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YOUNG SCIENTISTS
CONFERENCE



VOICES OF THE GLOBAL SOUTH ON THE ANTHROPOCENE

ABSTRACTS



Leopoldina
Nationale Akademie
der Wissenschaften



Perspectives from
the Global South on
the Anthropocene



MAX PLANCK INSTITUTE
OF GEOANTHROPOLOGY



Summary

The current era, known as the Anthropocene, signifies a period where our species exerts a profound influence on the entire Earth system. The origins and drivers of the current dynamics have deep and often unequal historical underpinnings and consequences. Scientific findings increasingly underscore the diversity of impacts of long-term human-environment interactions on contemporary ecosystems, which might, in turn, trigger Earth system feedbacks on a variety of different temporal and spatial scales.

To shed light on these complexities, we are assembling young scholars together with a panel of specialists from diverse backgrounds, equipped with a multifaceted methodological approach. Our mission is to underscore how dialogue between different disciplines (from archaeology, history, palaeoecology to climate and Earth system sciences) and Indigenous knowledge can yield insights into relationships between human land use, environmental stewardship, and the Earth system across space and time. Crucially, by ensuring the inclusion of these perspectives, with a particular emphasis on the Global South and its scholars, we endeavor addressing long-term questions regarding the impact of past dynamics of the human-Earth system to inform the present, and to better predict possible future trajectories in the Anthropocene.

Our goal is to present case studies and viewpoints from across the Global South to create the foundation for a collaborative, multi-authored assessment report. We plan to submit this report to the Convention of Parties (COP) 30 meeting in Brazil in 2025. We believe this can also serve as a platform for often marginalised voices. By doing so, we aim to provide a co-designed practical, tangible framework to advocate for a more equitable and sustainable Anthropocene trajectory.



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Thursday, June 20th

Session 1: Historical insights on the Anthropocene: what does the Global South say?

Racializing the Anthropocene: Afro-Indigenous Crossings from South America

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Our current environmental problems indicate that our situation seems less like a crisis, as a turning point, and more like a permanent inhabiting, translated in what Ailton Krenak has defined as an “ecology of disaster.” In this scenario, voices from the Global South have been looking for responsibility: who has become a “geological force”? Many recent critics of the concept of Anthropocene, regarding its incapacity of dealing with racial dimensions, are calling for a more detailed accountability of the ongoing environmental chaos. This is expressed, for example, in the recent discussion around the need for “climate reparations” – a discussion led during the last COPs by communities suffering the dramatic consequences of climate change. Even considering the political power of the concept of Anthropocene to address contemporary environmental issues, the homogenization expressed in the term “Anthro”, and the concealing of colonial historical processes, undermine its capacity to express contra-colonial strategies built from the Global South. In the first plan, my presentation aims to describe how the Mapuche people, in Argentina, have been inhabiting the ruins produced by the wigka in the last centuries. Through the notion of *recuperación* (recovering), I will address some of the Mapuche cosmopolitical practices, especially in dealing with the presence of oil companies in the Patagonia region. In dialogue with these strategies of recovering, I also intend to bring ideas on how povos de Santo (people of Saints) in Brazil have been able to exist – despite the virulent violence against Afro-Brazilian spiritual practices, considering my own experiences as part of a Candomblé community, in Rio de Janeiro.

The (genetic) biodiversity of the Anthropocene: the Nagoya Protocol and indigenous perspectives on the utilization of genetic resources and traditional knowledge (the case of Brazil).

| Eduardo Relly, Friedrich-Schiller-Universität Jena, relly.eduardo@uni.jena.de

The biotechnological revolution of the late 20th century has enabled and potentialized the commodification of biological diversity, opening up new horizons for the capitalistic appropriation of nature and expansion towards indigenous cultures and knowledge. In this sense, the massive or potential utilization of genetic resources of the biodiversity by corporations from the global north has become a controversial reality inasmuch as most biodiversity in the world remains unknown to western science and are thereby embedded and stewarded by indigenous cultures and (holistic) knowledge systems. The access to indigenous traditional knowledge and genetic resources was regulated by the introduction of the compensatory mechanism of Access and Benefit Sharing (ABS), enshrined in the Convention on Biological Diversity (CBD) in 1992 and implemented by the Nagoya Protocol (2010). This global regulation makes up the cornerstone of current global environmental law and attempts to

address (or to reproduce – depending on the point of view) global inequalities that originated from colonial/imperial power relations. ABS (third goal of the CBD) was also intended to curb biopiracy – a pivotal demand of global south countries -, but at the same time mainstreamed market logics and western views on nature to the realm of biodiversity. This talk aims to debate the origin of the ABS mechanism, its relationship with genetic biodiversity, as well as to analyze the role of indigenous perspectives in the implementation and negotiation of biodiversity policies that address the global utilization of (genetic) biodiversity in the Anthropocene. We will focus in the Brazilian case.

The forbidden fire and the role of rural communities facing increasingly flammable landscapes in the Peruvian Andes

| *Vanessa Luna-Celino, University of Florida, lunacelino.dv@ufl.edu*

Fire is an essential tool in tropical subsistence agriculture but results in escaped fires when not adequately controlled. Understanding the perceptions of key actors about fire and its effective management is the first step in fire governance that can later facilitate transparent decision-making and conflict management. I conducted Q methodology, participant observations, interviews, participatory maps and timelines with Quechua farmers, firefighters, researchers, nonprofit organizations, protected areas, and government agents in the Peruvian Andes. I found that actors prioritizing the negative impacts of fire on ecosystem services also consider fire suppression measures to be more effective, either top-down or bottom-up. While actors acknowledging some benefits of fire on rural wellbeing consider community-based measures, either on fire suppression or management, to be the most effective. Additionally, Quechua farmers hold rich traditional knowledge about fire management and how fire has been interacting with changes in climate and land cover and use over the last decades. However, the current context of criminalization of fire use may hinder the ability of Quechua communities to self-organize and adapt to increasingly flammable landscapes. The recognition of diverse opinions tells us about the need for adaptive and integrated fire management that reconciles the different needs of various key actors, especially those of small-scale farmers and fire users.

Leave it in the South: Oil conservationism in Latin America

| *Reynaldo de los Reyes Patiño, Université de Genève, reynaldo.delosreyespatino@unige.ch*

"What's more poisonous to humanity? Cocaine, coal, or oil?", asked Colombian President Gustavo Petro before the United Nations General Assembly in late 2022. Despite some contradictions in his views, Petro has been emphasizing the need to halt the extraction of fossil fuels to combat the global climate crisis. A similar proposal was made by Ecuadorian President Rafael Correa fifteen years earlier, promoting a project that would have left millions of barrels of crude oil in the Ecuadorian subsoil, specifically at the Yasuní National Park in the Amazon. The project aimed to preserve biodiversity and protect indigenous populations. However, Correa's government failed to receive compensation from the Global North, leading to the abandonment of the project.

These two initiatives are not isolated occurrences, but part of a larger history of oil conservationism in Latin America. In the early 20th century, the region played a crucial role in the growth of the oil industry. By 1920, Mexico was among the leading oil producers, while Argentina created the first state-led oil company outside the Soviet Union in 1922. Bolivia seized foreign companies' properties in 1937, and

Venezuela established the 50-50 agreement in 1948 and then was one of the founders of OPEC. Many measures were implemented as a response to foreign oil companies operating in the region. These companies often caused the displacement of indigenous communities, environmental disasters, and economic dependency. As a result, social protests, labor movements, and anti-imperialistic political reactions emerged, leading to the creation of state-owned companies that often advocated for oil conservation strategies.

In this presentation, I will explore the history of oil conservationism in Latin America. Firstly, I will trace how resource nationalism emerged in response to environmental degradation caused by foreign oil companies in the early 20th century. Secondly, I will examine how conservationist policies were incorporated and contested within developmentalist governments in the region between the 1930s and 1970s. Finally, I will analyze how these perspectives were eventually replaced by neoliberal approaches. Using a wide array of sources from labor movements, experts, and Latin American governments, I will illustrate how the Global South developed a non-hegemonic model for managing fossil fuels. Despite its limitations and contradictions, this model can teach us valuable lessons about how to think differently about the use, and particularly non-use, of fossil fuels in the Anthropocene era.

A Voice from Protected Area-affected Quilombola Communities Traditionally Stewarding Amazônia: From Consultative to Deliberative Co-management—a Step Towards Collective Land Ownership?

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Session 2: Palaeoecological observations of land use change

Worldview Clashes in Landscape Management in the Amazon and Reflections on Possible Dialogues

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Despite Western imaginaries of pristineness, the most biodiverse and largest tropical forest on Earth has had part of its biodiversity shaped by indigenous intensive management over the past 12,000 years. These peoples have deep knowledge of the Amazon Forest, its biodiversity, climate, and how to manage it. Their practices have had long-standing effects on the Amazonian landscape, including effects on soils, as well as on plant and animal ecology and demography. The management of forest people is ongoing, and it is an important driver to keep the forest biodiversity; a management underpinned by indigenous peoples' ways of life, which are rooted in radically different worldviews from Western societies. As an example, many elements that are seen as resources in industrialized societies are acknowledged as humans by indigenous peoples (IP) in the Amazon. In parallel, what ecologists perceive as ecological dynamics, is understood by them as social relations. In a general sense, in Amazonian ontologies, animals, plants, celestial bodies, mountains, etc., have the potential to embody humanity. In this context, they are treated as subjects that carry perspectives, which often result in

ontological clashes between IPs and Western worldviews. One example is Brazil nut (*Bertholletia excelsa*) dispersion: while for some ecologists the animal agouti has a fundamental role in this process, for historical ecologists and anthropologists this plant widely distributed in the Amazon may be a consequence of forest management and plantations of ancient indigenous peoples; whereas for many amazonian IP Brazil nut groves are agoutis cultivation fields in their human perspectives. This kind of conflict matters because oftentimes the solutions in environmental management operate through colonial imposition, and non-rarely IP ontologies are rendered as perspectives, “culture”, seen as unrealistic, erroneous, and consequently unreasonable, irrelevant or, worse, destructible. By conducting an extensive review of the extant literature, I intend to map out ontological conflicts related to landscape management in the Amazon and reflect on if and how dialogues between radically different realities are possible, taking seriously indigenous knowledge and taking into account power imbalances between different actors.

Artivism for Cleaner Air? An Exploration of the Artistic Depiction of ‘Haze Season’ in Southeast Asia

| *Felicia Liu, University of York, felicia.liu@york.ac.uk*

Artistic interpretations of anthropogenic environmental change are integral to explaining, enabling, and empowering society to take mitigative and adaptive action. This paper builds on previous work arguing that the Anthropocene is manifested through ‘seasons’: anthropogenic disruption of the environment has fundamentally shifted environmental rhythms, and in turn has given rise to new social constructions of ‘seasons’ upon which societies and communities organise socioeconomic and cultural activities. Here, we explore the artistic expression of ‘haze seasons’ in Southeast Asia and investigate the transformative power of visual art as a form of environmental activism and communication. These annually recurrent air pollution events, caused by the burning of tropical peatlands and agricultural waste, return to southern (Indonesia, Malaysia, Singapore) and northern (Myanmar, Laos, northern Thailand) Southeast Asia each year and threaten the health of millions. While air pollution events and seasonality have captivated the imagination of artists throughout history, little is known about the artistic expression of the seasonality of anthropogenic air pollution events. How do artists portray collective experiences of air pollution, and what messages do they seek to send with their art? Current literature concentrates on environmental art created, exhibited, and conversed in well-developed economies, primarily in the West, but little has been said about artistic depiction of environmental change in the Global South.

We found a broad variety of artistic depictions of haze, ranging from paintings, cartoons, to street art murals. Deploying content, semiotic, and composition analyses, we found that these pieces of work depict different aspects of the haze problem, including the causes (e.g. palm oil plantation, logging), outcome (e.g. smoke, ill health), and potential social response to these issues (e.g. protests, mask-wearing). Artists often collaborate with environmental NGO campaigns to raise public awareness of an impending haze episode and motivate the public to find ways to prevent or solve these recurrent air pollution episodes, rather than trying to live with it. To this end, we argue that artistic depiction of ‘haze’ does not only serve as alternative, creative representations of the causes, impact, and societal responses to environmental change events, but it also provides crevasses of protest, advocacy, and education amidst an otherwise muted and censored civil society of Southeast Asia.

Environmental dynamics of a coastal ecosystem at multiple time scales: evidence from paleoecology and consequences for landscape management

| *Peter Gitau, Max Planck Institute of Geoanthropology, gitau@gea.mpg.de*

Coastal deltas worldwide are under risk of degradation due to the increasing impacts of sea-level rise and alterations of river hydrology. This double threat also applies to the Tana River Delta in Kenya, which forms a lifeline for local communities almost entirely dependent on its ecosystem services, while also providing very attractive habitat to a wide variety of flora and fauna that make this area a biodiversity hotspot in the Eastern African coastal region. However, past and historical dynamics that have influenced the current status of the Tana River Delta ecosystem are not sufficiently understood to construct a proper baseline to evaluate the uniqueness and magnitude of the delta's current environmental challenges.

In order to gain such understanding of long-term ecosystem dynamics in the Tana River Delta, we developed a multi-proxy paleo-environmental study involving the analysis of sediment cores recovered from floodplain and mangrove forest areas within the delta. We performed a detailed lithological description and geochemical analyses to determine changes in the depositional environment, and analyses of fossil pollen and aquatic invertebrate assemblages to determine past changes in delta vegetation and aquatic habitat features in response to natural and anthropogenic environmental drivers.

Our results indicate that since the mid-Holocene sea-level maximum ca 5500 cal yr BP, the central Tana River Delta evolved from a marine ecosystem dominated by mangrove vegetation to the present-day wooded freshwater floodplain, in response to late-Holocene sea-level decline and subsequent changes in river hydrology. The timing of salinity changes, as registered by aquatic invertebrates, differed between various locations in the delta. In addition, we find that sediment composition and delivery to the delta have been impacted by human hydrological alterations at the basin and local scale over the past two centuries. With continued sediment starvation and hydrological alterations under the current trend of rising sea level, we foresee increased sea intrusion and submergence of the Tana River Delta.



Friday, June 21st

Session 4: Indigenous knowledge and perspectives on the Anthropocene crisis

From Goddess to Property, From Property to Legal Person: Colonialism, Capitalism, and Stories of Riverine Landscapes in Himalayan India, ca. 1200-2000

| *Shuvatri Dasgupta, University of St Andrews, sd296@st-andrews.ac.uk*

This paper shall present a *longue durée* religio-ecological history of the Himalayan foothills in eastern India, by focusing on its riverine landscapes. This area is bordered at present by Nepal and Bhutan in the north, river Manasa in the east, Bangladesh in the south, and the river Teesta on the west. Alongside Teesta and Manasa, the landscape is nourished by many major rivers, such as Karatoya, Mahananda, Jaldhaka, and Brahmaputra.

The first section of this paper shall narrate the sacred histories of this landscape based on the Kalikapurana (ca. 1200). The text lauded the river Manasa and its source, Manasa Sarovara in Tibet, for containing the “holiest of all waters”. The river Teesta and the lakes associated with the river’s ecosystem were characterised as “born from the rays of the sun...on these banks the seven horses of the sun and his charioteer Aruna rest.” Manuscripts such as the Karatoya Mahatmya (ca. 1300-1500) gave an account of the holy Karatoya river. In the Yogini Tantra (ca. 1600) these rivers were described as rising from either Lord Shiva’s hair or his phallus. Sometimes, they also originated from the milk of the mountain-like-breasts of his consort, goddess Parvati. The sacralised bodies of these gods and goddesses directly mapped onto the riverine landscape. The political theology of rulership in the various polities of this area –such as Pragjyotisha (5th-7th c.), Ahom kingdom (15th-19th c.), and Koch kingdom (16th-20th c.)—drew on these narratives.

The second section of this paper shall focus on the eighteenth to the mid-nineteenth century, when British colonialism brutally annexed the Himalayan foothills. In these lands, the British saw sources of profit—flowing waters which could be used for transportation, fishing or collecting driftwood, forests which could provide wood, and mountains which could secure borders. Colonial capitalist extractivism emptied the landscape of its sacrality. Mountains, lakes, and rivers became privately owned property. Legal disputes over their ownership were fought in the British courts. Indigenous practices revolved around the worship of these lands, while also using its natural resources. This clashed with the revenue maximising and unbridled commodification practices of the extractivist colonial state. Heavy deforestation followed by the establishment of tea plantations, later powered by hydroelectricity from the rivers, placed this region at the heart of global capitalism. In response, these mountains and forests became sites of subaltern guerrilla resistance to the colonial and postcolonial states.

The final section of this paper shall situate this transtemporal story of the Himalayan foothills—from being sites of veneration to private property and resistance to it—within a wider global history of extractivist capitalism. Due to ongoing indigenous movements, there is now a shift towards

respiritualising and protecting these ecologies. The Whanganui, the Magpie, the Klamath, and the Amazon rivers have all been recognised as legal persons. The battle for Lake Mary Jane's legal personhood is currently underway. In India, the Ganga and the Yamuna rivers were briefly given similar rights (later revoked by the Supreme Court). In conclusion, this paper shall advocate for restoring the beingness of these lakes, rivers, and mountains in the Himalayan foothills, thereby prophesying the success of "the second wave of anticolonial revolutions" (Banerjee and Wouters, 2022) in the world.

Shadows stop ecological calendar of the town of Haqui under the imaginary line of the Tropic of Capricorn in Mozambique

| *Uchewanda Carlitos Sitoie, University Eduardo Mondlane, carlitossitoie@yahoo.com.br*

Shadows represent the dark part that occupies the back of an object. They are generally cast throughout the clear day and moonlit night. They change size and position over time. They are used to plan day-to-day activities in the village of Haqui, located under the imaginary line of the Tropic of Capricorn in Mozambique. Among the activities, shadows are applied in agriculture for cultivars and homeostasis of animals and plants, to mitigate human-crocodile conflict, geographic orientation, measuring distances, and drawing up an annual ecological plan. The fpi study is based on empirical experiences, taking into account that these are people of the Vátsua ethnic group to which the author belongs, observations, interviews and solar diagramming using the Sol – Ar 6.1 and 6.2 software, analyzing the position of shadows throughout the day and the year. Interviews were held with a view to the meaning of shadows in experiences. It should be noted that a project is underway to use the shadows of sacred forests for family farming in the interior districts of Inhambane province, which are ravaged by drought, hunger and chronic malnutrition.

Keywords: Ethnography of shadows, everyday activities and sacred forests.

Knowledge and dietary practices of the Indigenous communities in Vaupés, Colombia: towards health promotion

| *Daniela Arango Ruda, Juan N Corpas University Foundation and the National University of Colombia, daniela.arango@juanncorpas.edu.co*

This research project focuses on the local knowledge and practices surrounding food production and consumption within the indigenous communities of Vaupés, Colombia, aiming to promote health through the recognition and incorporation of traditional understandings. Despite efforts and legal acknowledgments regarding the right to adequate food and nutrition, significant challenges persist in the reality of these communities.

Rooted in the foundation that indigenous communities possess ancestral knowledge and cultural practices related to food, we acknowledge that these practices have been underestimated and all but dismissed by public health policies and programs. Our project seeks to describe and analyze these food-related knowledges and practices, recognizing their intimate relationship with the natural environment and their potential to promote healthy lifestyles.

Through a socio-demographic characterization of selected indigenous communities in Vaupés, dietary patterns will be identified and analyzed, with the aim of building effective interventions to strengthen the promotion of adequate food and nutrition. Therefore, the goal is not to implement Western or

institutionalized knowledge, but rather, to generate strategies are co-constructed with the Vaupés communities, acknowledging their traditional knowledge as sufficient assets for managing their own well-being.

This multiperspective approach aims to 1) address the challenges of hunger and malnutrition within the Vaupés populations, and 2) strengthen the autonomy and resilience of indigenous communities, allowing them to be protagonists of their health process regarding food and nutrition. In summary, the project aspires to contribute to the development of more inclusive and culturally sensitive public health policies and programs that promote the right to adequate food and the holistic health amongst Colombian indigenous communities.

Shamanic Epistemologies and Indigenous Perspectives on Global-South, Anthropocene, Sciences, and Development

| *Edson Krenak, Krenak leadership and Advocacy at Cultural Survival, edson.krenak@cs.org*

This presentation delves into the intersection of Western concepts such as Global-South, Anthropocene, sciences, and development with indigenous knowledge systems. Drawing from extensive engagement and research within Indigenous Peoples from diverse countries including Brazil, Canada, New Zealand, and Chile, I critically analyze the implications of these concepts for indigenous peoples. Utilizing the conceptual tool of shamanic traditions, which embody a holistic view of knowledge and relationship, I explore how shamans serve as mediators between the "human" and "non-human worlds". Through rituals, storytelling, and relationships, Shamans translate multiple ontologies and epistemologies, fostering a sense of multispecies political approach to knowledge. This perspective challenges the dominant narrative of nature as an object to be managed or preserved, commonly found in frameworks like Anthropocene and development, proposing instead a model of coexistence based on mutual respect and interdependence.

Paiter Surui Agroforestry: Challenges and Opportunities

| *Uraan Anderson Suruí, Paiter Surui leader and linguist, Uraansurui@gmail.com*

The Paiter Suruí live in the Sete de Setembro Indigenous Territory on the southern edge of the Amazon Rainforest in Rondônia, Brazil. Since formal contact with the Brazilian state in 1969, the Paiter Suruí have had to rapidly adapt as cattle ranches and soy plantations have cleared the forest surrounding their territory. They have also had to devise new techniques to conserve the remaining forest within their territory and prevent illegal logging and mining, while also providing a livelihood for community members. One such technique, Brazil nut harvesting, is the topic of this talk. While Indigenous agroforestry has been commended globally as a method for conserving the Amazon and combating climate change, there are numerous practical challenges involved. This talk identifies these difficulties and makes suggestions for how outsiders can collaborate with the Paiter Suruí so that they can achieve their agroforestry goals.

Ancestral Climate Solutions: Reclaiming Indigenous Fire knowledge in the Anthropocene

| *Melinda Adams, University of Kansas, mmadams@ku.edu*

In 2021, the IPCC released its sixth assessment report which unequivocally identified climate change as a human induced process. Indigenous peoples comprise less than 5% of the world's population yet protect 80% of the Earth's biodiversity in the forests, deserts, grasslands, and marine environments in which we have lived for centuries. The assessment also makes reference to how the combination of Indigenous Knowledge and contemporary scientific research are crucial to understanding and combatting climate change effects. In California (USA), wildfire has become seasonal, setting records of acreages burned, lives lost, and rising economic costs. For millennia, prior to colonization, many Tribes throughout the United States, and the world, engaged in regular fire stewardship practices as a place-specific cultural and ecological obligation. However, removal of Indigenous Peoples from their homelands coupled with centuries of "no burn" policies has led to prolonged fuel build up, setting the stage for the current wildfire-Anthropocene crisis. In the Western United States, state and federal agencies are calling on Indigenous practitioners for the deployment of more "cultural burning", Indigenous-led prescribed fire, as a resilience and mitigation tool against the increase of catastrophic wildfire. Elsewhere in the United States, Tribes are asserting governance to steward their homelands with cultural fire as a climate adaptation tool. Finally, Indigenous Peoples across the world, including the Global South, are recognizing the call to return to these fire stewardship practices as an assertion of tribal sovereignty. This talk will synthesize the ecological and cultural responses of cultural fire concentrating first on California, then referencing other examples within the United States, and finally offering cultural burning literature focusing on the Global South. Discussion will elucidate the significance of working with Indigenous fire practitioners and state/federal agencies while offering Indigenous knowledge and perspectives as decolonial frameworks to solving the wildfire-Anthropocene crisis.

Session 5: Heritage sites documentation and management

Ala and the Igbo Heritage of 'Territorial Communion' in a More-than-Human World

| *J. Kelechi Ugwuanyi, University of Bonn and University of Nigeria, jkelechi.ugwuanyi@unn.edu.ng*

The human-driven planetary transformation facilitated the over-exploitation of nature, which resulted in a climate emergency that threatens humans and nonhuman 'beings'. The modernist extractive tendencies separated humans from nonhumans, nature from culture, materials from non-materials, and matter from mind. The contrast also informs heritage philosophy separating past from present, nature from culture, and tangible (material) heritage from intangible (non-material) heritage. However, such dichotomy differs from many other worlds whose ontologies recognise the interconnectivity of these elements in a cyclical continuum. Particularly, among the Igbo of Nigeria, Ala or Ani is the life entanglement of the universe; the Earth goddess, the mother of all things - humans and nonhumans. This ontological understanding made many Igbo communities symbolise Ala with different animal and tree species in a kinship relationship that reveres and preserves them in association with their

groves/forests that harbour other nonhuman species. The principle also perceives every heritage thing as having a utilitarian 'life' in a 'living community of beings', some of which are human. In my studies, I have tried to conceptualise the Igbo ontological principle as 'territorial communion' in which local knowledge systems are printed on the landscape through human-nature relational ontologies, and such pictured living holds the generality of heritage in a continuum. In this presentation, I reflect on this indigenous knowledge system and will demonstrate how the interconnectivity of past and present, culture and nature, and tangible and intangible heritage contribute to more inclusive and sustainable heritage management outside the conventional approaches. I will complicate my findings with the discourse of decolonial heritage and posthuman thinking in the Anthropocene.

Assessment of Threats to Heritage in Nagorno-Karabakh using Remote Sensing

| *Ruben Davtyan, National Academy of Sciences of Armenia, rouben.davtyan@gmail.com*

This study provides a thorough examination of the conditions of heritage sites in Nagorno-Karabakh, with a specific focus on the assessment methodology that employs controlled vocabulary to categorize disturbances into specific types and broader categories. The primary emphasis is on the significant conflict that occurred during the autumn of 2020 and its aftermath.

Among the 414 sites assessed, a total of 312 individual disturbances were documented, revealing the complex nature of the challenges facing heritage sites. The research delves into the historical context of Nagorno-Karabakh, particularly the profound impact of two major wars on its heritage sites and the subsequent challenges in the post-war period. Disturbances caused by military conflicts, such as explosions and shelling, are highlighted, with a detailed analysis of the damages incurred during and after the Second Karabakh war.

Moreover, the article explores the intersection of political conditions, nationalism, and the resultant threats to heritage sites, particularly those with Christian significance. The analysis underscores the critical need for proactive conservation measures to mitigate potential future damage and safeguard the diverse cultural heritage of Nagorno-Karabakh.

Key words: Remote sensing. Automatic Change Detection. Heritage protection. Nagorno Karabakh conflict. Armenian heritage. Azerbaijani heritage.

An Interdisciplinary and Situated Approach to Archaeological Agricultural Landscapes: The Case of the 'Woven Terraces' of Cusi Cusi (Northwestern Argentina)

| *Maria Laura Pey, Universidad de Buenos Aires, marialaurapey@gmail.com*

In regions with historically limited land productivity, such as the Andean highlands, food production sites tend to be reoccupied over time. While the Western approach to food production may suggest that the only reason for this is the optimization of resources, other factors may also be at play. The land bears the marks of generations of farmers and shepherds, shaping cultivated fields with unique biographies that respond to specific logics and acquire distinctive forms in each region. To fully understand the complexity of these landscapes, it is necessary to use a variety of theoretical and methodological tools, in addition to strictly agronomic ones based on geophysical aspects. This

presentation presents a survey and research plan nourished by an agronomic, archaeological, and anthropological approach that seeks to understand and document the forms of production from a situated perspective and versed in the knowledge and management of the ancestral landscape. As an example, we will analyze agro-pastoral sites in a sector of the central-southern Andes (in northwestern Argentina) that have existed for at least eight centuries and are currently inhabited by Quechua indigenous communities. Ethnographic and ethnohistorical sources from the region support the analysis and highlight two essential issues for understanding these reoccupations: ancestry and weaving. The Andean worldview is based on a complex system of relationships that connect different planes of existence and entities (e.g. places that serve as portals, stone ancestors, among others), resulting in a more fertile landscape. As for the weaving, in the Andes it is not just a craft, but a way of understanding and dwelling in the world. The process involves an ontological approach that requires physically weaving with the body, utilizing pre-existing elements such as threads on a loom or ancient quinoa terrace walls to transform them into a llama corral. That perspective recognizes the past while projecting into the future, acknowledging that every practice leaves a legacy or imprint that serves as a framework for future generations to continue producing.

Musicalizing Heritage: A Novel Approach to Communicating Heritage Management – Issues in Tanzania

| *Claudia Lubao, University of St Andrews, cbl1@st-andrews.ac.uk*

Effective communication of research findings to the public is crucial for fostering understanding and engagement with academic work. However, despite various strategies employed by academics, researchers, and practitioners, reaching diverse demographics remains challenging. This is often due to the technical language used in research communication, which may alienate the general public. Recognizing the need for more dynamic communication methods, this talk explores the use of music in conveying heritage management issues in Tanzania, a concept termed "Musicalizing Heritage." This approach involves the creation of songs, particularly in the Bongo Flewa genre, to document, promote, and preserve heritage sites.

In Tanzania, "Musicalizing Heritage" encompasses the writing, recording, and releasing of songs aimed at raising awareness of heritage and archaeology management and preservation. By leveraging popular music, this method aims to capture widespread attention and engage audiences beyond traditional academic circles. The "Musicalizing Heritage" initiative offers a compelling avenue for communicating complex heritage management issues to the public, promoting engagement, awareness, and ultimately, preservation of cultural heritage sites.

Thus, the talk presentation discusses two primary issues: the adoption of innovative communication approaches by academics and researchers, and the efficacy of using popular music, specifically Bongo Flewa, to communicate heritage management issues. It cites the example of the song "Kilwa Yetu" which was created to address the challenges facing the Kilwa Ruins World Heritage Site in Tanzania.

"Kilwa Yetu" successfully gained attention and engagement from audiences that traditional academic methods could not reach. The song empowered the local community to voice concerns about their heritage.