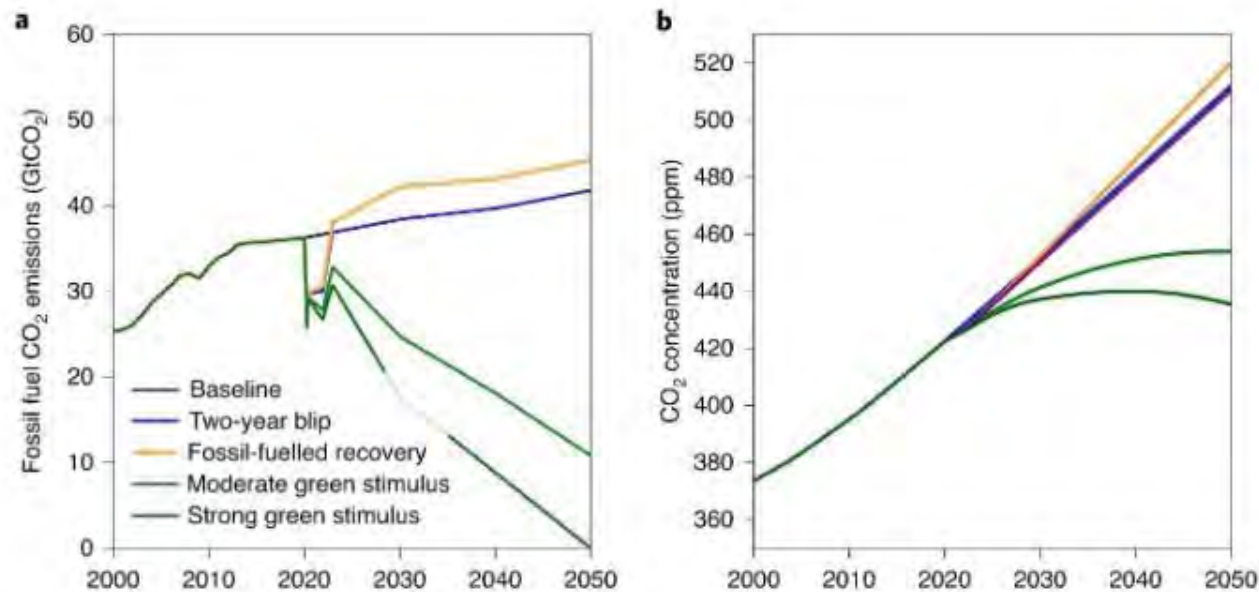
Fig. 3: Global daily fossil CO₂ emissions (MtCO₂ d⁻¹).

From: Temporary reduction in daily global CO₂ emissions during the COVID-19 forced confinement



産業・社会構造の質的な変革が必要

As a result, we estimate that **the direct effect of the pandemic-driven response will be negligible, with a cooling of around $0.01 \pm 0.005^\circ \text{C}$ by 2030** compared to a baseline scenario that follows current national policies. In contrast, with an economic recovery tilted towards green stimulus and reductions in fossil fuel investments, it is possible to avoid future warming of 0.3°C by 2050.



Current and future global climate impacts resulting from COVID-19

Piers M. Forster^{1,2,3}, Harriet I. Forster², Mat J. Evans^{3,4}, Matthew J. Gidden^{5,6}, Chris D. Jones⁷, Christoph A. Keller^{8,9}, Robin D. Lamboll¹⁰, Corinne Le Quéré^{11,12}, Joeri Rogelj^{4,10}, Deborah Rosen¹, Carl-Friedrich Schleussner^{5,13}, Thomas B. Richardson¹, Christopher J. Smith^{1,6} and Steven T. Turnock^{1,7}



Perspective

The Climate Crisis and Covid-19 — A Major Threat to the Pandemic Response

Renee N. Salas, M.D., M.P.H., James M. Shultz, Ph.D., and Caren G. Solomon, M.D., M.P.H.

Just as an active 2020 Atlantic hurricane season is getting under way, the entire U.S. hurricane coast, from Texas to the Carolinas, is witnessing explosive outbreaks of Covid-19 cases in communities

where physical distancing restrictions have been eased. As an early wake-up call, Tropical Storm Cristobal made landfall in Louisiana on June 7, triggering coastal evacuation orders and a federal emergency declaration. Concurrently, temperatures continue to set records throughout the southern United States, while Arizona has been battling multiple historic wildfires that are also requiring communities to evacuate their homes. All this as summer had just begun.

These events suggest that the United States will increasingly face complex, challenging scenarios, given the confluence of our two most pressing global health threats — the rapid emergence of the Covid-19 pandemic and the

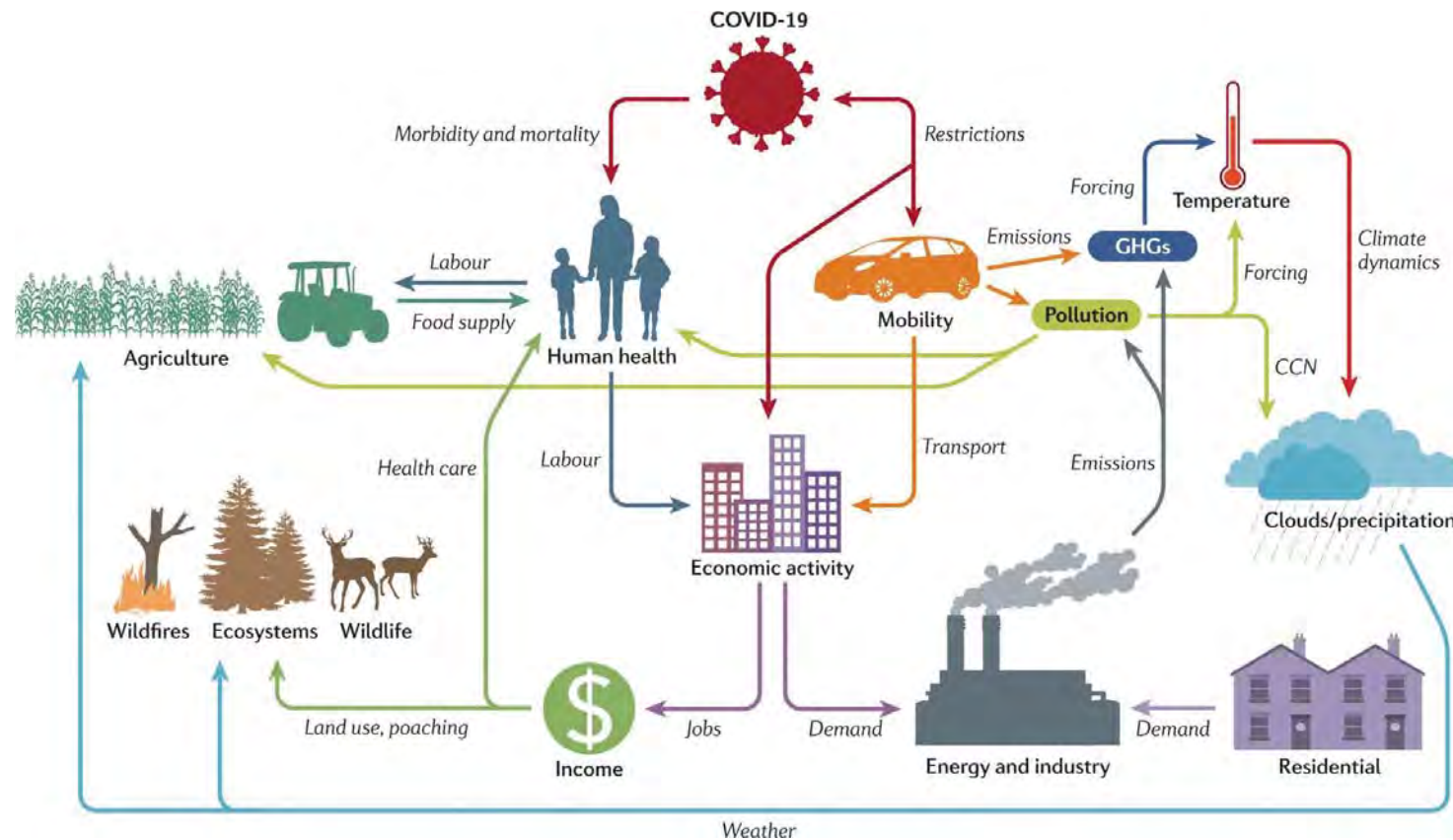
insidiously evolving climate crisis. Both these crises disproportionately harm the health of vulnerable and economically disadvantaged people, including those affected by structural racism. Understanding the challenges posed by this conjunction is essential if we are to devise effective and equitable strategies to protect and improve health. Attention must be directed toward key pathways through which the climate crisis threatens efforts to contain SARS-CoV-2 transmission and improve Covid-19 outcomes, which include difficulty maintaining physical distancing, exacerbation of coexisting conditions, and disruption of health care services.

The intensity, frequency, and duration of climate-related ex-

treme events — including hurricanes, wildfires, floods, heat waves, and droughts — are increasing, and these events often overlap temporally and geographically,¹ jeopardizing SARS-CoV-2 infection control. Both the Atlantic hurricane and western wildfire seasons are predicted to be worse than average in 2020. But proven standard disaster mitigation strategies — mass sheltering and population evacuation — increase the risk of viral transmission by moving large groups of people and gathering them close together. For example, evacuation orders were issued for more than 1 million people during Hurricane Florence in 2018. Covid-19 health risks are even greater when weather events are more intense, since widespread catastrophic damage results in mass displacement, which risks introducing the virus into new locales and clustering vulnerable survivors together in temporary accommodations.

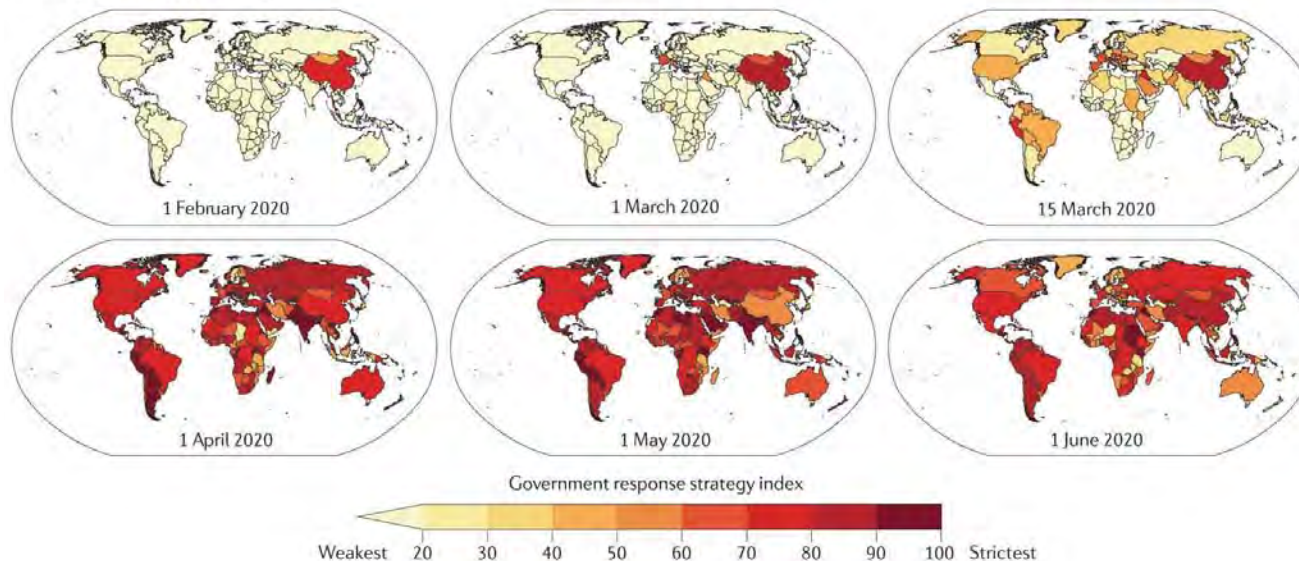
COVID-19のリスクファクターである慢性的な呼吸器系・循環器系疾患は、熱波、大気汚染、地表面でのオゾン濃度、山火事による大気汚染、花粉の増大などを通じて、気候変動と明確にリンクしている。

The COVID-19 lockdowns: a window into the Earth System

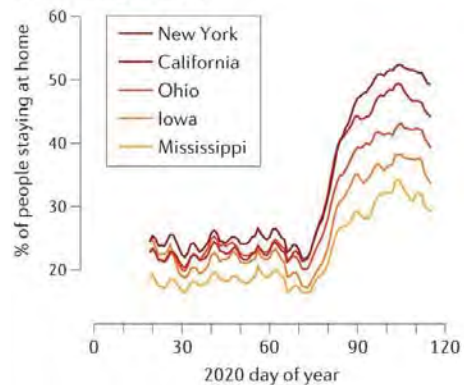


Diffenbaugh, N., et al., Nature Reviews Earth and Environment, 29 July, 2020

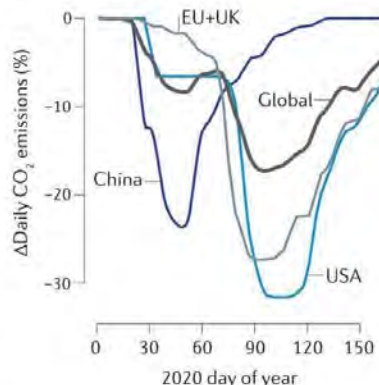
a Timing of sheltering intensity



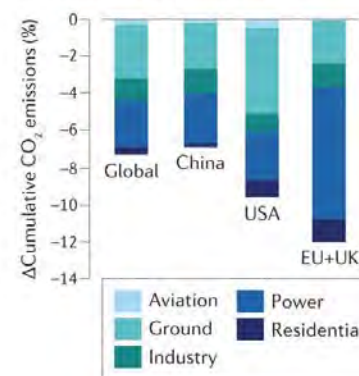
b Sheltering intensity

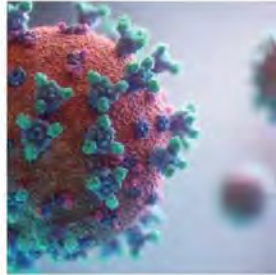


c Daily CO₂ emissions



d Cumulative CO₂ emissions





COVID-19 Initiative

The outbreak of the Coronavirus substantially affected the world. Here at Sony CSL, we decided to pool our efforts to study and better understand what is happening. Here we publish insights and outcomes of our analyses on COVID-19, based on data that we have collected from a variety of sources. As an interdisciplinary and international lab, we are interested in understanding how COVID-19 impacts on different fields, such as mobility and information, across regions and countries.

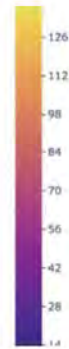


2020

COVID & mobility creativity



[read more](#)



2020

COVID & AGCOM Task Force

language creativity



[read more](#)

Italy is currently one of global epicentres of the COVID-19 pandemic, with the national Government declaring the state of emergency...

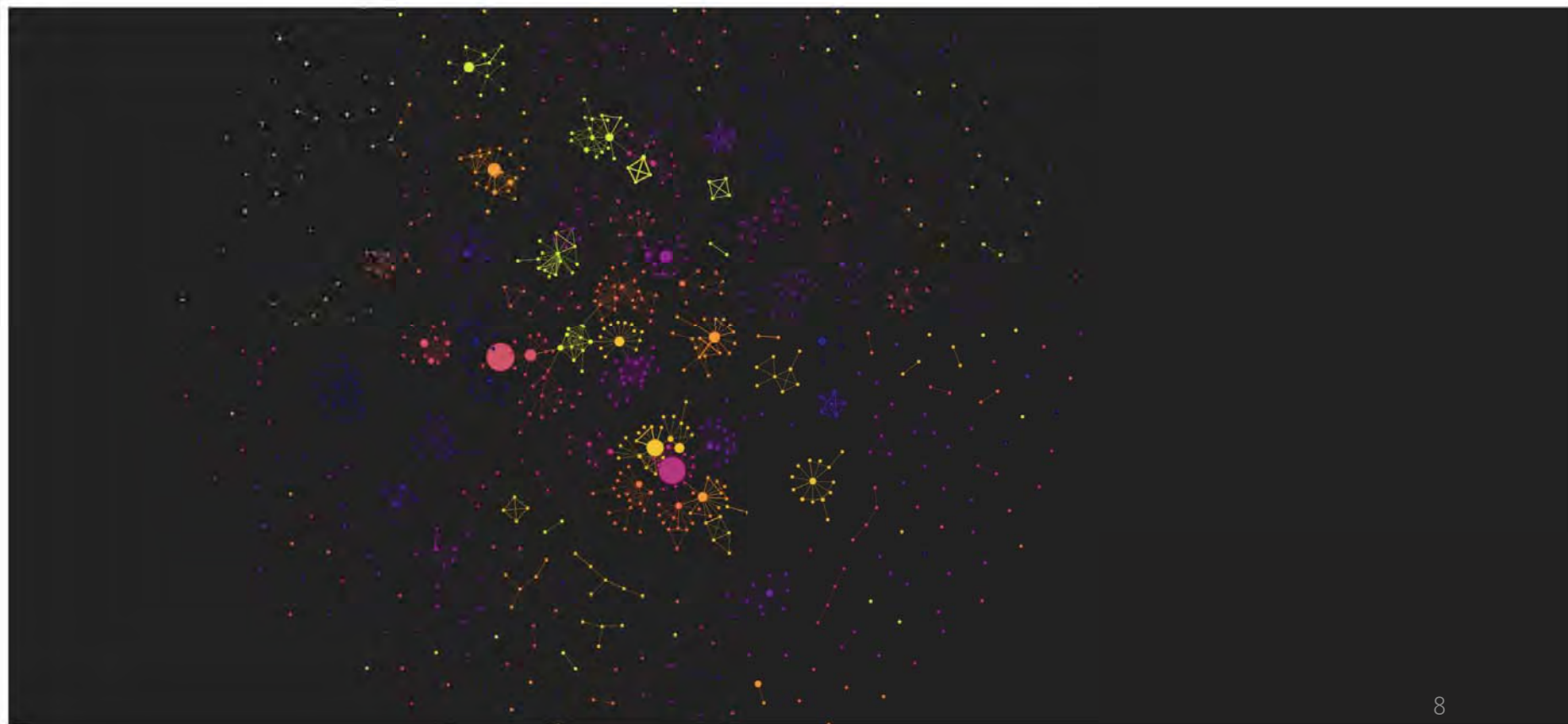


COVID-19 & Tweets

The whole world is trying to come to terms with what has happened during the COVID-19 outbreak and what the repercussions might be into the distant future. To this end, the [Language Team](#) at Sony CSL Paris has joined the efforts of the scientific community to better understand the global reaction to COVID-19 using our varied and extensive skills in computational linguistics and natural language processing.

The Twitterverse

Almost as soon as the corona virus became a global talking-point, various data sets were created to try and document and explore the phenomena. In particular the [COVID-19: The First Public Coronavirus Twitter Dataset](#) began collecting data from the last week of January 2020 on tweets matching various COVID-19 related hash tags and particular Twitter accounts. Twitter serves as an informal basis for diffusing news and opinions. As such it captures the share-worthy focus of its users across the whole world. There are, of course, biases in who chooses to use Twitter, who has access to the infrastructure to use Twitter and what Twitter users choose to share, however it has the benefit of having a very large global community with a very low effort-to-output ratio in terms of publishing content online. This dataset serves as the basis for our exploratory data analysis and will be explored in depth in subsequent reports.



COVID-19 & Tweets

Reports:

- [Dataset Overview](#)
- [Exploring Emojis](#)
- [Exploring Hashtags](#)
- [Spatial-Temporal Word clouds](#)
- [Do Expatriates Tweet Differently?](#)
- [Exploring Synonyms with Word Embeddings](#)
- [Identifying the Main Topics](#)
- [Tracing Topics through Time](#)

Members:

[Micheal Anslow](#)¹, [Martina Galletti](#)¹, [Remi van Trijp](#)¹, [Vittorio Loreto](#)^{1,2,3}

¹ [Sony CSL Paris](#)

² [Sapienza - University of Rome](#)

³ [Complexity Science Hub Vienna](#)

Credits:

The tweet dataset are those of 'COVID-19: The First Public Coronavirus Twitter Dataset' by Emily Chen, Kristina Lerman, Emilio Ferrara.

COVID-19 & Tweets

Reports:

- [Dataset Overview](#)
- [Exploring Emojis](#)
- [Exploring Hashtags](#)
- [Spatial-Temporal Word clouds](#)
- [Do Expatriates Tweet Differently?](#)
- [Exploring Synonyms with Word Embeddings](#)
- [Identifying the Main Topics](#)
- [Tracing Topics through Time](#)

Members:

- Micheal Anslow¹, Martina Galletti¹, Remi van Trijp¹, Vittorio Loreto^{1,2,3}
- ¹ Sony CSL, Paris
² Sapienza - University of Rome
³ Complexity Science Hub Vienna

Credits:

The tweet dataset are those of 'COVID-19: The First Public Coronavirus Twitter Dataset' by Emily Chen, Kristina Lerman, Emilio Ferrara.

