

THE ASTEROID MINER

20-21 November, 2025, College de France

Meteorite Matters

Mapping Meteorite Pathways through Transdisciplinary Practice



Curation: Anton Nikolotov, Alana Osbourne, Eleanor Armstrong

With Contributions by: Aliça Okumura-Zimmerlin, Craig Jones, Anais Walsdorf, Romane Le Roux, Ralo Mayer, Julia Cartwright, Marie Lecomte-Tilouine

Meteorite Matters is an interdisciplinary workshop that brings researchers and practitioners together to trace the object biographies and geographical trajectories of meteorites, examining how their meanings and uses shift as they move. Rocks from the sky or meteorites are central to creation myths and apocalyptic narratives, as well as in technoscientific knowledge systems, luxury markets, and devotional practices. As meteorites circulate through diverse networks, they are transformed, acquiring new forms, meanings, and significances. By following these circulations, we investigate the intersections between scientific institutions and NewSpace industries, the entanglements of colonial dispossession with extraterrestrial geologies, and the emergence of alternative cosmological imaginaries. What do meteorites represent, and how do they matter in different epistemic, economic, and spiritual contexts?

MARIE CURIE ACTIONS

Seminar Lunch Room, bâtiment D, 5th floor, 11 Pl. Marcelin Berthelot, 75231 Paris, France

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Marie Skłodowska-Curie grant agreement No: 101155099.

Meteorite Matters

Meteorite Matters is an interdisciplinary workshop that brings researchers and practitioners together to trace the object biographies and geographical trajectories of meteorites, examining how their meanings and uses shift as they move. Rocks from the sky or meteorites are central to creation myths and apocalyptic narratives, as well as in technoscientific knowledge systems, luxury markets, and devotional practices. As meteorites circulate through diverse networks, they are transformed, acquiring new forms, meanings, and significances. By following these circulations, we investigate the intersections between scientific institutions and NewSpace industries, the entanglements of colonial dispossession with extraterrestrial geologies, and the emergence of alternative cosmological imaginaries. What do meteorites represent, and how do they matter in different epistemic, economic, and spiritual contexts?

Programme

Location: Seminar Lunch Room, bâtiment D, 5th floor, 11 Pl. Marcelin Berthelot, 75231 Paris, France

Wednesday, 19 November – Arrival Day

- Participant arrivals and hotel check-in
- Informal evening meet-up Restaurant La Mosquée de Paris *(optional, location TBC)*

Thursday, 20 November: Mapping Meteorite Locations

09:15 - 10:00
Coffee and introduction

- Welcome and Introduction (see Participant Abstracts and Bios)
- This is where we present the workshop program and discuss the list of precirculated Thematic Prompt questions (**see attachment**).
- Transit to the **National Museum of Natural History (NMNH)**

10:00 - 12:00
Un/Grounding the Workshop: Rapid Research of the NMNH

Focus: Responding to precirculated prompts and collaborative research of the NMNH's collection.

- Working with the museum's curator, Chloé Brillatz, to link the histories of the Museum's objects to the participants' case studies.

12:30 – 13:45
Lunch & Transit

- Lunch location: Kootchi Restaurant
- Transit to workshop venue: Marcelin Berthelot

14:00 – 15:30
Session 1: Visualizing Encounters with the NMNH's Meteorites

Focus: Workshop attendees share brief presentations on how meteorites feature in their work in relation to the NMNH. We contrast the reflections on the Museum with our individual research/practice and the specific meteorites we work with.

- Participants reflect on their responses to the Thematic Prompts and micro-fieldwork, visualising the emerging connections, questions and ideas on the collective map.

15:30 – 15:45
Coffee Break

15:45 – 17:00
Session 2: *"The Journey of a Meteorite" – Critical Objects Mapping*

Focus: Collaborative visual mapping of meteorite circulations, biographies, pathways with help of meteorite-related objects.

- Each participant adds and presents their own (metaphorical) object to the collective map and provides context for its journeys.

17:30 – 18:00
Wrap-Up Discussion

- **Reflections on Day 1:** How do meteorites participate in making, suspending or disrupting in/human histories and futures?
- Planning and framing for Day 2

19:00 – 21:00
Group Dinner

- Location: Le Jardin des Pâtes

Friday, 21 November: Layers of Meteorite Circulations

09:00 – 13:00
Session 3: Short Talks & Layered Mapping

- Each researcher gives a max 10-minute talk (see the Abstract and Biographies section below) and has a 10 min discussion & collective mapping time.

Julia Cartwright: The Philosophy, Principles and Practicalities of Working with Meteorites**;** **Aliça Zimmerlin:** Ryugu as Meteorite: Engineering the Past and Origins of Life at JAXA; **Ralo Mayer:** Plots of Un·Earthing: artistic research on and through storying meteorites; **Eleanor S Armstrong:** Companion Artefacts: The dispersion of the Cold Bokkeveld meteorite; **Anaïs Walsdorf:** Maskelyne's Meteorites: Colonial Collecting and the Cosmos at the British Museum**; Romane Le Roux:** Who do they belong to? A short overview of early 19th century meteorite collecting in France**; (15-min BREAK: 11:00-11:15); Marie Lecomte-Tilouine:** Lightning Stones: Celestial Objects, Hybrid Knowledge, and Ritual Uses in Nepal; **Anton Nikolotov:** The many-headed astrovalue: pathways through meteorite dreams, accidental collectives, and cosmic rocks exceeding their capture**; Craig Henry Jones:** Thinking With (and Beyond?) Terracentrism in Off-World Extractivism**; Alana Osbourne:** The Gibeon Museum Matrix

- Contributions discussed and located to the collective meteorite map
- **Group discussion:** What are some of the common nodes, infrastructures, affects, imaginations, values and practices that we can identify? What is specific or common

about “meteorites” and their mobility regimes in relation to other space rocks, objects and terrestrial minerals?

13:00 – 15:00
Lunch and informal Rountable: with Perig Pitrou and Chaire Espace team

15:00 – 16:00
Session 4: Visions of Future Collaboration Possibilities

- Discussion of publishing possibilities and platforms (e.g. *Fieldsights, Society & Space, etc.*).
- Brainstorming outreach communication formats (zine, artist book, brochure, website etc).
- Identifying ideas for potential future collaborations with other space rock researchers and institutions

16:00
Workshop Close

- Departures

Abstracts and Biographies

Aliça Zimmerlin; PhD student, Researcher ETHNO-ISS; Department of Anthropology; University College London

Aliça Okumura-Zimmerlin is an anthropologist whose work explores how people relate to their environments—both earthly and extra-terrestrial. Her doctoral research at UCL focused on engineers at the Japanese space agency JAXA during the Hayabusa2 mission, examining how they conceptualised and designed spacecraft destined for the little-known asteroid Ryugu. Through this ethnography, she traced how meteorites served as terrestrial substitutes for asteroids, and how perceptions of Ryugu evolved alongside the mission's progress and each researcher's specialisation. She is now joining the CNRS to study the socio-cultural and historical meanings of meteorites in East Asia, from ancient China, Japan, and Korea.

Title: Ryugu as Meteorite: Engineering the Past and Origins of Life at JAXA.

Abstract: This presentation explores how people relate to unfamiliar environments beyond Earth, focusing on engineers at the Japanese space agency (JAXA) during the Hayabusa2 mission to the asteroid Ryugu. When I conducted fieldwork at JAXA, Ryugu had never been visited and remained largely unknown. My research followed how engineers conceptualised and designed spacecraft to operate in this uncharted setting, and how they used Earthly materials—particularly meteorites—as stand-ins to think, test, and imagine what could not yet be reached.

Meteorites played a central role in these efforts. They were not simply scientific specimens but imaginative and practical tools: fragments of the cosmos made available on Earth. Engineers relied on them to infer Ryugu's composition, anticipate sampling conditions, and justify technical decisions such as sterilisation and collection methods. Yet the meaning of "meteorite" shifted depending on the context—sometimes treated as a physical analogue, sometimes as a comparative dataset, sometimes as a symbolic connection linking Earth and asteroid. Across these uses, meteorites became mediators between known and unknown worlds.
Following these practices reveals that the pathway of a meteorite is not limited to its physical journey through space but extends into conceptual and relational domains. Meteorites moved through simulations, discussions, and designs, shaping how engineers imagined the environment they were about to encounter. Through these interactions, new forms of proximity emerged between human actors and distant celestial bodies.

I will conclude by connecting this ethnographic study to my new project at the CNRS, which turns toward the historical and cultural meanings of "rocks fallen from the sky" in East Asia. Drawing on archives from Japan, China, and Korea, this work examines how meteorites were once described and understood as signs, omens, or cosmological agents. Together, these inquiries trace how meteorites—whether handled in laboratories or read in ancient texts—mediate relations between humans and the wider cosmos.

Marie Lecomte-Tilouine (DR CNRS) Laboratoire d'Anthropologie Sociale; Collège de France

Title: Lightning Stones: Celestial Objects, Hybrid Knowledge, and Ritual Uses in Nepal

Abstract: This paper examines the category of “lightning stones” (*chatyang dhunga*), a set of objects of supposed celestial or extra-terrestrial origin, long collected and invested with ritual, symbolic, and healing powers. At the intersection of indigenous and hybrid knowledge, as well as disciplines from the earth, life, and cosmic sciences, lightning stones represent what Claude Lévi-Strauss called “good to think with.”

My inquiry began in Nepal, where an encounter with an untouchable goldsmith revealed a small metallic stone, magnetically attracted and identified as a “meteorite.” The stone had been gifted to him by a Brahmin who claimed hereditary powers to locate such objects after lightning strikes. This Brahmin described a cosmology in which each lightning stone is linked to a planet, endowed with shakti (energy), and capable of absorbing human afflictions. Beyond planetary correspondences, he also recognized a category of stone tools—axes and ploughshares—that fall with lightning, their forms interpreted as celestial weapons capable of splitting or tilling the earth.

Such conceptions resonate with ancient descriptions of ceraunia (thunderstones) in Greco-Roman texts, where axe-shaped stones or crystalline objects were similarly imagined as products of lightning and bearers of power. Across disparate contexts—from Nepalese highlands to nineteenth-century Pyrenean peasants—lightning stones are attributed protective functions, often associated with polished stone tools reinterpreted as sky-fallen artifacts.

These stones thus appear as hybrid objects: precious jewels, sacred relics, active agents of healing, or collectibles in contemporary museums and private markets. Their meanings are multiple and context-dependent, ranging from cosmological tokens to instruments of exchange. At stake is the plasticity of classification between meteorites, prehistoric tools, fossils, and sacred stones.

By tracing both the continuities (protective virtues, association with lightning, celestial provenance) and the local particularities (e.g., in Nepal, their power to kill subterranean centipedes before they grow wings), this paper aims to explore the circulation, uses, and reinterpretations of lightning stones. The Nepalese case study opens broader questions about the transmission of such conceptions, the historical and geographical routes of these stones, and the ways in which their ambiguous status continues to generate value, practices, and knowledge in different cultural contexts.

Ralo Mayer

Ralo Mayer, PhD is a multidisciplinary artist, filmmaker and researcher based in Vienna. Informed by the multivalent notion of plot and performative research, he examines objects and places from space exploration, science fiction, or everyday life, and translates his research into artistic storytelling. In 2023, Mayer contributed a chapter about his work on the closed ecosystem Biosphere 2 as experiment of un·Earthing to the Routledge Handbook of Social Studies of Outer Space. Supported by a Disruptive Innovation postdoc grant from the Austrian Academy of Sciences and the Austrian Science Fund, he currently investigates meteorite cultures as pre-enactments of Space Mining.

Title: Plots of Un·Earthing: artistic research on and through storying meteorites

Abstract: Despite recent legislation and commercial and scientific sample missions, Space Mining is still largely perceived as situated in some distant future. My presentation will introduce some examples of my artistic research project Plots of Un·Earthing, suggesting “mining the sky” already exists through human interactions with meteorites, including scientific, commercial, and cultural practices. Through a performative and story-driven approach, I investigate how “meteorite cultures” display potential key aspects of future extraction and processing of resources on other celestial bodies, such as legal, economic, ecological and political issues, and how their storying can be employed to re-imagine our human relation to resources and environments on and off Earth.Depending on specific interests of other participants, my suggestion would be to present specific artistic and performative engagements with meteorites, meteorite markets and meteorite hunting in Northern Sweden. Through these examples, I’d like to share some key concepts of my work and research with meteorites, such as the notion of plot vs. site, pharmakon, performative research, and un·Earthing. I could also introduce other participants to specific bodily exercises with meteorites. Over the past years, I have developed these simple exercises for workshops with audiences from diverse backgrounds, where I invite participants to develop a relationship with a meteorite fragment and, through that, reflect on our relationship with the environment on and off Earth.

Eleanor S Armstrong Space Research Fellow, University of Leicester/Institute for Space Research.

Title: Companion Artefacts: The dispersion of the Cold Bokkeveld meteorite

Abstract:

"A meteor exploded on the 13th of October in the Cold Bokkeveld" wrote Thomas Maclear to John Herschel in a paper presented at the Royal Society in March 1839. Observed by local communities of Black indentured workers, Dutch settler farmers; British colonists reported their interpretations and returned parts this first C2-class meteorite observed falling to the imperial centre in its already fragmented form.

13th October 2025, I observe the five fragments of this meteorite now present in the geological and mineralogical collections of the Sedgwick Earth Sciences Museum (University of Cambridge). These five fragments each take different trajectories through time and space to appear in the collection, and are prepared differently for scientific research.

"If there were stone butches, there may well be granite dykes" (Imbler 2020)

In this paper, I take a queer geo-logic approach to the Cold Bokkeveld meteorite. Expanding the queer towards the lithic non-human (Luciano & Chen 2015), and drawing on the understanding of "queer life as precarious" but continuing, persisting, I recognise and expand on rocks as the living substance of time (Marks 2009). "A stone's time is not our own" (Cohen, 2015), instead their time is slow. I develop a lithic epistemology, knowledge of rocks as stores of data, and the "erotic pull [of the stone] to a future we cannot witness" (Luciano & Chen 2015). This paper takes Ahmed's (2006) pebbles that "acquire shape through contact...becoming something other than what it is in the present" as a matterphorical inspiration for queer lithic companions that are the fragments of the Cold Bokkeveld meteorite.

Using remix methodologies like zineing, and found poetry explore these fragments and their companions in their wanderings from the then-Cape colonies of 1838, through academic research articles published and databases collated, to their assembly in the archive today - looking at "the risk taken by rocks - yes rocks - to keep existing" (Stengers) .

Anaïs Walsdorf University of Warwick and Science Museum, UK

Anaïs Walsdorf is an AHRC funded Collaborative Doctoral Partnership PhD researcher working between the History department at the University of Warwick and the Science Museum in London. Her thesis explores the colonial institutions, systems and networks behind the 19th century collection of metallurgist John Percy. Her research interests include histories of empire, metallurgy, and collecting. Prior to beginning her PhD, she worked as a museum, library, and archive professional with institutions including the 1947 Partition Archive, Wellcome Collection and Library, the Migration Museum London, and the International Coalition of Sites of Conscience (ICSC). My PhD is titled 'Metallic Empire: Science, Energy and Industrial Imperialism in the John Percy Collection, 1817-1889'. John Percy, the 'father of English metallurgy' is credited with introducing chemistry into metallurgy, making metal processing more fit for industrial demands regarding standardisation and scaling up production. My research explores the relationship between the development of metallurgy as a science and British imperialism through the histories of valuation, extraction, processing, and manufacture told by the metal specimens in Percy's Collection. The Percy Collection includes a specimen of the Cranbourne Meteorite, which Percy requested from Maskelyne in 1875 so that he could test the rust on its surface.

Title: Maskelyne's Meteorites: Colonial Collecting and the Cosmos at the British Museum

Abstract: In what is estimated to be the late 1700s, a giant iron meteorite fell on the land of the Boonwurrung people of the Kulin nation, in a neighborhood that is known today as Cranbourne, near Melbourne, Australia. The meteorite had long been incorporated into Boonwurrung cosmology and tradition when in 1853, a travelling settler stumbled across it. In the following years, smaller pieces of the meteorite were identified and excavated to be exhibited at the Melbourne Museum. After tense negotiations with the government of Victoria, the largest of the Cranbourne meteorites was sent to the British Museum in 1862. For years, it was the largest meteorite known to European scientists, weighing it at 3.5 metric tonnes.

Upon its arrival in London, the Cranbourne Meteorite came under the care of Mervyn Herbert Nevil Story-Maskelyne, the British Museum's head of mineralogy. Under him, the Museum's meteorite collection increased rapidly, tripling within his first six years in the role. This increase can be explained in part by an explicit meteorite collecting policy implemented by the museum. In the early 1860s, the institution had launched a research programme on meteorites and had circulated a memorandum to colonial officials calling for any meteorites to be collected and sent to the Museum. At the urging of Maskelyne, the British Museum established a chemistry laboratory for the analysis of rocks in 1867. With the opening of the laboratory, Maskelyne hired Walter Flight to serve as assistant. Together, they researched, analyzed, and published papers on 'aerolitics', the term Maskelyne coined to describe the 'branch of science that treats meteorites'. Maskelyne and Flight's work in the laboratory both developed the science of meteorites, as well as the science of museum conservation regarding the display of the extraterrestrial objects.
This paper will explore one of the British Museum's most prolific meteorite collecting periods from 1857-80, with a focus on the collection, evaluation, and display of meteorites collected from the colonial world, namely the Cranbourne Meteorite.

Romane Le Roux Muséum National d'Histoire Naturelle (Paris)

I completed a Bachelor in social sciences and philosophy, followed by a Master's degree in philosophy. Since 2024, I have been working on a PhD thesis on the history of the Muséum National d'Histoire Naturelle (Paris)'s meteorite collection in the 19th century, at the IMPMC (MNHN), under the supervision of Matthieu Gounelle and Jean-Baptiste Fressoz. In my work, I try to articulate a material history of meteoritical objects' circulations (from their fall/find to their placement in a national collection) with epistemological issues related to the turbulent beginnings of meteoritics in the 19th century.

Title: Who do they belong to? A short overview of early 19th century meteorite collecting in France.

Abstract: As shown by many scholars, it was only in the 1790's-1800's that meteorites became a scientific object (Westrum 1978, Gounelle 2013). It was also at that time that national scientific institutions began to include meteorites in their collections (McGall et al. 2006). However, meteorite falls existed long before this date. What happened to stones fallen from the sky, once they became of interest to European scientists? To which material trajectories and circulations did this entry in the world of science correspond? For, as many scholars have underlined since the 1980's, epistemological configurations are made visible by objects' circulations (Latour 1987, Kuclick & Kohler 1996). In the case of meteorites, their recognition as natural phenomena and objects of science translated into their being collected and analyzed in national scientific institutions, such as the Muséum d'histoire naturelle and the Académie des sciences in Paris, while they were, in the 18th century, either collected by private personas, or circulating in a local (not national) area. How did meteoritic objects reach Paris? Did the Muséum of Paris make efforts to obtain meteorites? If so, who did the Museum rely on to obtain specimens? Why did it become logical to send meteorites to Paris? Did it seem 'logical' to every actor engaged in the collecting process? Were they resistances, conflict, alternative circulations to the Parisian capture? Through the result of a study of meteorite collecting in France in the early 19th century, I will try to address those issues.

Anton Nikolotov, Marie Sklodowska-Curie Postdoctoral Fellow, LAS, College de France

I am an anthropologist and a casual mouth harp player. My research sits at the intersection of economic and existential anthropology, STS, Central Asian studies and multimodal research practice. In my current work, I explore the life stories of meteorite-related materials and night-sky observation infrastructures in Kazakhstan and along the Digital Silk Road. My research in this area focuses on the emerging imaginaries and practices of valuing the cosmic, which I term "astro-values". I have previously published work on migrant jokes and peripheral convivialities, and I have collaborated with Moscow-based market workers to reimagine border regimes through dream visualisation, animation and sound composition.

Title: The many-headed astrovalue: pathways through meteorite dreams, accidental collectives, and cosmic rocks exceeding their capture

Abstract: How do space rocks generate value when they move across sociotechnical categories and circulate between incommensurable regimes of worth and promise? What accidental collectives may emerge or disappear?

This essay outlines some of such choreographies of space rocks as cosmic organs of many bodies, many-headed trajectories and values. We will follow these entities from sky to Earth, in their Earthbound and-outbound circulation as digital objects, material props and dreams. Drawing on fieldwork across Kazakhstan, Russophone lithotherapy forums and European space expositions, this analysis explores how the liminality of meteorite-related objects simultaneously ground and unsettle claims to space as free gifts of nature or data. We will trace three pathways: crowds of Kazakh tourists, and accompanying horses and sheep drawn to the Assy astronomical observatories by the photoshopped images of Perseid meteor showers; a Saharan lunar meteorite enrolled in simulant regolith production; and tektites and impactites circulating as gifts and energy mediums among online communities of Russian and Ukrainian "stone energy specialists." These three cases speak, I argue, of emic conceptions of lithic astro-value that, at times, exceeds the dreams of its dreamers.

Multiple in their practical ontologies, cosmic rocks as “meteoreites,” point to their previous lives as asteroids and planets, alien vessels or divine energies. In their future states they might promise cosmic abundance of resources, luck or extinction. Neither entirely earthly nor fully extraterrestrial, space rocks as meteorites or meteors, move, blend and leak through categories and projects of resource prospecting, tourism and astronomical datafication.

In the face of intensifying geopolitical and extractive industries of the New Space Age, there is an exigency about understanding how space fragments act or might act deviantly; not as workers of mediation within technoscientific networks and practices, but as lithic overflows and undercommons: provisional stages for gathering accidental and surreptitious collectives or projects of cosmoeconomic divergence and possibility.

Craig Henry Jones, Lancaster University

Dr. Craig Henry Jones is a Lecturer in Management and Society at Lancaster University. His PhD research explored the nascent asteroid mining industry, examining how this area of the NewSpace Economy (NSE) is being used to (re)create socio-technical future imaginaries of Outer Space and instigate its enclosure, and how this is being challenged by Ethnofuturist imaginaries that provide alternative modes of engaging with these futures. His work has continued to build upon this research, expanding to consider the role(s) of spaceports and their place within geopolitical imaginaries of both the terrestrial and extraterrestrial.

Title: Thinking With (and Beyond?) Terracentrism in Off-World Extractivism

Abstract: The past decade has seen a proliferation of discussion surrounding asteroid mining. Advocates of this endeavour ground the rationale in various ways that seek to appeal to different interests or concerns across a range of actors. Arguments in favour of privatising asteroids and mining them for their purported minerals span from the 'need' for materials for use in Outer Space operations for a sustained human presence (whether this be potable water or minerals for construction), the idea that more minerals need to be accumulated to continue supporting an increasing human population, and links are even made to discourses of a green futurity: tapping the mineralogical wealth of asteroids will help to usher in green technologies through providing an abundance of materials with which to build these.

However, whilst this nascent industry has seen sustained public attention following the announcement of the first two asteroid mining companies 13 years ago, much of the discussion relating to asteroid mining is typically discussed in terms that are terracentric in their framing. Specifically, present onto-epistemological frameworks have been developed solely within the context(s) of Earth and the planetary specificities this entails. However, as attention turns to mining off-world, the (extra)planetary contexts by and through which present onto-epistemological frameworks have necessarily developed must be called into question as debate and (speculative) activities move beyond the 'Terran'. Taking extraterrestrial extractive endeavours as the central focus, this talk explores the implicit terracentrism at the heart of many Outer Space imaginaries and seeks to open a discussion on what it means to think with – and, potentially, beyond – the context of Earth.

Julia Ann Cartwright, University of Leicester / Institute for Space Research

I am a planetary scientist, cosmochemist and expert in the study of meteorites, with research focused on understanding the timings, formation and evolution of planetary surfaces. I use multiple petrological and geochemical analytical techniques to understand both large- and small-scale processes in the Solar System. I am currently an independent research fellow at the University of Leicester, where I am leading research to understand the surface composition of the planet Mercury, as part of the ESA/JAXA BepiColombo team using novel equipment at UoL. I am also involved with in-situ resource utilisation (ISRU) topics, particularly for exploring applications to the lunar surface.

Title: The Philosophy, Principles and Practicalities of Working with Meteorites

Abstract: Meteorites are truly ethereal objects that represent artefacts of wonder while also providing valuable scientific information about our place in the Universe. Particularly from a scientific standpoint, they present us with fascinating snapshots of planet-forming processes, which have remained preserved within their chemistries and textures. As a cosmochemist part of my research is to unlock their secrets using various analytical techniques, with a research flow from meteorite material through analysis, to scientific publication. I also have a responsibility as a guardian to these materials to ensure their preservation for future study and beneficiaries.

Here, I will be discussing the general meteorite philosophy that I follow, which has been forged from my experience in this field for the last two decades. I will highlight guiding principles, and the practicalities of meteorite study in a laboratory environment. My talk will include discussing the interactions that I have with colleagues, collaborators and members of the public, alongside the meteorites themselves. I will also discuss various projects that I have been involved in, ranging from novel science through art/science collaborations. The implications of meteorite research will also be discussed in the context of space exploration, and especially with the increasing interest from industry to explore Space from a resource-mentality.

Alana Osbourne - Assistant Professor of Critical Theory, Radboud University.

My work is located at the intersection of anthropology, critical geography, post-colonial and Black studies. I am concerned with the material and affective manifestations of coloniality and with the everyday strategies that urbanites deploy to work through them. In past research I have looked at Truth and Reconciliations Commissions, urban inequalities, tourism and insecurity, with ethnographic research in Jamaica and in Belgium. I approached these topics through a focus on the embodied, the affective and the atmospheric. I currently work on a project that investigates the entanglements between museums, rock collections, and outer-space travel. In this project, I analyze three museums—located in Belgium, England, and the Netherlands—to explore how meteorites, moon rocks, and terrestrial minerals sustain narratives of empire and extraction across Europe.

Title: The Gibeon Museum Matrix

Abstract

Recently, I traced the imperial logics of trans-planetary resource extractivism through the Greenwich Observatory's display of a fragment of the Gibeon meteorite. I approached the meteorite as a kind of portal—an object that links diverse geographies and temporalities of extraction. In this presentation, I return to the Gibeon, but through a different museum and a different fragment: one auctioned at the European Space Agency's Noordwijk museum. By thinking with these fragments, I revisit the idea of meteorites as portals to explore new webs of entanglement across and beyond museums.

Here, my focus shifts from the meteorite as a singular specimen to the fragment itself—as both a conceptual and material problem. How might the Gibeon's dispersed presence across multiple sites unsettle notions of bounded objects and fixed meanings? And how might a network of Gibeon fragments redraw imperial and colonial maps? Through these questions, I trace how the Gibeon's ubiquity across collections reframes extractive histories, imperial imaginaries, and the porous boundaries between Earth and elsewhere.

THEMATIC PROMPTS FOR ENGAGING WITH A METEORITE COLLECTION

The prompts that follow invite you to reflect critically on the meanings, values, and practices that shape how meteorites are presented in museums. You do not need to answer every question; instead, use them to think more deeply about one or more of the specimens on display. These questions are designed to guide your visit and to prepare you for the upcoming workshop, where we will explore the complex journeys meteorites take across space, time, and cultural contexts. When answering the questions, please consider how this relates to your work on cosmic rocks and meteorites.

LABOUR & MUSEUM PRACTICE

● Who collected, prepared, catalogued, and conserved this meteorite?
● What kinds of work — scientific, logistical, or curatorial — make its display possible?
● What narratives or institutional interests shape which specimens are collected or displayed?

LEARNING — Knowledge & Interpretation

● What can this meteorite teach us about the formation of the solar system or planetary science?
● How do scientific interpretations coexist with cultural, artistic, or spiritual ways of understanding meteorites in this exhibit?
● Does this meteorite exhibit bridge science, community knowledge, and / or imagination?

LOOKING — Observation & Display

● How does the way this meteorite is displayed shape how you see it — for example as evidence, artifact, treasure, or messenger?
● What visual cues (lighting, labels, scale, context) influence your sense of its meaning or importance?
● Are you invited to engage with this meteorite through other means than sight? LEGEND — Cosmic & Cultural Meanings
● What importance does this meteorite hold in local or global stories, oral traditions, or beliefs about the sky and the cosmos? Does the exhibit point to this?
● Are there (spiritual, cultural, or metaphysical) reasons this specimen should not be displayed, or should be displayed only in certain ways or to certain audiences?
● How do current modes of display support or disrupt the relationships people for whom this meteorite holds significance might wish to have with it?

LUCRE — Value & Exchange

● How is money or prestige generated or redirected through the finding, study, or sale of this meteorite specimen?

● How is this meteorite's value defined — by rarity, scientific potential, aesthetic qualities, or its story? Who determines that value?
● Who funded the acquisition of this meteorite ?
● When meteorites are donated from private collections, how were those collections built — how did the private collector get the money to collect?

LEGACY — (Human) Presence & Absence

● What kinds of names and people are recorded in the history of meteorite collecting? Do certain demographics, professions, or nationalities dominate?
● Who had the resources, education, or connections to become known as discoverers, scientists, or donors?
● What roles did local observers, Indigenous communities, or field labourers play — and how are their contributions remembered (or erased)?
● Whose legacies are preserved through naming conventions (e.g., meteorites named after places or collectors), and whose are overlooked?