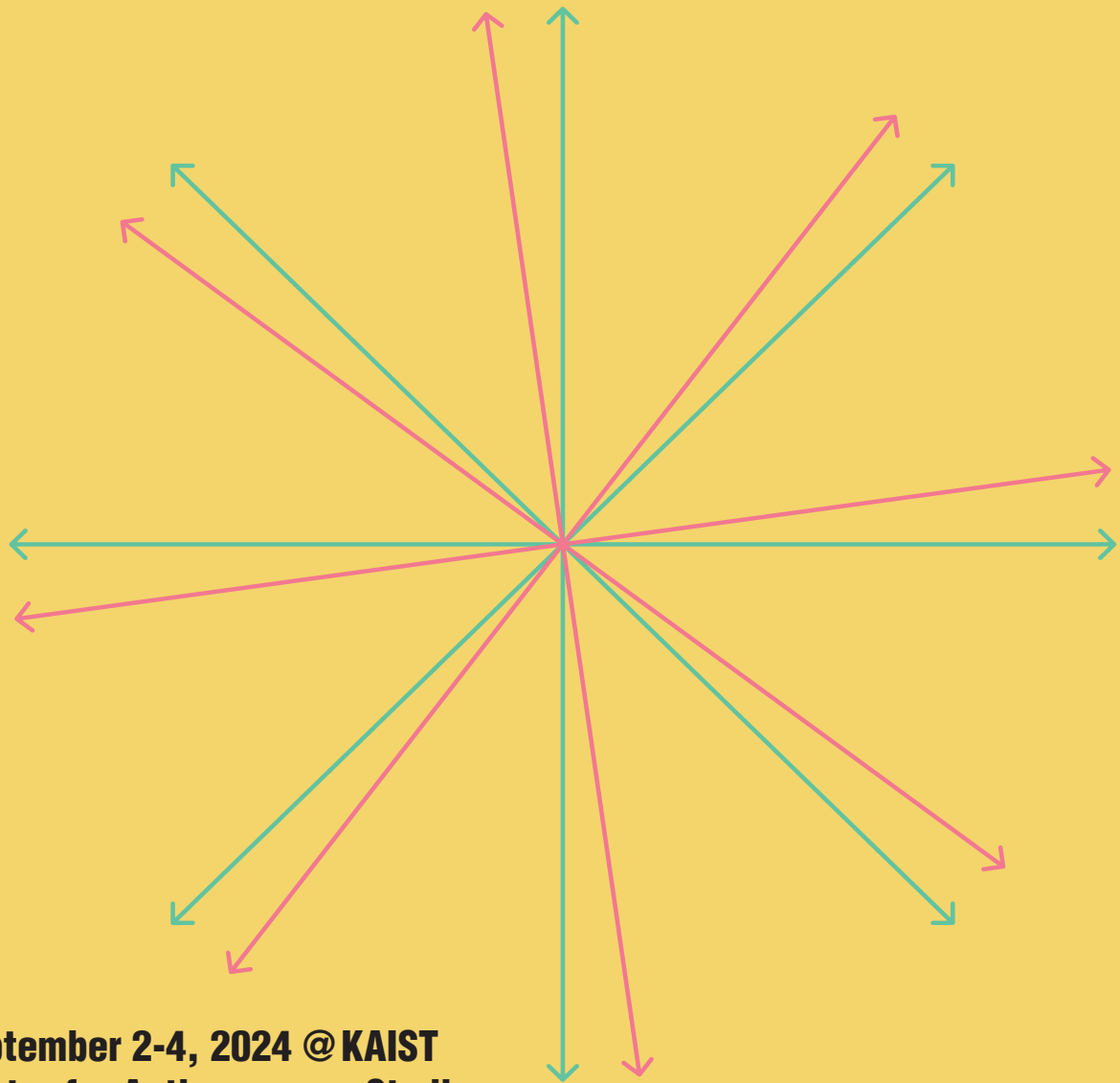
The 2nd international Symposium on Anthropocene Studies

PROJECTING THE ANTHROPOCENE:

A Multidisciplinary Approach

Program Booklet



September 2-4, 2024 @KAIST
Center for Anthropocene Studies

Purpose

The Earth system has become increasingly destabilized, with growing evidence that human activities are the primary cause. However, our current financial, economic, social, political, and industrial systems are not evolving fast enough to address the pace and scale of planetary change. The concept of the Anthropocene (인류세, 人類世) has provided a novel framework for debating scientific methods of sensing these transformations, discussing more-than-human ways of inhabiting together, and exploring artistic imaginations for alternative futures. This symposium will bring together experts from various disciplines, including Earth sciences, biological sciences, electrical engineering, mobility studies, humanities, social sciences, industrial design, new media art, and documentary production, to project our better futures in the Anthropocene.

Organized by:
Center for Anthropocene Studies, KAIST
Critical Media Lab, Basel, Switzerland (Anthropocene Lab Workshop)

Sponsored by:
National Research Foundation of Korea, CRC Program
ETH Zürich, Leading House Asia Program
Korea Institute of Geoscience and Mineral Resources
Graduate School of Science and Technology Policy, KAIST
Department of Industrial Design, KAIST

Day 1
September 2 (Mon)

Venue: Chung Kunmo Conference Hall & John Hannah Hall (E9 5th Floor)

16:00	**REGISTRATION** *@ Chung Kunmo Hall & John Hannah Hall*	
17:00	**OPENING**	
	Moderator **Chihyung Jeon** (Associate Professor, Graduate School of Science and Technology Policy, KAIST)	
	Welcoming Remarks **Kwang Hyung Lee** (President, KAIST) **Myung Ja Kim** (Chair, Borad of Trustees of KAIST) **Kwang Bok Lee** (President, Natioanl Research Foundation of Korea)	
17:30	**KEYNOTES**	
	Why Cross-Disciplinary Coversations for the Anthropocene, and How?	**Buhm Soon Park** Founding Director, Center for Anthropocene Studies, KAIST
	The Great Accleration: An Idea and Its Development	**Martin J. Head** Distinguished Professor, Department of Earth Sciences, Brock University, Canada
	The Decisions for the Anthropocene: Between Activism, Doubt, and Responsibility for the Earth System	**Jürgen Renn** Founding Director, Max Plank Institute of Geoanthropology, Jena, Germany
	SPECIAL NEW MEDIA ART	
19:00	**Projecting the Anthropocene**	**Yiyun Kang** Assistant Professor, Department of Industrial Design, KAIST
19:30	**EXHIBITION & RECEPTION**	*@Courtyard, Main Administration Building E14 (John Hannah Hall, E9, If Raining)*

Day 2
September 3 (Tue)

Venue: N4-1433 International Seminar Room

9:30	**REGISTRATION** *@N4-1433 International Seminar Room*	
10:00	**SENSING**	
	Moderator **Soo Hyun Kim** (Postdoctoral Researcher, Center for Anthropocene Studies, KAIST)	
	Enhancing Automatic Species Identification Techniques for Wild Animals	**Changick Kim** Professor, School of Electrical Engineering, KAISTI
	Sensing Anthropogenic Fingerprint by MetaEarth Technology: Climate Extremes in East Asia	**Hyungjun Kim** Professor, Moon Soul Graduate School of Future Strategy, KAIST
	Plant-Pollinator Interactions: More than Bees	**Sang-Gyu Kim** Associate Professor, Department of Biological Sciences, KAIST

	The Anthropocene Landscape	**Pyeongsoon Choi** PD, Korea Educational Broadcasting System
12:00	**LUNCH**	
13:00	**INHABITING**	
	Moderator Dong-Ju Kim (Associate Professor, School of Digital Humanities and Computaional Scoical Sciences, KAIST)	
	Mobility Design by Genertaive AI	**Namwoo Kang** Associate Professor, Cho Chun Shik Graduate School of Mobility, KAIST
	Tracing Value Chain Carbon Emissions	**Hana Kim** Associate Professor, School of Digital Humanities and Computaional Scoical Sciences, KAIST
	Regulating Data Centers: The Present and the Future	**Dasom Lee** Assistant Professor, Graduate School of Science and Technology Policy, KAIST
	Inhabitability and the Anthropocene	**Daniel Niles** Professor, Geography, Research Institute for Humanity and Nature, Kyoto, Japan
15:00	**COFFEE BREAK**	
15:30	**IMAGINNIG**	
	Moderator Hyunjung Cho (Associate Professor, School of Digital Humanities and Computaional Scoical Sciences, KAIST)	
	Memory Lapses: Trauma and the Anthropocene	**Scott Gabriel Knowles** Professor, Graduate School of Science and Technology Policy, KAIST
	Cultivating Hope in an East Asian Anthropocene: Farmers and Cranes in the DMZ	**Myung-Ae Choi** Assistant Professor, Department of Cultural Anthropology, Yonsei University
	Sketching with Hardwar: Rethinking the Need for a Global Supply Chain	**Andrea Bianchi** Associate Professor, Department of Industrial Design, KAIST
	Anthropocene Labs: A Commoning	**Jamie Allen** Senior Researcher, Critical Media Lab, University of Applied Sciences and Arts Northwestern Switzerland **& Georg Schäfer** Doctoral Researcher, Max Planck Institute of Geoanthropology
17:30	**CLOSING REMARKS**	
18:00	**DINNER**	

Day 3 September 4 (Wed) Venue: N26-308 Seminar Room	***9:30 - 17:30***	**ANTHROPOCENE LABS WORKSHOP** (Inquireat yongjinkim@kaist.ac.kr for participation)

DAY 1

Why Cross-disciplinary Conversations for the Anthropocene, and How?

Buhm Soon Park
(Founding Director, Center for Anthropocene Studies, KAIST)

When does a cross-disciplinary collaboration begin to take shape? More importantly, how does it impact society and alter the existing disciplinary landscape? History shows that many groundbreaking works are the products of collaboration across disciplinary boundaries, but replicating any successful formula is difficult. This paper suggests four patterns of cross-disciplinary collaboration – i.e., idea-driven, tool-driven, policy-driven, and crisis-driven – and traces the evolution of the study of the Anthropocene since its inception among Earth system scientists in 2000. How could it attract such widespread attention and generate debates across diverse disciplines, including geology, ecology, anthropology, history, philosophy, geography, political science, literature, and the arts? My aim is to underscore the significance of bottom-up conversations as acts of sharing concerns and interests with vast possibilities and uncertainties, rather than relying on top-down coercion with various short-term incentives and goals. To this end, I present a few cases conducted at KAIST's Center for Anthropocene Studies.

Buhm Soon Park is a professor in the Graduate School of Science and Technology Policy at KAIST, and serves as the founding director of the Center for Anthropocene Studies. His research focuses on how new scientific disciplines and technological systems emerge, grow, and change in society, examining the associated policy debates and institutional transformations. He has published on the history of quantum chemistry, the postwar growth of the U.S. National Institutes of Health (NIH), and the establishment of Institute for Basic Science (IBS) in Korea. His current study explores the geohistoy of Korea after World War II, focusing on landscape changes, climate change policies, and the ideologies of developmentalism and militarism, to better understand the Anthropocene from an East Asian perspective. He is also working on a comparative study of the anticipatory governance of synthetic biology and the question of trust in science. He is a fellow of the Korean Academy of Science and Technology, and currently serves as chair of the subcommittee for social, human, and natural sciences at the Korean National Commission for UNESCO. He is a member of the Anthropocene Working Group (AWG) since 2024.

The Great Acceleration: An Idea and Its Development

Martin J. Head
(Distinguished Professor, Department of Earth Sciences, Brock University, Canada)

The term ‘Great Acceleration’ describes unprecedented increases in the growth rates and magnitudes of human activities after World War II, and their linkage with overwhelming impacts on the Earth System. This relationship was underscored in 2004 when indicators of both the human enterprise and the Earth System appeared in graphs that showed the transformative effect of these human impacts on the Earth System and its functioning. Converging post-war intellectual, technological, cultural, political, financial and legal conditions provided the framework for this transformation. Placed in the context of Paul Crutzen’s (2000) proposed Anthropocene epoch, and with the emergence of evidence for globally correlatable strata deposited the mid-20th century, it became clear by 2015 that the onset of the Great Acceleration and that of the Anthropocene should be linked, with the Great Acceleration justifying the Anthropocene in rank as well as timing. In many respects, the Great Acceleration, as originally conceived to mark the interval of rapid growth rates in second half of the twentieth century, has transformed into a new and variable state that might be called the ‘Great Continuation’. On March 5, 2024, the New York Times reported that “a panel of experts voted down a proposal to officially declare the start of a new interval of geologic time, one defined by humanity’s changes to the planet”. The announcement was made by the Secretary-Generals of both the International Commission on Stratigraphy (ICS) and the International Union of Geological Sciences (IUGS). The background to this announcement and subsequent promotion by the ICS/IUGS of its narrative will be discussed.

Martin J. Head is Distinguished Professor of Earth Sciences at Brock University, Canada. He was until recently Vice-Chair of the International Subcommission on Quaternary Stratigraphy (SQS), having served as its Chair from 2012 to 2020. A voting member of the Anthropocene Working Group since 2016, he has been involved in defining the Quaternary System, re-defining the Pleistocene Series, defining the Calabrian and Chibanian stages, and in formally subdividing the Holocene Series. Martin is co-convenor of working groups to define the Upper Pleistocene Subseries, and to propose a second stage for the Middle Pleistocene Subseries. He specializes in marine dinoflagellate cysts and acritarchs of the late Cenozoic including their biostratigraphy, paleoecology and taxonomy. Martin has a Ph.D. from the University of Aberdeen, Scotland.

The Decision for the Anthropocene: Between Activism, Doubt, and Responsibility for the Earth System

Jürgen Renn
(Founding Director, Max Planck Institute of Geoanthropology, Jena, Germany)

The talk deals with some fundamental questions about the Anthropocene: what does the Anthropocene mean as humanity's self-reflection on its position in nature? Where did we come from, how did we get to the Anthropocene? What are the underlying dynamics of the Anthropocene? Who are we as a global technological civilization? And where are we going, what is the future of the Anthropocene? The main claim of the talk is that the decision for a good, a “beautiful Anthropocene”, as Paul Crutzen once called for, is a decision by all of us to view the world as a real laboratory, as a planetary experimental set-up in which all our lives are at stake, especially if we do not attempt to survive in it together.

Jürgen Renn’s research focuses on the long-term evolution of knowledge in consideration of the historical dynamics that led to the global changes encapsulated by the concept of the Anthropocene. In almost three decades as Director at the Max Planck Institute for the History of Science, his numerous research projects have opened up new approaches, especially in the digital humanities. As Founding Director of the Max Planck Institute of Geoanthropology, he investigates, together with his team, the structural changes in the technosphere that have given rise to the Anthropocene.

EXHIBITON

Projecting the Anthropocene

Yiyun Kang
(Assistant Professor, Department of Industrial Design, KAIST)

Technology, science, and policy alone cannot address the Anthropocene's highly complex challenges. Art and creativity are also crucial in communicating these issues and shifting human perception. In this session, artist and researcher Professor Yiyun Kang will share her efforts in this field and discuss her collaboration with the KAIST Center for Anthropocene Studies, highlighting the growing importance of cross-disciplinary collaboration and initiatives.

Dr. Yiyun Kang holds a B.A. in Painting from Seoul National University, an M.A. in Design Media Arts from UCLA, and a Ph.D. from the Royal College of Art, where she was an Associate Lecturer, and is currently a Professor of Industrial Design at KAIST. Kang's artworks has been exhibited extensively at the Victoria and Albert Museum in the UK, the Venice Architecture Biennale, Art on the Mart in Chicago, and the 2023 World Climate Conference (COP28). Kang has collaborated with Google, NASA, Jaeger-LeCoultre, and the BTS on a variety of cross-disciplinary projects. Kang's work has been published in Oxford University Press, MIT press, and has won the iF Award, reddot Award.

DAY 2

SENSING

Enhancing Automatic Species Identification Techniques for Wild Animals

Changick Kim
(Professor, School of Electrical Engineering, KAIST)

The conservation of wildlife species is achieved by securing and breeding endangered animals to preserve genetic resources, as well as through biological and ecological research on these species. These efforts contribute to biodiversity conservation, the maintenance and protection of entire ecosystems, and the preservation of natural habitats.
Species classification is crucial for wildlife monitoring to develop effective conservation strategies. Traditional methods rely on manual review of camera trap images by experts, which is expensive and time-consuming. Consequently, there has been recent advancement in deep learning-based approaches for wildlife species classification. However, wildlife image datasets obtained from nature often exhibit a long-tailed distribution. This class imbalance severely degrades the performance of classes with fewer samples.
In this presentation, we highlight the necessity of wildlife species classification technology and discuss methods to mitigate the class imbalance problem in wildlife datasets, demonstrating the effectiveness of these techniques. Additionally, we propose future directions for the development of automatic wildlife species classification technology.

Changick Kim received the Ph.D. degree in electrical engineering from the University of Washington, Seattle, WA, USA, in 2000. From 2000 to 2005, he was a Senior Member of Technical Staff with Epson Research and Development, Inc., Palo Alto, CA, USA. Since 2005, he has been with the School of Electrical Engineering, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, Korea, where he is currently a Professor. He is also in charge of Research Institute for Cyber Security, KAIST. His research interests include adversarial attack, few-shot learning, and 3D reconstruction.

Sensing Anthropogenic Fingerprint by MetaEarth Technology: Climate Extremes in East Asia

Hyungjun Kim
(Professor, Moon Soul Graduate School of Future Strategy, KAIST)

Since the Industrial Revolution, humanity has relentlessly pursued socio-economic development, which has required enormous amounts of energy. This demand has been primarily met through fossil fuel combustion, resulting in the release of vast quantities of greenhouse gases into the atmosphere over the past 200 years. Consequently, the Earth's surface temperature has risen, leading to more frequent natural disasters such as floods, droughts, and heatwaves.

While the relationship between cumulative CO2 emissions and temperature is nearly linear, the relationship between temperature changes and their impacts is often non-linear and varies across different regions. Understanding the distinct causes and effects of anthropogenic warming and climate-related disasters is therefore essential for developing effective climate mitigation and adaptation strategies.

To achieve this understanding, we employ the "MetaEarth" framework, which is designed to disentangle the complex interactions between human-induced warming and climate disasters. In East Asia, for example, there has been a noticeable shift in the summer monsoon system and tropical cyclone patterns in recent decades, raising significant concerns for the region. Our study reveals that since the mid-1970s, the "Anthropogenic fingerprint" on these disasters has become increasingly prominent, diverging significantly from natural variability by the early 2000s.

Dr. Hyungjun Kim's research centers on understanding the fundamental processes and mechanisms behind global environmental changes, with a particular focus on global hydrology. His work aims to enhance our understanding of the intricate connections between climate and society within the Earth System. By bridging the gap between scientific research and societal needs, Dr. Kim strives to provide essential knowledge and insights to address the climate-water-food-energy nexus. Since 2021, he has served as a faculty member at the Moon Soul Graduate School of Future Strategy at KAIST. Additionally, Dr. Kim has taken on active leadership roles in various international research projects, including those affiliated with the World Climate Research Programme and UNESCO.

Plant-Pollinator Interactions: More than Bees

Sang-Gyu Kim
(Associate Professor, Department of Biological Sciences, KAIST)

A recent study estimated that 75% of the world's major crops are animal-pollinated, and 87.5% of the 352,000 flowering plants are partially or wholly dependent on pollinators. More importantly, outcrossing pollination is essential to drive intraspecific biodiversity in the plant community.

Insect pollinators are extremely diverse. Honey bees are the most familiar to the public, but bee pollinators account for less than 10% of the total known pollinators. Lepidoptera (moths and butterflies) is the most species-rich pollinator; more than 1,440,000 species are estimated as pollinators. The number of Coleoptera (beetles) pollinators is approximately 77,300, and bee pollinators (Hymenoptera) are about 20,000. Over 55,000 species of Diptera (flies) can pollinate flowers. Given that about 90% of insect species remain unknown, the diversity of insect pollinators is much greater than recorded.

Unfortunately, however, insect pollinators are disappearing. Several bumblebees and butterflies are at risk of extinction in Europe and the USA. Recently, in South Korea, around 6 billion honey bees disappeared in 2023. The direct causes of this crisis are still unclear, but there is no doubt that climate change and harmful materials driven by human activities are the major reasons for this crisis. We are losing the opportunity to understand why and how plant-pollinator interactions have evolved.

Dr. Sang-Gyu Kim is an Associate Professor in the Department of Biological Sciences at KAIST and a member of the Graduate School of Engineering Biology since 2024. Previously, he served as a Project Group Leader at the Max Planck Institute for Chemical Ecology in Germany and as the Plant Team Leader at the Institute for Basic Science. Dr. Kim is also a section editor for the *Journal of Ecology and Environment* and a reviewing editor for *eLife*.

The Anthropocene Landscape

Pyeongsoon Choi
(PD, Korea Educational Broadcasting System)

Over the past decade, I have traveled across the globe while producing several documentary series about planetary change. As my experiences and time on the ground have accumulated, I recognize that the fragments of landscapes I have encountered are portraits of the era unfolding on the vast canvas of Earth. The Arctic and Antarctic glaciers are melting, the Amazon is burning, and Indonesian rainforests are fragmented by development, causing non-human apes like orangutans to lose their habitats. Rising sea levels are creating climate refugees in small island nations like Tuvalu, and illegal, unreported, and unregulated (IUU) fishing is rampant in the Indian Ocean, Pacific Ocean, and Atlantic Ocean. The more I learn about the Anthropocene, and the more I witness what is happening around the world, the more it reminds me that these places truly embody the Anthropocene landscape. I would like to share some portraits of Anthropocene landscapes that I have encountered firsthand.

Pyeongsoon Choi has been a Program Director at Korea Educational Broadcasting System (EBS) since 2011 and is also a board member of the Biodiversity Foundation. Choi is interested in creating documentaries about environmental issues and wildlife. He has produced several documentary series, including Plastic Humanity (2013), Climate Change: Himalaya Glacier Tsunami (2014), The Singing Ape: Gibbon (2017), The Anthropocene (2019), The Sixth Mass Extinction (2021), and The Human Weather (2024). The Anthropocene: Finding the Evidence won the Grand Remi Award at the 54th WorldFest-Houston International Film Festival, and The Sixth Mass Extinction received the Social Impact Award at the 2022 SCINEMA Science Film Festival in Australia.

INHABITING

Mobility Design by Generative AI

Namwoo Kang
(Associate Professor, Cho Chun Shik Graduate School of Mobility, KAIST)

"How can we develop better mobility faster?" is a question that all automotive industries face. Continuing to develop products through repetitive design and analysis by people consumes a significant amount of cost and time. Shifting the paradigm from traditional physics-based design to AI-based design can shorten product development time while improving product quality. This presentation introduces Deep Generative Design technology, which can generate/evaluate/optimize/recommend design solutions through deep learning, and presents various cases of how it can be applied to the automotive industry.

Namwoo Kang is an associate professor of Cho Chun Shik Graduate School of Mobility at KAIST. He is also currently CEO of Narnia Labs. Before joining KAIST, he was a research fellow in the Department of Mechanical Engineering at the University of Michigan. In addition, he worked at Hyundai Motor Company as a Research Engineer. He has earned his Ph.D. in Design Science at the University of Michigan. Previously, he obtained a M.S. degree in Technology and Management and B.S. in Mechanical and Aerospace Engineering from Seoul National University. He has been pursuing AI-powered Generative Design research by integrating physics and data for virtual product development. His research interests include mobility design, generative design, data-driven design, machine learning, deep learning, design optimization, topology optimization, CAD/CAM/CAE, and HCI.

Tracing Value Chain Carbon Emissions

Hana Kim
(Associate Professor,
School of Digital Humanities and Computational Social Sciences, KAIST)

Accurately measuring Scope 3 emissions and emissions factors is crucial for a comprehensive understanding of an organization's total greenhouse gas (GHG) footprint, as it encompasses indirect emissions from the entire value chain. The calculation of Scope 3 emissions presents a significant challenge in accurately assessing indirect GHG emissions within a national context. We have developed a highly detailed and comprehensive EEIO table segmented into 388 distinct sectors, offering unprecedented granularity for energy and non-energy emissions. By applying the Environmental Extended Input-Output (EEIO) analysis, this study estimates and traces Scope 3 emissions in Korea. Also, this fine-grained approach allows for a more precise attribution of indirect emissions associated with various economic activities, informing a sector of the hotspot regarding value-chain emissions measurements. Furthermore, the developed emissions factors can be used as spend-based scope 3 emissions calculation.

Hana Kim is an Associate Professor at the School of Digital Humanities & Computational Social Sciences at KAIST in South Korea. She holds a B.Eng. in Civil Engineering, an M.S. in Urban Planning from Seoul National University, and a Ph.D. in Energy and Environmental Policy from the University of Delaware. Dr. Kim's research is dedicated to promoting pro-environmental behavior among diverse stakeholders through data-driven approaches. Her recent work includes estimating supply chain emissions, analyzing the interconnections between energy and water systems, and investigating influencing factors on individual pro-environmental behaviors, including electricity conservation, PM reduction, and secondhand purchase.

Regulating Data Centers: The Present and the Future

Dasom Lee
(Assistant Professor, Graduate School of Science and Technology Policy, KAIST)

With the exponential expansion of data centers, there is an increasing need for regulations on their impact on climate change and the environment. Here, we present two studies. The first study conducted a comparative systematic review of data center discourses across North America and Europe (United States, Canada, Germany, Netherlands, and the United Kingdom) to examine the existing policies and to find pathways for policy harmonization. The analysis reveals that there are energy and water related concerns related to data centers that need to be regulated. Moreover, other environmental challenges regarding pollution and biodiversity are identified. The second study is more theoretical in nature as we propose that both the need for high quality data and concerns related to privacy and environmental sustainability can be addressed by rethinking and re-designing how data is produced. More specifically, we argue that the concept of data donation and the idea of gift relationship can be fruitfully exploited to revolutionize how we view and relate to energy data. We specify how gift relationships established through data donation address core challenges related to privacy (i.e., it enables individuals to understand the inherent value of data and empowers them to demand transparency and accountability) and emissions (i.e., it makes higher quality data available, reducing the likelihood that surplus data will be stored). Furthermore, the gift relationship lowers the likelihood of abuse by emphasizing an ethics of care, responsibility, and respect for individuals and their data. We highlight challenges that may arise, cautioning about potential abuses while also suggesting feasible ways to address these pitfalls. Overall, the presentation showcases the present and the future paths for data centers.

Dasom Lee is an Assistant Professor in the Graduate School of Science and Technology Policy at KAIST. She received her PhD in Sociology and a minor in Quantitative Methods from Vanderbilt University. She worked as a tenured assistant professor at the University of Twente in the Netherlands before joining KAIST. She focuses on identifying societal and legal challenges of cyber-physical systems, specifically focusing on energy systems and the energy transition.

Inhabitability and the Anthropocene

Daniel Niles
(Professor, Geography, Research Institute for Humanity and Nature, Kyoto, Japan)

Inhabiting, or ‘residing within’, the Anthropocene raises the question of habitability. Habitability, as recently discussed by Bruno Labour, is more directly concerned with the the entities, practices, and relationships allowing one to inhabit some place/time. Habitability also implies an aesthetic and ethical field of engagement. In all of these senses, it is quite close to the place-making philosophy of several early 20th century Japanese philosophers whose influence remains tangible in our Anthropocene studies at the Research Institute for Humanity and Nature in Japan. Here I share some of our experience in mixing East and West to explore the inhabitability of the Anthropocene.

Daniel Niles is a human-environmental geographer at the Research Institute for Humanity and Nature, Kyoto. His research examines how different forms of traditional environmental knowledge remain sensible through time, and the continuing relevance of these longstanding fields of experience to the Anthropocene. He has served as Visiting Fellow at the Max Planck Institute for the History of Science, Berlin; Visiting Researcher at the Department of Anthropology, University of California, Berkeley; and as consultant in agricultural heritage for the FAO. Recent publications include a 2024 book on basketry entitled Basket of Dreams, and the articles “Sustainable agrifood systems for a post-growth world” (Nature Sustainability, 2022), “Le monde dans un pannier: esthetique, ecologie et culture materielle” (Technique & Culture 2021), and “Agricultural Heritage and Conservation Beyond the Anthropocene” in the Oxford Handbook of Heritage Studies (Oxford University Press, 2018).

IMAGINING

Memory Lapses: Trauma and the Anthropocene

Scott Gabriel Knowles
(Professor, Graduate School of Science and Technology Policy, KAIST)

Historical scale is crucial to discussions of the Anthropocene, and so to is an understanding of the ways that disasters like a slave revolt, a hurricane, or an oil spill gather and horde attention to the exclusion of slower and steadier processes of wealth making, and of violence. There are strong economic and political forces at work portraying a slave revolt or an oil spill as aberrant events, unconnected from the normal flow of time, somehow separate and operating according to the logics of chance, or Acts of God, or the madness of men. The idea of a “slow disaster” is a way to expose and explore these political investments in “event thinking,” and an invitation to think about disasters not as atomized events but as long-term processes linked across time—a crucial analytical act for the Anthropocene.

Maintaining a slow disaster analytic requires memory: personal and institutional. Disaster creates memory and inspires memorials, but a dynamic tension exists between forgetfulness and memory; disaster recovery itself might entail both acts. A lapse of memory may be what’s needed to survive, and yet this lapse may also provide the grounds for future disaster.

Scott Gabriel Knowles is originally from Dallas, Texas—he attended the University of Texas at Austin and Johns Hopkins University. Currently he serves as Endowed Chair Professor in the Graduate School of Science and Technology Policy at KAIST (Korea Advanced Institute of Science and Technology). He is a historian of disaster worldwide, focusing on the processes that make disasters possible, and the application of history and public policy to reduce future disasters. Knowles is the author/editor of six books—including *Imagining Philadelphia: Edmund Bacon and the Future of the City* (2009); *The Disaster Experts: Mastering Risk in Modern America* (2011); *Building Drexel: A University and Its City, 1891-2016* (co-edited with Richardson Dilworth, 2016); *World’s Fairs in the Era of the Cold War* (co-edited with Art Molella, 2019); *The Second Environmental Crisis* (co-edited with James Kendra and Tricia Wachtendorf, 2019); and *Legacies of Fukushima: 3.11 in Perspective* (co-edited with Kyle Cleveland and Ryuma Shineha, 2021). From 2020-2022 Knowles hosted #COVIDCalls every weekday, a live podcast discussion of the COVID-19 pandemic. He is also founding co-editor of the *Journal of Disaster Studies*.

Cultivating Hope in an East Asian Anthropocene: Farmers and Cranes in the DMZ

Myung-Ae Choi
(Assistant Professor, Department of Cultural Anthropology, Yonsei University)

This research explores the entangled lives of farmers and cranes in and around the Korean Demilitarized Zone (DMZ). The DMZ and surrounding border areas now support several internationally endangered crane species–red-crowned cranes(grus japonensis) and white-naped cranes (grus vipio)–over the winter: the restored wetlands in the DMZ offer safe roosting places, while the rice fields outside provide plentiful food resources. The Anthropocenic landscape shaped by the prolonged Cold War politics and state-led agricultural development serves as an 'accidental' biodiversity hotspot. However, recent geopolitical and political economic changes put the lives of the farmers and cranes heavily relying on rice in peril. Peace talks between North and South Koreas ease the political tension, opening the border areas up for potential developmental projects. The gradual decline of rice farming fuels such proposals to transform rice fields in the border areas into more profitable businesses such as livestock farms and smart farms. These changes will encroach on crane habitats, while destroying the livelihoods of rice farmers. With the increased awareness of the vulnerability shared across cranes and farmers, the famer-crane relations of Cheorwon have dramatically changed. After the troubled history including hatred and bullying, farmers now engage with conservation activities by sparing their rice fields for the cranes to feed on and roost in. Through their crane supporting activities, they come to notice many other aquatic organisms in the rice fields, reconfiguring rice fields as a wetland ecosystem supporting many lives. By unravelling and promoting the conservation value of rice fields, these farmers are hopeful to keep their rice fields from the developmental pressure for the sake of themselves and the cranes. Such efforts to reconfigure rice fields from 'space of production' to 'space of life', not all of which are humans, might cultivate 'hope' for the collective survival in the Anthropocene.

Myung-Ae Choi is an environmental social scientist looking at the cultural, political, and technological aspects of nature conservation in South Korea and the broader East Asia. To do this, she draws on an interdisciplinary range of work including multispecies anthropology, more-than-human geographies, political ecology and Science and Technology Studies. Myung-Ae's current research examines the crane conservation in and around the Korean Demilitarized Zone (DMZ) through the themes of the Anthropocene. She also looked whale and dolphin tourism, wetland conservation, and countryside walking through South Korean case studies. Myung-Ae is Assistant Professor in Cultural Anthropology at Yonsei University based in Seoul.

Sketching with Hardwar: Rethinking the Need for a Global Supply Chain

Andrea Bianchi
(Associate Professor, Department. of Industrial Design, KAIST)

In our progressively interconnected world, tangible goods are no longer manufactured in a single location. Rather, they utilize a worldwide supply chain, with their design and creation spread over multiple nations or even continents. Individual components are independently manufactured or put together globally and then distributed to customers. This method is not only reliant on geopolitical policies, but it is often criticized for its impact on the environment and local economies, as goods or their components are made in areas where labor is inexpensive and then transported worldwide. Additionally, this process slows down the rapid iteration of ideas. As a product designer, I frequently find myself waiting for components to arrive. In this presentation, I will share several prototype examples with the aim of simplifying prototyping, making it more iterative, and reducing its reliance on the supply chain, thereby making it more sustainable. I will demonstrate examples of projects that concentrate on innovative 3D printing methods for creating visual displays and actuators, as well as unique electronic toolkits that simplify prototype interaction and reduce supply chain dependence.

Andrea Bianchi is an Associate Professor in the Department of Industrial Design, an Adjunct Professor in the School of Computing, and the director of the Make lab (make.kaist.ac.kr) at KAIST, in South Korea. He researches in the field of Human-Computer Interaction (HCI) focusing on building tools for prototyping interactive systems, and hardware devices for body augmentation in Mixed Reality. Before joining KAIST, he worked at Sungkyunkwan University (Korea) as a faculty member in the Department of Computer Science, and as a video game programmer for a New York startup. Andrea has published in major venues, including ACM CHI, UIST, and IMWUT, and his work has been recognized with multiple Best Paper Awards and Design Awards. His work has also been covered in the news by Engadget, ZDNet, New Scientist, MAKE, and Gizmodo among others. Andrea received a Ph.D. from KAIST (Korea) in 2012, and his Masters from New York University in 2007.

Anthropocene Labs: A Commoning

Jamie Allen
(Senior Researcher, Critical Media Lab,
University of Applied Sciences and Arts Northwestern Switzerland)

Georg Schäfer
(Doctoral Researcher, Max Planck Institute of Geoanthropology)

This presentation explores the "Anthropocene Labs" project, a collaborative effort between the Korea Advanced Institute of Science & Technology (KAIST) and the Basel Academy of Art and Design FHNW, aimed at addressing the planetary crisis through innovative, cross-cultural engagements.
Since 2013, a global network of researchers, educators, activists, artists, and scientists has been working under the Anthropocene Curriculum, now part of the Anthropocene Commons (AC) network. The AC initiative integrates scientific research with cultural, social, and political perspectives, developing experimental and experiential approaches to knowledge formation. "Anthropocene Labs" seeks to bridge the gap between engineering and the arts by exploring how the Anthropocene necessitates the integration of arts and culture with technical education. The project is inspired by historical experiments like Experiments in Art & Technology and the ecologically focused work of Nam June Paik, and it particularly targets food systems, agri-food, and alimentary infrastructures, bringing together academics, researchers, and practitioners from grassroots and institutional agriculture, as well as technology and engineering fields in Korea. By conducting pilot workshops and feasibility studies, "Anthropocene Labs" aims to integrate eco-ethical sensibilities into engineering and technological curricula, promoting sustainable socio-ecological systems and practices. The project aspires to catalyze a paradigm shift by challenging existing notions of productivity, acknowledging planetary boundaries, and fostering convergent interdisciplinary problem-solving. This approach seeks to develop new orientations for technical cultures that are responsive, sensitive, and effective in addressing the complexities of the Anthropocene.
The presentation will discuss how diverse communities, now under the moniker of Anthropocene Commons, can come together to address the planetary emergency by reshaping and transcending traditional boundaries. It will highlight how creative and scientific methods can foster new eco-ethical perspectives and practices.

Jamie Allen is a Senior Researcher at the Critical Media Lab Basel (CML) and a lecturer at the Basel Academy of Art and Design FHNW. His research focuses on the intersection of media art, technology, and ecological sensitivity. Allen's work critically engages with the Anthropocene and explores innovative ways to integrate artistic practices with technical disciplines. He organises and develops collaborative projects that address global environmental challenges through creative and scientific lenses. For more information, please visit jamieallen.com.

Georg N. Schäfer is a doctoral researcher at the Max Planck Institute of Geoanthropology and Friedrich Schiller University Jena. His PhD project on the socio-ecological dynamics of the Technosphere focuses on the emergence and persistence of irrigated agriculture in Kansas within a planetary context. Georg holds a BA in Governance and Public Policy, an MA in Practical Philosophy, and an MSc in Sustainability. He co-authored *Mapping Mainstream Economics* (Routledge, 2022) and served as the scientific coordinator of the Evidence & Experiment Anthropocene program at Haus der Kulturen der Welt, Berlin. Georg is an editor of the Anthropocene Curriculum and co-chairs the Anthropocene Commons e.V.

DAY 3

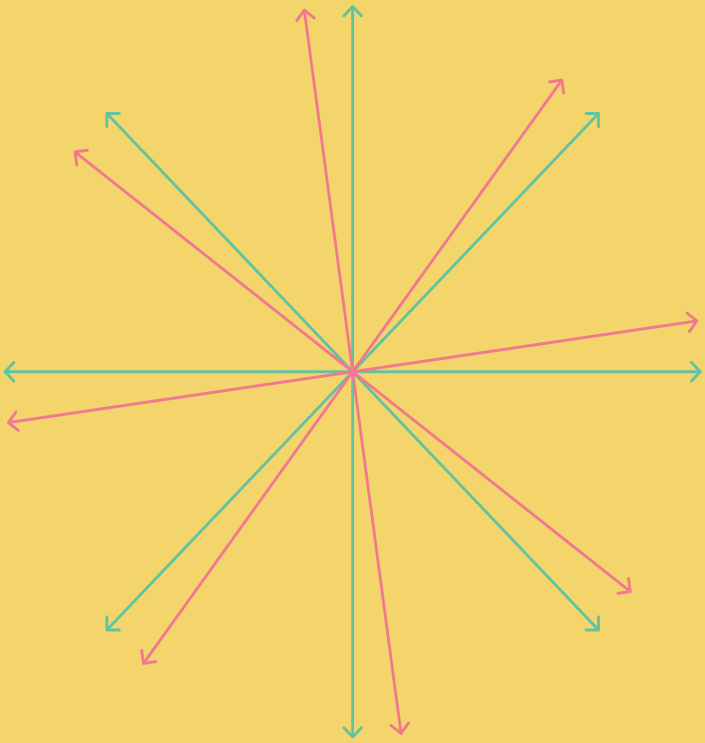
Anthropocene Labs Workshop

Overview

The Anthropocene Labs Workshop brings together leading researchers, educators, and international guests to explore innovative and transdisciplinary approaches to addressing the challenges of the Anthropocene. This workshop aims to foster collaboration between technical and creative disciplines, providing a platform for sharing insights and developing strategies for transformative education and research.

It is hosted by Critical Media Lab, Basel, Switzerland, and the Center for Anthropocene Studies, KAIST, Daejeon, South Korea, in the context of Anthropocene Commons and with support from Leading House Asia, ETH Zürich.

MEMO



KAIST

CENTER FOR ANTHROPOCENE STUDIES

CRITICAL MEDIA LAB

NRF

ETH zürich

KIGAM

STP

id KAIST