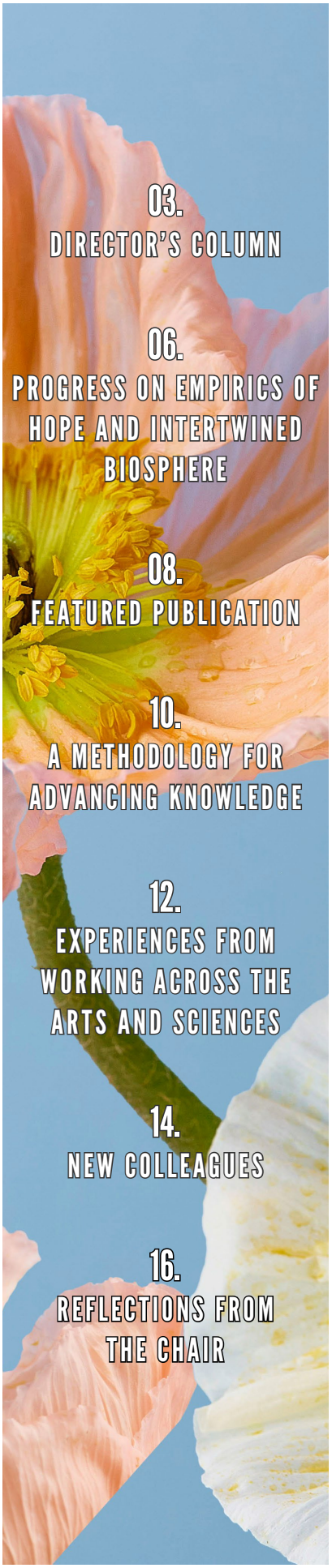
Anthropocene Laboratory

KUNGL. VETENSKAPS-AKADEMIEN
THE ROYAL SWEDISH ACADEMY OF SCIENCES

THE ANTHROPOCENE LABORATORY

FOR A REVITALISED ANTHROPOCENE BIOSPHERE

ANNUAL REPORT 2025



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The Anthropocene Laboratory at the Royal Swedish Academy of Sciences brings together perspectives and knowledge from the natural and social sciences, the humanities, and other fields of knowledge. The Laboratory aims to advance a holistic understanding of the Anthropocene biosphere, helping to meet the increasing demand for science-based knowledge to facilitate pathways towards sustainability. The Anthropocene Laboratory will nurture a generation of scholars who collaborate across disciplinary and geographic boundaries. This report focuses on the period from January to December 2025.

THE ANTHROPOCENE LABORATORY ANNUAL REPORT 2025
The Anthropocene Laboratory
The Royal Swedish Academy of Sciences
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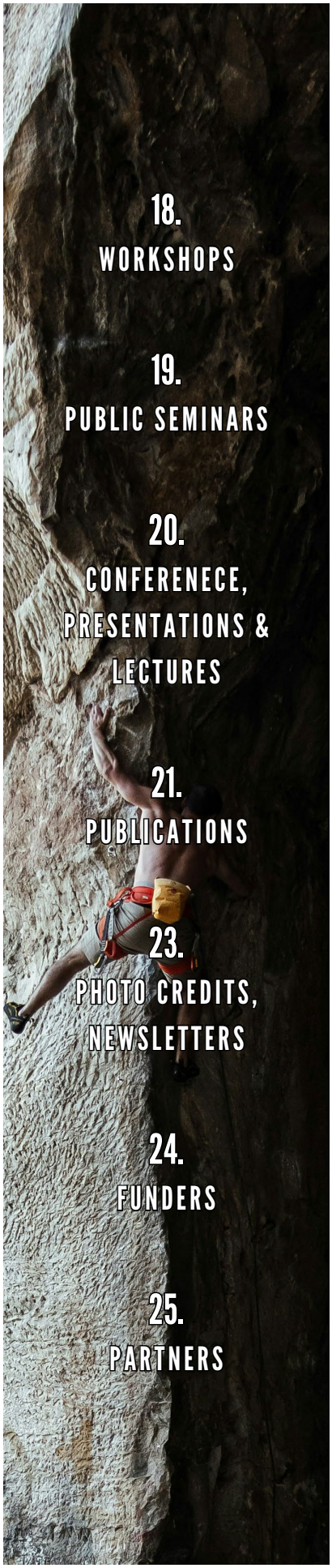


DIRECTOR'S COLUMN

READY FOR THE NEXT STEP

Now it is 2026, and we are in the first year with a full budget, after a few years of starting up and developing our approach and methodologies. When summarising 2025, it was challenging at first to describe what we have achieved. However, when thinking more about the year, I realize it is one where we have matured as an organisation and are starting to see the full potential of the Lab.

In 2023, we took on two major research topics: *Empirics of Hope* and *Intertwined Biosphere*. They have both generated substantial ideas that we have developed over the last year—with academic colleagues, practitioners, and with artists. Hope is becoming increasingly spoken about and sought for in times of anxiety, turbulence, and despair—whereas scientific progression on intertwined life is unfolding rapidly across academic fields. Both topics appear timely and have generated both external and internal excitement. We are making progress, through hard work—I am very grateful for the time, commitment, and efforts by my dedicated colleagues.

During 2025, we celebrated the 25-year anniversary of the popularization of the Anthropocene concept. This celebration took the form of a public, joint academic symposium, with invited speakers at the Royal Swedish Academy of Sciences. We co-authored a scientific synthesis report on "**Human Cognition and the Anthropocene**", and a short report produced for Swedish high school students on the Anthropocene, part of the Academy series "**Vetenskapen säger**" (Science says). The year 2025 also marks the 80-year commemoration of the nuclear attacks on Hiroshima and Nagasaki. Inspired also by last year's interaction with Nobel Laureate *Nihon Hidankyo*, we have pursued workshops, a **public seminar**, and academic work related to social and ecological effects of nuclear weapons in a world of climate change and geopolitical change.

During this year, we have become more conscious about our methods, why they work, and what we can do better. In this annual report, you will find descriptions of our methodology for advancing research areas, and information on how and why we work with artists. It is hard to overstate how much we have learnt, when it comes to crossing such disciplinary boundaries through conversations and in-depth collaboration.

During the year, we have also spent substantial time interviewing and selecting the most suitable candidates to join the Lab for 2026 and beyond. Two new colleagues started during the final months of last year, and three new colleagues are joining us during the early part of the new year.

With new knowledge, strengthened partnerships, and new colleagues, we are ready for the next step—a fully operational and capable laboratory—time to present our findings to date and grow into a next phase.

TEXT:
HENRIK ÖSTERBLOM

“Hope is not the conviction that something will turn out well but the certainty that something is worth doing no matter how it turns out.”

Václav Havel

VISION

A Revitalised Anthropocene Biosphere

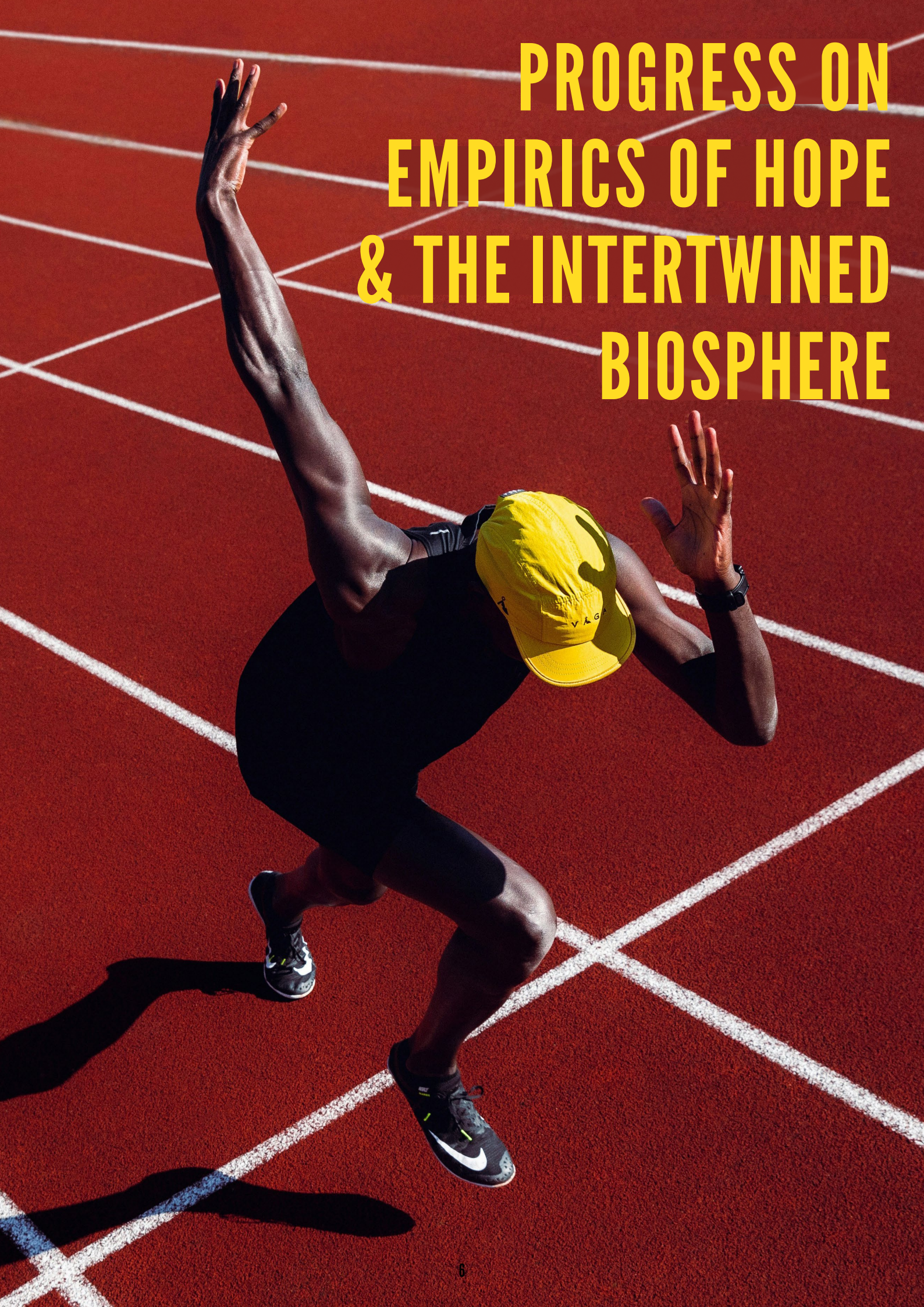
MISSION

The mission of the Anthropocene Laboratory is to advance understandings of the intertwined biosphere, and to leverage this knowledge to identify and enable novel pathways towards a sustainable and just future.

Through respectful dialogue and interdisciplinary collaboration, we explore creative approaches that integrate perspectives from the natural and social sciences, humanities, arts, and other fields of knowledge.

Our aim is to catalyse positive change and inspire a future where our relationships with the living planet are revitalised.

PROGRESS ON EMPIRICS OF HOPE & THE INTERTWINED BIOSPHERE



EMPIRICS OF HOPE AND THE INTERTWINED BIOSPHERE HAVE BEEN THE TWO MAIN TOPICS FOR OUR WORK FOR THE LAST TWO YEARS. WE ADVANCE THE TOPICS THROUGH SUBSTANTIAL SCIENTIFIC INQUIRIES AND COLLABORATION WITH PARTNERS, WHICH ARE LEADING TO SURPRISING ENCOUNTERS, CREATIVE TENSIONS, AND NEW INSIGHTS.

The inaugural work on *Empirics of Hope*, the 'Hope Assessment', builds on several workshops, in-person and online. The team members spent the year analysing and visualizing data, drafting a manuscript and advancing it with an interdisciplinary team of 32 collaborators—while also sketching out future works, including with colleagues at the *Max Planck Institute of Geoanthropology* in Jena, Germany. Preliminary findings have been presented at academic conferences and in transdisciplinary forums forums (e.g. the Global Tipping Points conference and the Earth System Governance conference).

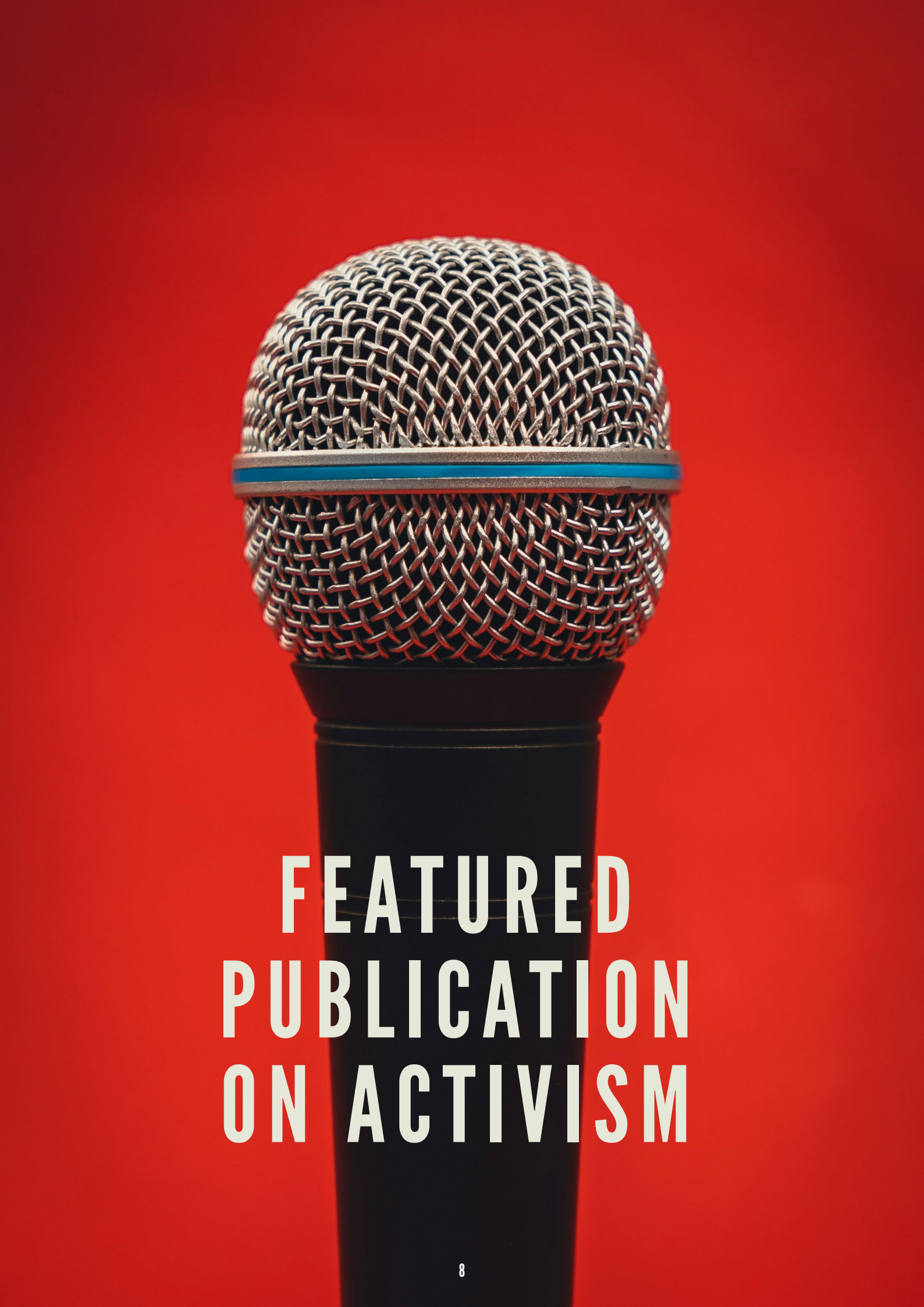
Conceptual work on the *Intertwined Biosphere* resulted in a first manuscript submitted, which is currently under review. This work has been complemented by an interdisciplinary study on "Humans—intertwined beings with life and the basic elements" and has inspired planning of further workshops on the many ways humans and all life forms are entangled.

The Lab contributed to the report *Human Cognition and the Anthropocene*, led by the *Stockholm Resilience Centre*, *Stockholm University* and prepared for the *Anthropocene Paradigm Shift Symposium* held on December 1, 2025. The symposium marked the 25th anniversary of the Anthropocene concept, took place at the Royal Swedish Academy of Sciences, and was co-convened by the Lab. The report presents a curated review of how the Anthropocene is shaping human brains and minds, and how human cognition and social systems, in turn, are driving global environmental change. It also outlines a research agenda for this emerging field. The author team is currently working on developing the report into an academic journal article.

Collaboration with artist duo *Goldin+Senneby* was inspirational for both research areas, especially since their exhibition at *Accelerator,* a contemporary art exhibition space run by *Stockholm University*, and one of our close collaborators, provided creative perspectives on the issues that we have addressed with more of an academic lens. A workshop on the island of Stora Karlsö in the Baltic Sea (the first nature reserve in Sweden) provided an opportunity to dive deeper into the intertwined aspects of life in a particular place, and two workshops with colleagues at the *Nobel Prize Museum* helped advance our collaborative work towards future exhibitions.

In 2026 and moving forward, the Anthropocene Laboratory is looking forward to foster deeper dialogue between the cultural sector and scientists, co-generating novel ideas for ways to understand, communicate and engage with the Anthropocene biosphere.

Common guillemots on a cliff, Stora Karlsö
Photo: Kristina Dutton



FEATURED PUBLICATION ON ACTIVISM

In 2025, we published our first co-authored scientific article entirely conceived and developed at the Lab, titled "**An active academia for peace and sustainability**", in the journal *Peace and Sustainability*. The article contributes to an increasingly intense academic and public debate about risks to and responsibilities of scientists in the Anthropocene. Is it impossible for scientists to be activists, because it reduces their perceived objectivity and credibility, or is it a moral obligation to speak up about your knowledge and act accordingly? The article was inspired by real events on the freeway outside the Royal Swedish Academy of Sciences, where activists were blocking morning rush hour traffic.

The article explores how social movements over time contribute to societal change, and how science and scientists have engaged in such activities—while also discussing the different means that can ensure that scientific integrity is maintained. This work was also inspired by **collaboration** with *Goldin+Senneby* and has generated interesting discussion about the role of science in society.

Although some academics address this topic with scepticism, it was rewarding to listen to Prof. *Naomi Oreskes*, 2025 recipient of the *Volvo Environment Prize*. In her lecture on collective processes that create credibility in science, she stated: "*Given the current situation—it is immoral not to speak up with what you know. If scientists do not speak up—that space will be filled up by lies and disinformation*". This is an important encouragement to scientist to be active.

"GIVEN THE CURRENT SITUATION – IT IS IMMORAL NOT TO SPEAK UP WITH WHAT YOU KNOW. IF SCIENTISTS DO NOT SPEAK UP – THAT SPACE WILL BE FILLED UP BY LIES AND DISINFORMATION"

Naomi Oreskes

A METHODOLOGY FOR ADVANCING KNOWLEDGE

DURING THE FIRST TWO YEARS OF THE LAB, WE HAVE DEVELOPED A METHODOLOGY THAT SUPPORTS OUR VISION AND MISSION—AN APPROACH THAT STIMULATES CREATIVE AND REFLEXIVE ENCOUNTERS ACROSS DISCIPLINES.

The Laboratory is a space for thinking and reflection about the Anthropocene biosphere. We believe that *active listening, patience with different perspectives, and a willingness to work with uncertainty* are important capacities for advancing knowledge and action for sustainability. Our workshops are designed to cultivate these capacities while enabling meetings across academic disciplines and knowledge systems, between perspectives from around the world, and by interweaving science and art.

Our methodology builds on decades of experience from our partners at the *Beijer Institute of Ecological Economics*' *Askö meetings*, workshops at the *Stockholm Resilience Centre*, from experiences at the *SARAS Institute* (South American Institute for Resilience and Sustainability Studies), *SESYNC* (National Socio-Environmental Synthesis Centre), *NCEAS* (National Center for Ecological Analysis and Synthesis), and co-produced practice from a series of "Keystone Dialogues" with private actors in the seafood industry (an initiative termed Seafood Business for Ocean Stewardship, or *SeaBOS*).

In dialogue with our **Scientific Committee**, we identify topics of concern and potential that connect directly to our mission. During the first two years, we have focused on the *Empirics of Hope* and *Intertwined Biosphere* as our main topics. Both help advance our vision and represent unexplored possibilities for new knowledge and action.

Topics are generally large, initially unspecified, and uncertain at the onset. They require multiple disciplines and forms of knowledge to address. Inspiration can come from scientific communities in any discipline, from the arts, popular culture, politics, Indigenous

cultures, or from corporations. As a rule of thumb: If the topic feels challenging—or even daunting—it is probably a good fit for the Lab.

First, we conduct targeted literature searches to better understand the topic: its history and evolution, the main outstanding questions, relevant communities and individuals, and perceived challenges. We then identify leading individuals for interviews and spend time identifying potential experts who—in combination with each other—can help advance the topic through a previously untested combination of perspectives.

Once we have assembled a cohort of such individuals, we invite them to a first workshop. This step (literature review, expert identification, invitation) typically takes around 3-6 months.

In parallel, we synthesize the identified literature, questions, methods, theories, data, approaches, and otherwise important perspectives into a comprehensive yet accessible background brief. This document is shared with participants before the workshop and serves as a shared knowledge resource. Together with the review and expert identification, this second step (synthesis and production of background briefs) usually requires 6-12 months of work in total.

Each workshop is carefully designed and facilitated. A workshop with experts with different perspectives on a given topic necessitates thoughtfully moderated discussions, lectures, reflection, group exercises, spaces for reflection and informal conversation, including during walks and dinners. This format helps generate ideas, build a shared vision for collective work, exchange knowledge, and foster the trust required for open exchange across disciplines and practices.

A single workshop normally generates up to a dozen promising ideas for further exploration. Of these, 1-3 ideas usually stimulate enough excitement to move forward as concrete initiatives.

Each emerging idea requires leadership, collaborators, process identification, clear goals, and often additional expertise. The Lab generally has the capacity to lead 1–2 of the ideas coming out of a given workshop, while other participants are welcome to lead additional initiatives. Intended products may include scientific articles, art exhibitions, communications materials, new databases, applications for research funding, new partnerships, ideas for policy dialogues, and more. Workshops are often paired with public seminars, where invited guests share their work with an interested audience.

A typical workshop (with public seminars) spans 3-5 days and is often a starting point for a series of workshops lasting 2-3 years.

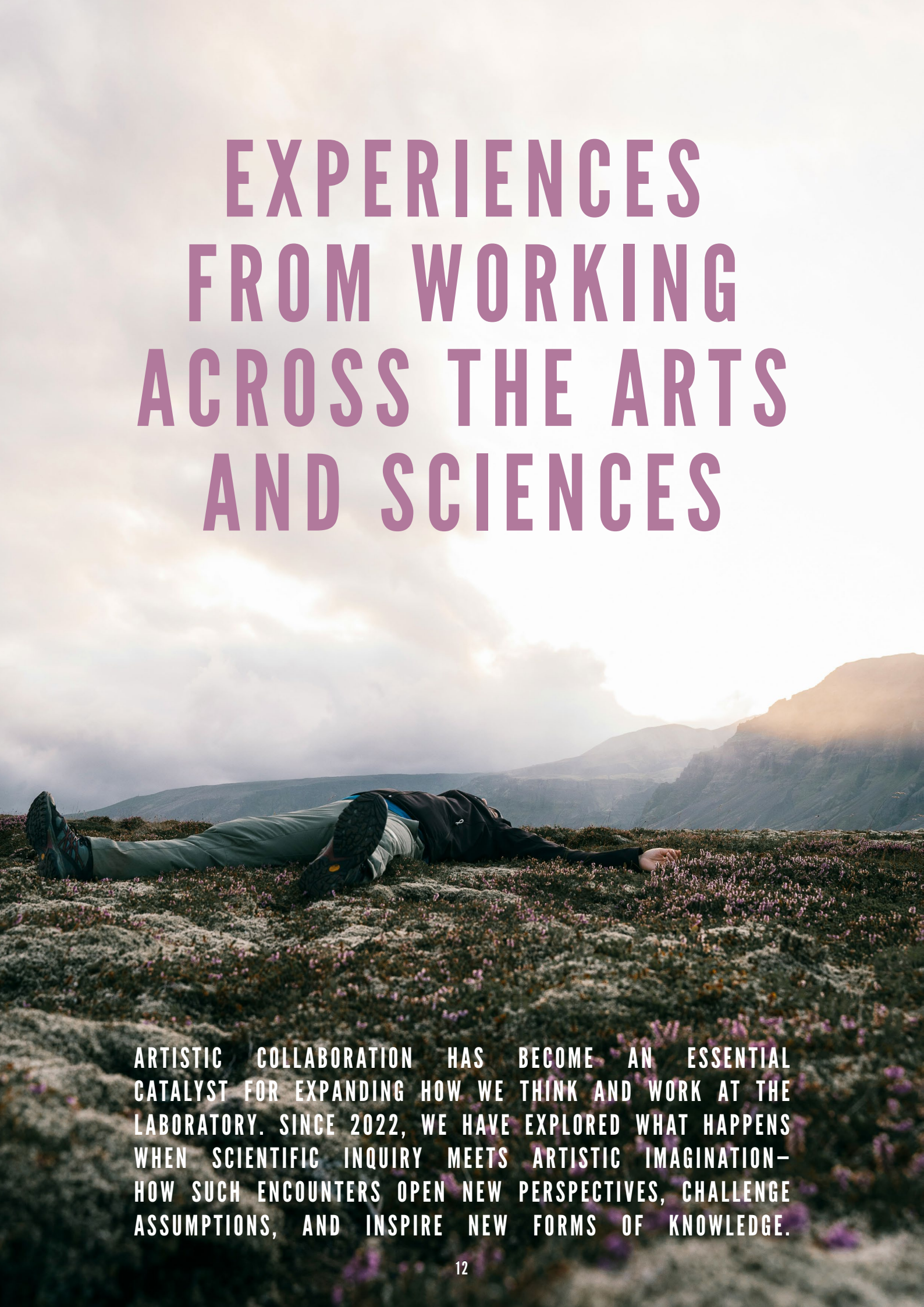
A workshop is preceded by substantial planning. Logistics include booking trips and hotels for international guests, identifying suitable venues for meals, excursions, and walks, and ensuring that all materials required for facilitating and documentation are in place. Workshop session design, adequate facilitation, structured notetaking, and the capacity to analyze data, also requires careful planning.

Workshops are not endpoints; they trigger a prolonged quest to translate big ideas into concrete projects and outcomes. This work is led by a postdoctoral researcher, supported by senior colleagues, research assistants, and our Scientific Committee. It involves identifying adequate theories and methods, data and new partners, hosting additional workshops, developing new skills, presenting preliminary findings, and continuously exploring new perspectives. This step can stretch over 1.5-2 years.

During the last two years, we have embarked on this process for our research topics, the *Empirics of Hope* and *Intertwined Biosphere*. For instance, we hosted our first workshop on hope in November 2023 after four months of preparatory work, resulting in three background briefs covering existing knowledge, theory, and data being provided to the 15 invited experts. Since then, the Lab has held 16 multi-day workshops, dozens of more targeted single-day data workshops, and convened, in-person meetings, with over 40 invited experts from across disciplines and practice.

As a result of our workshop-based method, colleagues are presently producing a “global hope assessment” based on theories, methods, and data identified through the process, with several additional academic papers planned, or in development. Preliminary findings have been presented at 5 academic conferences, generating substantial interest and excitement among peers. These are early indicators of how our open-ended workshop-based method can stimulate connection between concepts featured across diverse knowledge systems, translate jointly generated ideas with relevant methods and data, and produce rigorous academic advancement with practical relevance for society.

EXPERIENCES FROM WORKING ACROSS THE ARTS AND SCIENCES



ARTISTIC COLLABORATION HAS BECOME AN ESSENTIAL CATALYST FOR EXPANDING HOW WE THINK AND WORK AT THE LABORATORY. SINCE 2022, WE HAVE EXPLORED WHAT HAPPENS WHEN SCIENTIFIC INQUIRY MEETS ARTISTIC IMAGINATION—HOW SUCH ENCOUNTERS OPEN NEW PERSPECTIVES, CHALLENGE ASSUMPTIONS, AND INSPIRE NEW FORMS OF KNOWLEDGE.

The following examples highlight an evolving practice, tracing fieldwork, shared explorations, and creative partnerships that have shaped our research and strengthened our commitment to deeper art–science engagement, including the launch of our first artist-in-residence program in 2026.

Working with artists is a source of inspiration and an opportunity to think differently. Since 2022, the Laboratory has been exploring how to best create mutually stimulating meetings between science and art. One case is an ongoing, long-term collaborative project with a group of (mostly) Chilean artists and scientists. The joint exploration of culture, history and nature, has resulted in a short book titled "*Art+Science Chile 2023*", describing experiences of the wind and volcanoes in the Chilean Andes. These experiences have also been captured in an academic **article** (2023) and **editorial** (2025) published as part of a special issue on transdisciplinary collaboration in the journal "Ecology and Society". A second book is scheduled for publication in early 2026, following an expedition in 2025 along the tropic of Capricorn — from the Chilean Altiplano to the Argentinean cloud forest, and back.

Tone Bjordam is a visual artist who has been a partner with the Lab since its beginning. She works in watercolor to create dreamlike visual landscapes in flux, featured during our public seminars.

We have hosted talks with the authors *Rebecca Solnit* (2023) and *Naomi Klein* (2024). Our inauguration (2024) featured live music by the composer *Jacob Mühlrad*.

During 2025, our **collaboration** with artist duo *Goldin+Senneby* led up to their exhibition at *Accelerator* — our partner and art exhibition space at *Stockholm University* who also facilitated the connection. They spent time at the Lab and we visited their studio during their exhibition production process. Their exhibition "*Flare-up*" was highly praised by art critics and other visitors. Working together was mutually inspiring and influenced our thinking and scientific work, contributing to an academic **article** about scientists as activists—and the challenges and tradeoffs necessary to balance such roles. (read more on page 9)

Additionally this year, we worked with students at the *Beckmans College of Design*, who worked with biosphere interactions with a focus on the Arctic, based on a long-term collaborative project with the *Beijer Institute of Ecological Economics* and *Svenskt Tenn*. This **work** was exhibited at the store *Svenskt Tenn* in Stockholm in April, followed by a joint panel discussion on how to connect art and science, in October.

During the summer, we spent time in the field on *Stora Karlsö*, exploring the biosphere and the many entanglements connecting humans and nature in that place. Joining us on the island were three artists *Kristina Dutton* (musician and sound artist), *Alicia Escott* (interdisciplinary artist) and *Austin Smith,* (poet), with whom we have previously interacted in Stanford at the *Natural Capital Symposium*, and *Clara Åhlvik* (Head of Exhibitions) from the *Nobel Prize Museum*. A series of webinars prior to, and after, this field trip, have generated ideas that will be pursued during 2026. A concurrent visit to the same island by Norwegian artist *Helle Siljeholm* and a film crew resulted in a pilot study for a future joint art-science project on human history.

The program *Arts at CERN* has generated exciting exhibitions and insights. A study visit to meet *Guilia Bini* (Curator and head of their program) at *CERN* in Geneva, in 2025 offered an opportunity to learn from both their experiences and their artist in residence program. A separate visit to the *LAS Foundation* in Berlin, involving an exhibition on **forest stewardship**, further strengthened our conviction that scientists and artists have much to learn from each other—and can collaboratively generate ideas that inspire. The *LAS Foundation* investigates topics ranging from artificial intelligence and quantum computing to ecology and biotechnology — thereby illuminating the intersections between art, science and the latest technology. Inspired by these experiences, we are launching our first artist in residence program in 2026. Again facilitated by *Accelerator*, our first resident will be the Swedish artist *Linnea Sjöberg*.

Goldin+Senneby, ***After the Artist's Garden in Giverny*** (2024). Photo by Eric Moretti

NEW COLLEAGUES

During the first months of 2026, the Anthropocene Laboratory will become fully staffed, after the first years of progressively building a larger, more comprehensive and multidisciplinary team.

Caroline Schill and Peter Søgaard Jørgensen, both of whom have served as part time mentors during the previous two years, will now work as researchers, spending half of their time at the Lab. They will be especially important for facilitating connections and collaboration with their other main employers: *The Beijer Institute of Ecological Economics*, *The Global Dynamics and the Biosphere Program*, and the *Stockholm Resilience Centre*, *Stockholm University*.

Dianty Ningrum, previously a post doc at the laboratory for the *Empirics of Hope* topic, is continuing as a researcher, where she will further engage with the Hope Assessment and related work. Chelsea Kaandorp, a post doc for the *Intertwined Biosphere* topic, completed her term in September 2025. Juan Rocha and Lan Wang Erlandsson (both at *Stockholm Resilience Centre)* supported the Lab as mentors from 2023–2025.

Rafael Calderón-Contreras joined the team as a researcher. He brings with him experience from the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. Rafael is a geographer from the *Autonomous University of State of Mexico*.

Sachiko Ishihara, Louis Delannoy, and Denis Karcher have joined the Lab as new post docs. Sachiko has a background in human geography from *Uppsala University*, Louis has been investigated systemic risks at the *Global Dynamics and the Biosphere Program,* and Denis is a marine social scientist and science communicator from *Australian National Centre for the Public Awareness of Science*.

Julie Sampieri joined the Lab as a research assistant, where she will be working closely with research assistants Cynthia Flores-Santana and Andrew Hattle. Julie is a computer scientist from *University of Technology of Compiègne*.

Kayoko Kumasaka, Carl Folke and Henrik Österblom continue in their roles as Activities coordinator, Chair and Director, respectively.

The Scientific Committee consists of Gretchen Daily (**Stanford University**), Karen O'Brien (**University of Oslo**), Marten Scheffer (**Wageningen University**), Patricia Balvanera (**National Autonomous University of Mexico**), and Sander van der Leeuw (**Arizona State University**).

We hosted visiting researchers for shorter time periods, including Ariane König (**University of Luxembourg**), Maria Ojala (**University of Oulu**), Mariaelena Huambachano (**Syracuse University**) and Tomás Milan (**The South American Institute for Resilience and Sustainability Studies**).

Back row: Henrik Österblom (Director), Caroline Schill (Researcher), Louis Delannoy (Post doc), Andrew Hattle (Research Assistant), Sachiko Ishihara (Post doc), Peter Søgaard Jørgensen (Researcher). Front row: Cynthia Flores-Santana (Research Assistant), Kayoko Kumasaka (Activities Coordinator), Dianty Ningrum (Researcher), Rafael Calderón-Contreras (Researcher), Julie Sampieri (Research Assistant). Missing in the photo: Denis Karcher (Post doc)

Photo: Eva Nevelius

REFLECTIONS FROM THE CHAIR

TEXT:
CARL FOLKE

MANY EXCITING EFFORTS UNDERWAY

In the midst of geopolitical tension, power games and conflict and with a seemingly new world order emerging, it makes you wonder about the likelihood of a prosperous future for humankind. Such a future fundamentally rests upon the capacity of our living planet to sustain it, requiring collaboration and collective action for revitalizing the biosphere foundation. Furthermore, the new reality of the Anthropocene is becoming visible, a reality with climate change impacts and polycrisis, where we humans now are the dominating force, shaping our planet's dynamics, and where our economies, societies, and civilizations truly are embedded within and intertwined with the living biosphere, often without people knowing it, seeing it, or appreciating it. It is tempting to despair.

It is in this context that the work of the Anthropocene Laboratory becomes of great importance. Here, skillful researchers dive into fundamental questions about what constitutes reality in the Anthropocene biosphere. The work is not about quick fixes, but rather about generating deeper scientific understanding of essential Anthropocene phenomena of significance for decisions and actions towards prosperity and sustainable futures.

The inspiring work on the *Empirics of Hope* provides evidence from across the world of a global revitalization of the biosphere. The work finds that local collaboration and collective action have spread to numerous other places and become a global phenomenon of biosphere stewardship. The findings cover diverse segments of society like economy and finance, production and consumption, health and wellbeing, governance and law, spatial planning, knowledge and education, arts and culture. There is not just hope but evidence for being hopeful.

The integrated people and nature reality of the Anthropocene is reflected in the work on 'humans as intertwined beings with life and Earth's basic chemical elements'. The work clarifies how we humans have evolved with and are fundamentally part of the flow of basic elements, from processes inside our body to life processes for air, water, and food from soil and the ocean. The work contributes to a new emerging ontology for understanding the intertwined Anthropocene reality and calls for connecting the natural sciences, social sciences, and humanities.

These are mere examples of many exciting efforts, involving leading scientists worldwide as well as younger researchers and artists as well, which will help inspire, motivate, and innovate for sustainable futures.

It is indeed rewarding and very exciting to follow and take part in the development of the Anthropocene Laboratory. The identity that the Anthropocene Laboratory, under the leadership of Henrik Österblom and colleagues, has created serves as a beautiful complement to the collaboration with *Stockholm Resilience Centre* and the *Beijer Institute of Ecological Economics* and further strengthens the role of Stockholm and Sweden as an important global hub in sustainability science.

WORKSHOPS

Empirics of Hope - Data Workshops

To ensure that information was used and interpreted appropriately from selected initiatives contributing to the Hope Assessment, a series of data workshops was conducted with data experts and data owners. During these workshops preliminary results from the databases were presented and discussed. These workshops covered initiatives across multiple societal systems, including Health and Wellbeing, Knowledge and Education, Production and Consumption, Arts and Culture, and Governance.

March 4, 12
Urban Nature-based Solutions, Ecoversities
August 14
Fisheries Improvement Projects
September 18, 24
Film Festivals, Global Ecovillages Network
Guest participants:
Terry Hartig, Udi Mandel, Gerardo Lopez Amaro, Pedro Veiga, Indrani Lutchman, Diego Galafassi, Jules Ellison

Empirics of Hope - Data Exploration

Data experts and owners were consulted to explore and identify potential initiatives for the Hope Assessment within the societal systems of Spatial planning, Finance, and Governance.

Feb 10
Sustainable mechanisms in Bussiness
April 2, 23, 28
Municipal climate measures, Corporate Finance reporting, Global Reporting initiative
May 5, 8, 27
Transition Network, United Nations Global Compact, Environmental Justice Atlas
September 15, 23
Financial initiatives, Restor
Guest participants: Domain experts and data experts from the above initiatives

Empirics of Hope - Assessment Workshop

This workshop convened an interdisciplinary sustainability research collective, bringing together researchers, data experts, and data owners from the natural sciences, social sciences, humanities, and behavioral sciences. The workshop aimed to advance the development of the Hope Assessment and related research papers, address emerging issues and opportunities, and foster synergies for future work building on the current project.

April 7-10
Guest participants:
Athena Aktipis, Craig Kauffman, Jonas Geldmann, Jules Pretty, Lauren Lambert, Maria Ojala, Mariaelena Huambachano, Michelle Lim, Oscar Hartman Davies, Tatsuyoshi Saijo, Udi Mandel

Workshops with the Nobel Prize Museum

Presentations, discussions and planning, expanding on our long-term collaboration for an exhibition in the Nobel Center.

March 25, September 9
Guest participants: Clara Åhlvik, Karl-Johan Cottman, David Berner, Ulf Larsson, Anna Åhlander, Elin Granberg

Nuclear – Climate Change Workshop

(Co-organised with Beijer Institute of Ecological Economics, Royal Swedish Academy of Sciences and the Stockholm Resilience Centre)

Exploration of the intersection between climate and nuclear risks, with security experts, political scientists, sustainability scientists, and colleagues from countries affected by nuclear attacks or weapons testing. This workshop built on the "Surprising encounters" reported on in our annual report 2024.

May 12
Guest participants: Keiko Nakamura, Togzhan Kassenova, Cibele Queiroz, Victor Galaz, Dan Smith, Florian Krampe, Wilfred Wan, Emelie Elfvengren, Dahlia Simangan, Milla Vaha, Nic McLellan, Desmond N. Doulatram, Tanvi Kulkarni.

Connecting art and science at Stora Karlsö

An exploration of the intertwined history, ecology and art in one of the first protected areas in Sweden, together with invited artists with whom we established relationships with at the Stanford Doerr School for Sustainability in 2024.

June 9-12
Guest participants: Kristina Dutton, Austin Smith, Alicia Escott, Clara Åhlvik, Jonas Hentati Sundberg

PUBLIC SEMINARS

Connecting Indigenous Knowledge Systems – Experiences from Peru and Aotearoa New Zeeland
April 14
Speaker: Mariaelena Huambachano (Associate Professor, Environmental Humanities – Native and Indigenous Studies, Syracuse University)
The Royal Swedish Academy of Sciences, Stockholm

Atomic Pasts, Atomic Futures: A conversation about the legacy of nuclear weapons use in Japan and Kazakhstan
(Co-organized with the Beijer Institute of Ecological Economics and Stockholm Resilience Centre)
May 13
Speakers: Togzhan Kassenova (Center for Policy Research, SUNY-Albany), Keiko Nakamura (Research Center for Nuclear Weapons Abolition, Nagasaki University), Henrik Österblom (the Anthropocene Laboratory, Royal Swedish Academy of Sciences) Accelerator, Stockholm University, Stockholm

Futures for the Pluriverse: A Grounded Approach to Scenario Design
June 16
Speaker: Ariane König (Assistant Professor on Regenerative Social-Ecological Systems, University of Luxembourg)
The Royal Swedish Academy of Sciences, Stockholm

Stockholm Seminar: Are human development and sustainability friends or foes?
(Co-organized with the Beijer Institute of Ecological Economics, the Global Economic Dynamics and the Biosphere Programme, Albaeco, Future Earth and Stockholm Resilience Centre)
October 21
Speaker: Pedro Conceição (Director, the Human Development Report Office, United Nations Development Programme (UNDP))
The Royal Swedish Academy of Sciences, Stockholm

The Anthropocene Paradigm Shift Symposium
(Co-convened with Future Earth, the Stockholm Resilience Centre, the Beijer Institute of Ecological Economics, the Center for Anthropocene History at KTH Royal Institute of Technology and the Bolin Centre for Climate Research)
December 1
Scientific Committee members from the Lab: Caroline Schill, Dianty Ningrum and Henrik Österblom
Speakers: Sven Lidin (President, Royal Swedish Academy of Sciences), Line Gordon (Director, Stockholm Resilience Centre), Wendy Broadgate (Executive Director, Future Earth), Johan Rockström (Director, Potsdam Institute for Climate Impact Research), Katherine Richardson (Professor in Biological Oceanography and Leader of Copenhagen University's Sustainability Science Centre), Buhm Soon Park (KAIST Endowed Chair Professor in the Graduate School of Science and Technology Policy at Korea Advanced Institute of Science and Technology), Sarah Gabbott (Professor of Palaeobiology, University of Leicester), Lila Warszawski (Researcher, Potsdam Institute for Climate Impact Research), Helge Jordheim (Director, Centre for Global Sustainability, University of Oslo), Jan Zalasiewicz (Emeritus Professor, University of Leicester), Fabienne Will (Researcher, Deutsches Museum), Jean Baptiste Fressoz (École des Hautes Études en Sciences Sociales, Paris), Colin Waters (Honorary Professor, University of Leicester), Francine McCarthy (Professor of Earth Science, Brock University), Alasdair Skelton (Professor of Geochemistry and Petrology, Stockholm University), Kim Cohen (Assistant Professor, Utrecht University), Kevin Noone (Professor Emeritus of Chemical Meteorology, Stockholm University), Luke Kemp (Senior Research Associate at the Centre for the Study of Existential Risk at the University of Cambridge), Emilie Caspar (Associate Professor, Department of Experimental Psychology, Ghent University), Michelle-Lee Moore (Deputy Science Director and Director of Transdisciplinary Education at Stockholm Resilience Centre), Julia Steinberger (Professor of Societal Challenges of Climate Change at the University of Lausanne (UNIL)), Deliang Chen (Distinguished Chair Professor at Tsinghua University), Frank Biermann (Professor of Global Sustainability Governance at the Copernicus Institute of Sustainable Development at Utrecht University), Carl Folke (Board Chair, Stockholm Resilience Centre).
The Royal Swedish Academy of Sciences, Stockholm

CONFERENCE PRESENTATIONS & LECTURES

Schill, C. (January 2025). "Living with the 'new normal': a local community perspectives on drastic environmental change in the Arctic." Public seminar with Simon West and Kinga Psiuk, College of Business and Public Policy, University of Alaska Anchorage, Anchorage, USA.

Schill, C. (March 2025). "Living with the 'new normal': a local community's perspective on environmental change in the Arctic." Lecture: Beckman School of Design, Stockholm, Sweden.

Österblom, H. (March 2025). "How do birds uphold the delicate balance of the universe?" Lecture: Beckman School of Design, Stockholm, Sweden.

Österblom, H. (March 2025). "Hope in the Anthropocene." Lecture: University of Luxembourg, Luxembourg City, Luxembourg.

Österblom, H. (March 2025). "If you are never lost – how can you be found?" Lecture: University of Luxembourg, Luxembourg City, Luxembourg.

Søgaard Jørgensen, P. (May 2025). "Stuck in the fast lane – Polycrisis and Anthropocene traps as drivers and amplifiers of high-end climate risks and impacts." Lecture: High-end climate risk symposium, Max Planck Institute for Geoanthropology, Jena, Germany.

Ningrum, D. (July 2025). "Empirics of Hope for Positive Tipping Points." Presentation: Emotions in Tipping Points and Data of Positive Tipping Points, Global Tipping Points Conference, University of Exeter, United Kingdom.

Ningrum, D. (July 2025). "Sourcing Plural Hope for Transformation." Presentation: Transformations Community/ Earth System Governance Conference, Johannesburg, South Africa.

Søgaard Jørgensen, P. (July 2025). "Between hope and despair: the struggle between sustainability transformations and polycrisis in the Anthropocene." Lecture: Seminars in Biodiversity & Evolution, Research Centre in Biodiversity and Genetic Resources, Porto, Portugal.

Søgaard Jørgensen, P. (October 2025). "Vetenskapen som brobyggare" [Science as a bridge builder]. Presentation: Unga akademins dag 2025, Sveriges Unga Akademi, Stockholm, Sweden.

Österblom, H, Hyvönen M & Rahman, A. (October 2025). "När vetenskap blir konst och berättelse" [When science becomes art and storytelling]. Lecture: Statistics Day, Beckman School of Design, Stockholm, Sweden.

PUBLICATIONS

Allen, C.R., Garmestani, A., Eason,T., Angeler, D.G., Chuang, W., Garcia, J.H., Gunderson, L. and **Folke, C**. (2025) "Disastrous Consequences: Shortcomings of Resiliency Strategies for Coping with Accelerating Environmenal Change." Ecology and Society 30(4):21.

Brooks, J., Koomen, R., **Søgaard Jørgensen, P.**, Berl, R.E., Chávez-Páez, W., Eirdosh, D., Abdul Hakim, M., Hanisch, S., Lindell, C., Liu, J.H. and others (2025) "A transdisciplinary approach to growing an applied science of cultural evolution for a sustainable future," Philosophical Transactions of the Royal Society B: Biological Sciences, 380(1940).

Carmine, G., Cronin, M.R., Barkley, C., Tuohy, C.L., Crespo, G.O., **Österblom, H.**, Jacquet, J. and Halpin, P.N. (2025) "An expanded evaluation of global fisheries management organizations on the high seas," Environmental Research Letters, 20(12), p. 123001.

Delannoy, L., Busson, M. and **Søgaard Jørgensen, P**. (2025) "Multi-decadal analysis of major global risk assessments reveals consistent biases and low predictive capacity", EarthArXiv. Available at: https://doi.org/10.31223/X59X41. [Preprint].

Delannoy, L., Leveugle, J.-C., Maniatakou, S. and **Søgaard Jørgensen, P.** (2025) "More than a buzzword? Mapping interpretations of the 'polycrisis,'" Sustainability Science, pp. 1–15.

Delannoy, L., Verzier, A., Bastien-Olvera, B.A., Benra, F., Nyström, M. and **Søgaard Jørgensen, P**. (2025) "Dynamics of the polycrisis: temporal trends, spatial distribution, and co-occurrences of national shocks (1970–2019)," Global Sustainability, 8, p. e24.

Flores-Santana, C. (2025) "Laboratorio de Antropoceno: ciencia para un futuro sostenible" [Anthorpocene Laboratory: science for a sustainable future], RI3.Revista de Biomimesis Transdisciplinaridad en Armonia con la naturaleza, pp. 89–97.

Galaz, V., Metzler, H., **Schill, C.**, Lindahl, T., Daume, S., Marklund, A., Castro, A.J., Bard, J., McPhearson, T., Galafassi, D. and Peters, H. (2025) "Artificial intelligence, digital social networks, and climate emotions," npj Climate Action, 4(1), p. 23.

Hadfield, P., **Ningrum, D.**, Aditya, B., Hardesty, B.D., Holden, J., Maheshwari, T., Marthanty, D.R., Ombasta, O., Prescott, M., Priadi, C., Purnomo, C.E., Ramirez-Lovering, D., Skidmore, M., Suwarso, R., Tanumihardja, D., Taufik, F.D., Wong, T. and Raven, R. (2025) "Transformative principles for circular economy transitions in the Global South," npj Urban Sustainability, 5(1), p. 34.

Hattle, A., Flores, C., Ningrum, D., Blasiak, R., Bengtsson, F. and **Österblom, H**. (2025) "An active academia for peace and sustainability," Peace and Sustainability, 1(1), p. 100004.

Hentati-Sundberg, J., Berglund, P.-A., Olin, A.B., Hejdström, A., **Österblom, H.**, Carlsen, A.A., Queiros, Q. and Olsson, O. (2025) "Technological evolution generates new answers and new ways forward: A progress report from the first decade at the Karlsö Auk Lab.," Marine Ornithology, 53, pp. 21–33.

PUBLICATIONS

Kageyama, S., Sobkowiak, M., **Österblom, H**. and Blasiak, R. (2025) "Exploring evidence of cascading change towards stewardship in the Japanese seafood industry," Marine Policy, 175, p. 106626.

Li, H., Avila Ortega, D.I., Jansen, R., Barton, M., Sinkkonen, A. and **Søgaard Jørgensen, P**. (2025) "Biodiversity and human health: integrated understanding of interlinkages and pathways", SSRN. Available at: https://dx.doi.org/10.2139/ssrn.5988214. [Preprint].

Maniatakou, S., Olsson, P. and **Søgaard Jørgensen, P**. (2025) "The role and capacities of large-scale actor coalitions in shaping sustainability transformations," Global Sustainability, 8.

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Milkoreit, M., Lindahl, T., Moore, M.-L., Nyström, M., Olsson, P. and **Schill, C**. (2025) Human Cognition and the Anthropocene. Report prepared for the Anthropocene Paradigm Shift Symposium, December 1, 2025, Stockholm, Sweden. Stockholm Resilience Center (Stockholm University), Beijer Institute of Ecological Economics.

Nguyen Thanh, L., Wernli, D., Målqvist, M. and **Søgaard Jørgensen, P**. (2025) "A Large Language Model approach to quantify interactions between AMR and SDG action: Knowledge for seeking synergy solutions", DiVA. Available at: https://urn.kb.se/resolve?urn=urn:nbn:se:uu:diva-568518. [Preprint].

Rocha, J.C., Schill, C., Lindkvist, E.A.L., Biggs, R., Blenckner, T., Crépin, A.-S., Fetzer, I., **Folke, C**., Jiménez-Aceituno, A., Knecht, N., Kuiper, J.J., Lade, S.J., Lanyon-Garrido, C., Lotcheris, R., Martin, R., Masterson, V., Matous, P., Moore, M.-L., Nyström, M., Olsson, P., Pereira, L.M., Peterson, G., Silva, A.P. da, Quahe, S., Schlüter, M., **Wang-Erlandsson, L**. and Zoller, H. (2025) "Regime shifts and transformations in social-ecological systems: Advancing critical frontiers for safe and just futures," arXiv. Available at: https://doi.org/10.48550/arXiv.2511.12798.[Preprint].

Rockström, J., Thilsted, S.H., Willett, W.C., Gordon, L.J., Herrero, M., Hicks, C.C., Mason-D'Croz, D., Rao, N., Springmann, M., Wright, E.C.... **Søgaard Jørgensen, P** and others (2025) "The EAT–Lancet Commission on healthy, sustainable, and just food systems," The Lancet, 406(10512), pp. 1625–1700.

Sobkowiak, M., Bebbington, J., Blasiak, R., **Folke, C**. and **Österblom, H**. (2025) "Accountability in collaborative settings: understanding inter-corporate sustainability initiatives," Accounting Forum, 0(0), pp. 1–32.

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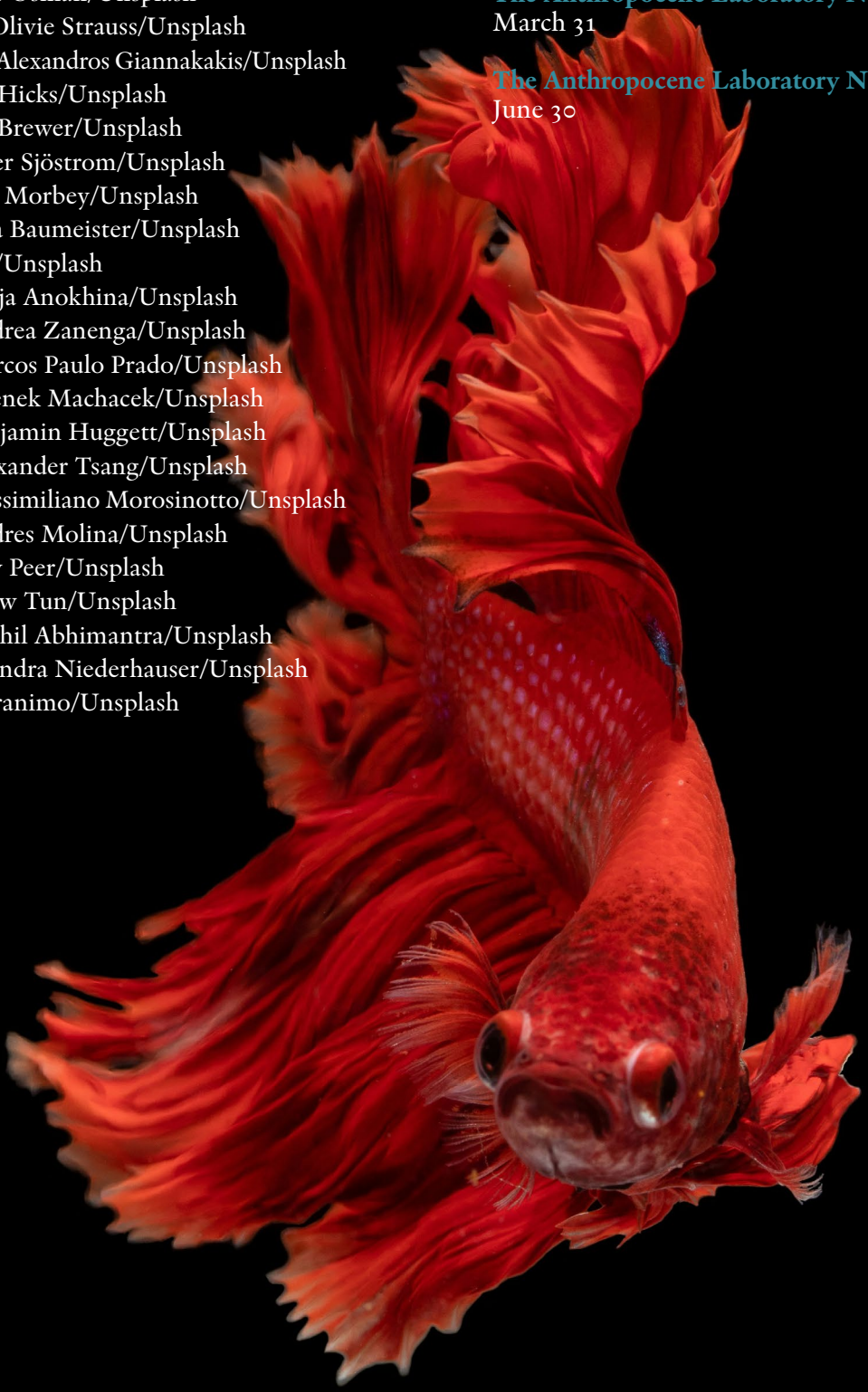
NEWSLETTERS

The Anthropocene Laboratory Newsletter No. 4
March 31

The Anthropocene Laboratory Newsletter No. 5
June 30



PARTNERS

We have worked with members of the Royal Swedish Academy, including from the *Class for Geosciences*, *Class for Biology*, *Class for Engineering Sciences*, *Class for Biosciences*, and members of the *Environment and Energy Committee*, to produce a popular **science booklet about the Anthropocene**.

The Beijer Institute of Ecological Economics and the *Global Economic Dynamics and the Biosphere Academy Program* (GEDB), both at the Royal Swedish Academy of Sciences, and the *Stockholm Resilience Centre* (SRC) of *Stockholm University* are key partners to the Anthropocene Laboratory. During 2025, we further strengthened our cooperation and exchange between the *Max Planck Institute of Geoanthropology* in Jena, Germany, and the *Centre for Anthropocene History* at the *KTH Royal Institute of Technology*.

The *Nobel Prize Museum* shows that ideas can change the world. The courage, creativity, and perseverance of the Nobel Prize laureates inspire us and give us hope for the future. During 2025, we have deepened our collaboration with the museum, through a series of workshops that explore how science can provide hope for the future.

The Anthropocene Laboratory strives to work across scientific disciplines and in collaboration between science and art. *Accelerator* is an exhibition space where art, science and societal issues meet. It is part of *Stockholm University*. The mission of *Accelerator* is to engage actively with society, producing exhibitions presenting international and Swedish contemporary art.

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Anthropocene Laboratory

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