

# The Universe as Home

Exploring the tension between climate change and the space race through somatic experiences, speculative design, and interactive performance

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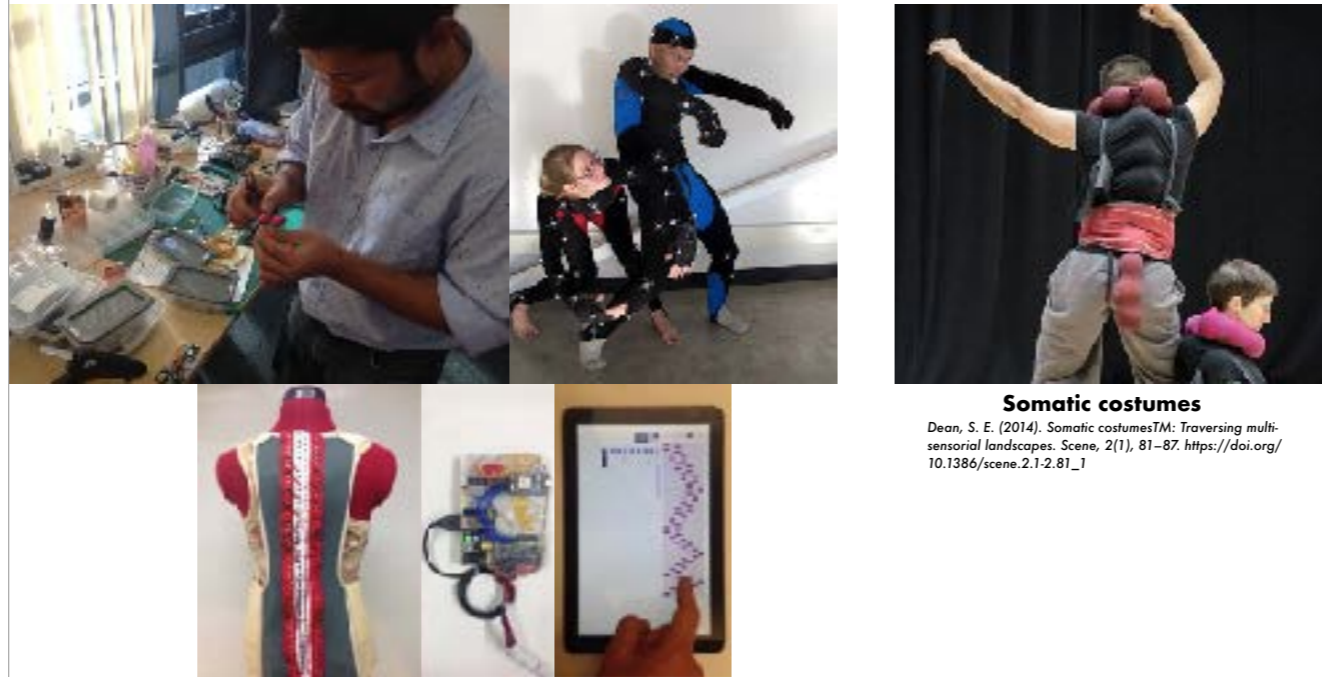


But for this presentation, I'll be discussing the process and outcomes of a two-week workshop with participants of the 2022 Winter School at the Royal Institute for Theatre, Cinema and Sound (RITCS) in Brussels. This is early work and we're still developing the analysis.

The image shows a screenshot of a research paper titled "Dance Illusioning the Cyborg: Technological Themes in the Movement Practices and Audience Perceptions of Three Urban Dance Styles". The paper is by Diego Maranan and is available on OpenAIRE. The abstract discusses the intersection of dance and technology, exploring how technological metaphors influence movement practices and audience perceptions in three urban dance styles. The paper is published in the Journal of Dance Research, Volume 35, Number 1, 2017, pages 1-15. The OpenAIRE logo is visible in the top right corner of the paper's interface. A QR code is located in the bottom right corner of the screenshot.

My name is Diego Maranan, and I'm an Associate Professor and Dean at the Faculty of Information and Communication Studies at the University of the Philippines Open University. Yesterday, there were some interesting questions about how technology might be changing the way we dance. So before I start my presentation, I briefly wanted to offer this piece of research that I had done during my Master's some time ago on how technological metaphors were creating new styles of underground and urban dance. If you're interested, please check it out.

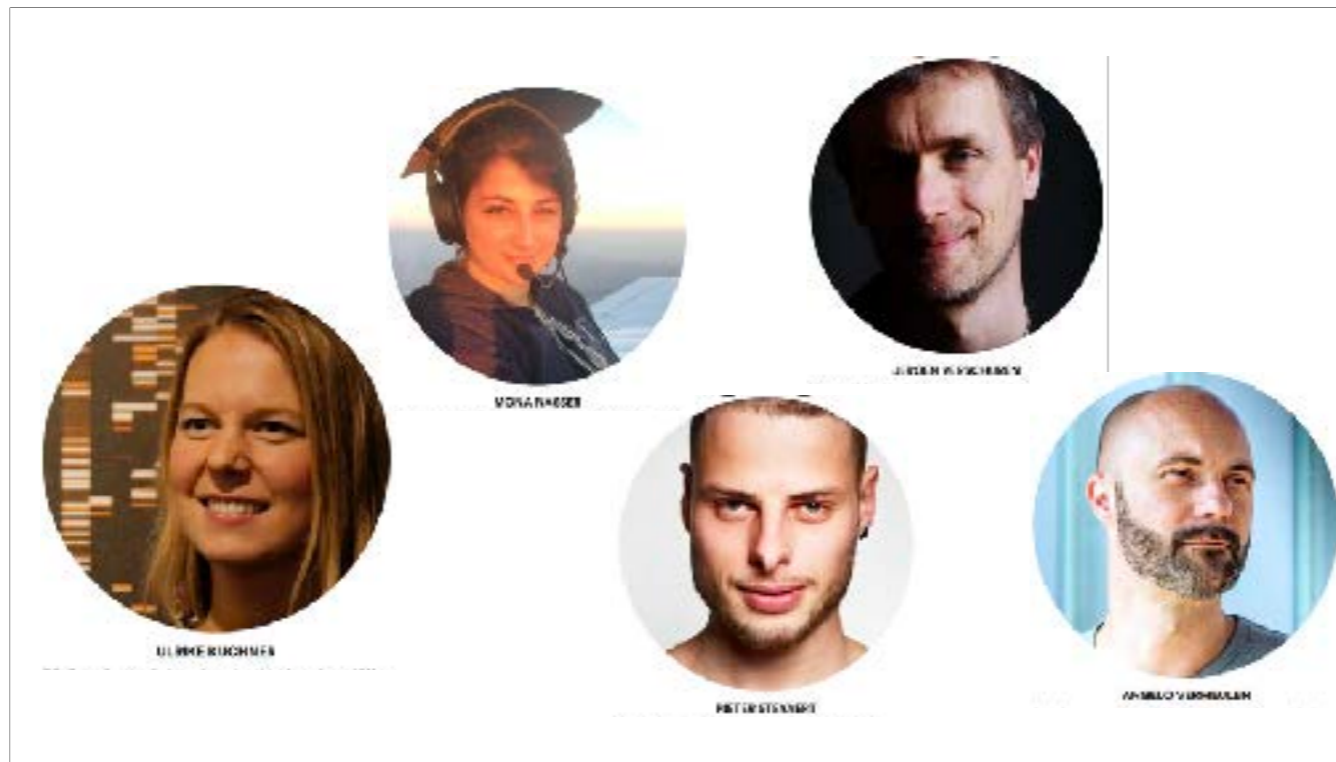
### Computing science + Contemporary dance



### Somatic costumes

Dean, S. E. (2014). Somatic costumesTM: Traversing multi-sensorial landscapes. *Scene*, 2(1), 81–87. [https://doi.org/10.1386/scene.2.1-2.81\\_1](https://doi.org/10.1386/scene.2.1-2.81_1)

My background is in computing science, contemporary dance, and technology design. I'm particularly interested in transformative experiences of the body. So here you see me wearing a costume by British researcher and artist Sally Dean. When I first wore this costume I felt like I was inhabiting someone else's body, and in fact it made me feel like I was some kind of ancient salamander. I'm interested in creating devices and situations where other people can have similarly transformative embodied experiences. I also make programmable, vibrating, musical underwear. (Hi Rudolf.) But no time to talk about this.



These are my co-authors and some of the people that were involved in the workshop, and they all blend different disciplines: aviation, yoga, space systems, digital media art, biology, and skydiving. Ulrike Kuchner co-led the workshop with me and she is an astrophysicist and a visual artist. Three of my co-authors are actually here in the audience: Pieter Steyaert, Jeroen Verschuren, and Angelo Vermeulen.



My co-authors and I are part of a collective called SEADS (Space Ecologies Art and Design), an international transdisciplinary collective of artists, scientists, engineers and activists from all over the world. Jorge, who spoke yesterday, is also another SEADS collective member. And at SEADS we are particularly interested in the the idea of futures literacy.

# About the Winter School 2022

RITCS WINTER SCHOOL 2022: CLIMATE CHANGE AND THE NEW SPACE RACE



Winter School  
RITCS Winter School 2022  
RITCS Winter School 2022

Every year the RITCS Winter School, organized by the RITCS, offers a unique opportunity for students to engage in interdisciplinary research. The Winter School 2022 will focus on the theme of Climate Change and the New Space Race. The program will include lectures, workshops, and a final project presentation.



FRANCE

11 JANUARY 2022 - 18:00

De terugkeer van astronauten, en de RITCS Winter School 2022. Tijd om de wereld terug naar de grond te brengen van de veranderingen in klimaat, de ruimtevaart, en de nieuwe ruimtevaart. De wereld terug naar de grond te brengen van de veranderingen in klimaat, de ruimtevaart, en de nieuwe ruimtevaart. De wereld terug naar de grond te brengen van de veranderingen in klimaat, de ruimtevaart, en de nieuwe ruimtevaart.

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So: the Winter School. Every January for two weeks, different departments from RITCS come together to create an interdisciplinary research creation module. This takes the form of a mini-festival built around a central theme. For the 2022 Winter School, the theme was the tension between the climate crisis and the new space race. It seems like there might be a contradiction in trying to venture out into space when we can't even seem to fix what's wrong on Earth.

**Our take:**  
  
**embodied,  
multisensory,  
immersive**

**Assumption**

Confronting climate change and investing in space exploration are really both concerned with survival and with the search for humanity's place in this universe.

**Challenge**

Develop multisensory expressions and imaginations beyond what we can ordinarily see, in order to address our lack of connection with nature and the universe.

**Possible strategies**

Can we create a multisensory performance in which audiences really, deeply experience the complex and invisible forces that are shaping the planet's climate? What about designing a technology where we can feel deep in your muscles what it's like to be a lizard or some other non-human living being? Can we craft an experience that helps the audience feel in their body the vastness, emptiness and incomprehensible age of the universe?

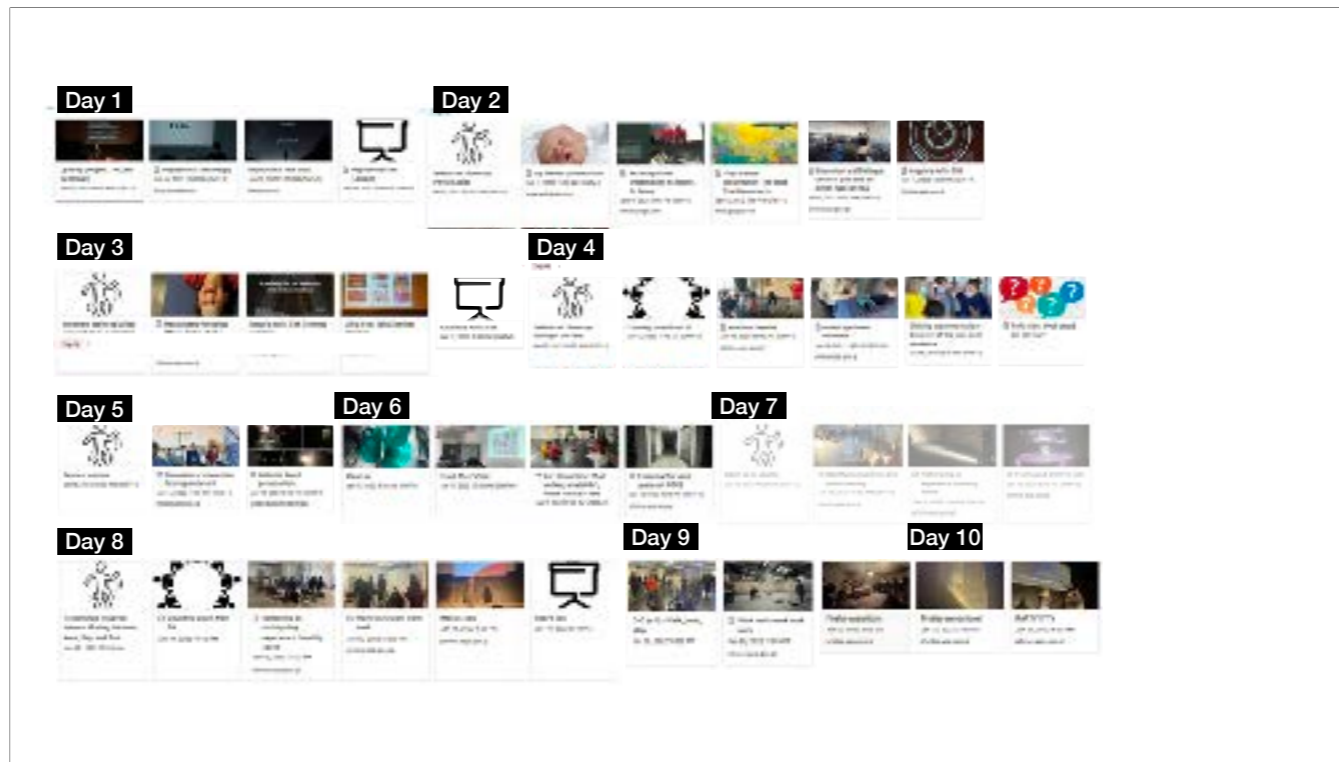
This tension was addressed by all the Winter School workshop groups. There were three other workshop groups, each led by different new media and visual artists. In our workshop, our central assumption was that our concern about what's happening on Earth and our interest in space exploration and settlement are both really about trying understanding our place in the universe. We wanted to challenge the students into developing multisensory experiences that would make us feel more connected with nature and the universe. Maybe these experiences are about connecting with powerful invisible nature of the universe, or about taking the perspective of other non-human living beings. In the end, what I the students did, quite successfully, crafted an experience that helps the audience feel in their body the vastness, emptiness and incomprehensible age of the universe, but relate it to the idea of searching for home.

# About the students

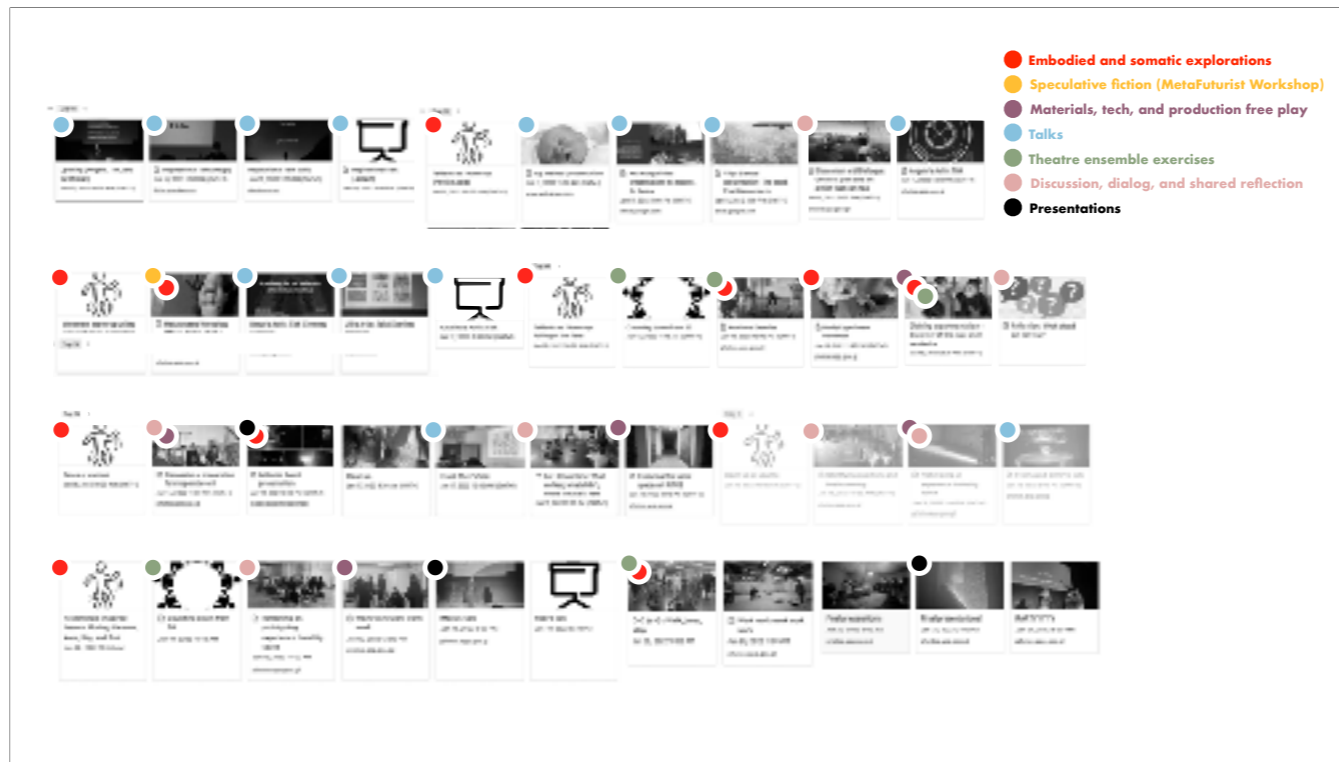


- Dance
- Theatre
- Animation
- Film
- Radio

The students came from a diverse range of disciplines: dance, theatre, animation, film, radio. We had a blind student of the radio program, which made the multi sensory focus of our workshop even more important.



This is an overview of all the different activities we did over a two-week period. I'm not going to talk about all of them.



The activities could be classified into several types. In the interest of time, I'm going to discuss only a few of these activities, and I'll focus specifically on the embodied and somatic explorations, and the speculative fiction activities, that we ran. And as I do, I hope you can see how they contributed to the final student presentation, which I'll be showing towards the end,

# Talks

- Embodied cognition
- Disorientation in zero-visibility conditions when piloting an airplane
- Large scale art installations that obscure your sense of size, scale, and location
- The large-scale structure of galaxies
- The nature of infinity
- Artscience practice

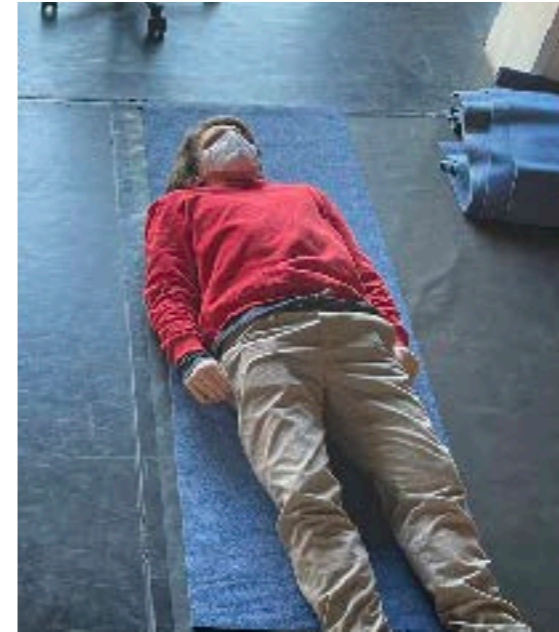


There were a number of talks on themes relevant to the workshop, ranging from embodied cognition, to sensory disorientation, to confronting infinity.

## Somatic exploration

Body awareness lessons based largely on the Feldenkrais Method.

(Lots of lying down.)



I led students through somatic exploration exercises based largely on the Feldenkrais Method, which is a movement education and body awareness training technique that I had studied. For example, I would ask the students to notice the quality of their breathing and how they they felt the contact of the back of their legs on the floor. Every day there was always some kind of body-based warmup or somatic exploration.

# Speculative fiction

- Workshop run by the MetaFuturism Lab
- Scientific methods + speculative fiction + “meta-thinking” to find new ways to prepare or respond to current and future societal, health, environmental and world challenges.\*
  - Imagine a future society
  - Imagine a problem in this future society
  - Imagine and demonstrate a potential solution to this problem

\* Nasser, M., Steyaert, P., Maranan, D., Knight, J., Gonzalez, Y. M., Haines, A., & Peeters, A. (2022, September 20). *Meta-futurism: An immersive workshop with science fiction elements to facilitate a conversation on climate change and space exploration*. 33rd IAA Symposium on Space and Society at the 73rd International Astronautical Congress, Paris, France. <https://iafastro.directory/iac/paper/id/74076/summary/>



One of the most significant activities that we ran was MF Lab workshop. So this was like a workshop within our workshop. During the MF Lab workshop, students were asked to imagine that they were living on an exoplanetary system in the distant future. They were given some prompts and guides, but otherwise they themselves had to elaborate what that society looked like and how it functioned.

## Speculative fiction

- Mysterious disease in the TRAPPIST explanatory system causing body temperatures to plummet
- Devise a way to investigate the problem and identify a potential solution for it



Then they were given a particular problem that was happening in that future society and they had to suggest ways to investigate it, and to solve it. In this case, people's body temperatures began to plummet mysteriously. Over the course of a day, two groups of students created two different performances that demonstrated how they might deal with this mysterious disease. One group came up with this beautiful rite-of-passage ritual that involved "coldifying" your body permanently. In the other group, the AI "overlord" of sorts of the society decided to just cryogenically freeze everyone while it tried to work out a solution.

## Group machine exercise

- Create a machine using movement and sound
- The output of one part of the machine becomes the input of another



We also had some particularly goofy exercises, like the one. The idea is that one by one participants create a machine, and each person is a subsystem of that machine. They takes the output of one person as their input, and then create a new output for someone else to use. This exercise was going to make an unexpected appearance in the final output.

## Sensory experiments

- Two-point discrimination (how different is your touch sensitivity in different parts of your body?)
- Rubber hand experiment (can you transfer the sense of body ownership to an object?)
- **Binaural beats (how can unusual, engineered sounds change the way you perceive space?)**



Throughout the two weeks we continuously made an effort to widen the conversation to lesser-"used" senses, so we devoted one activity just on sensory experiments experiments. Students experimented with things like the rubber hand illusion. But the main activity that they seemed to be inspired by was the use binaural beats—which are specially engineered sounds—and how they seem to transform the perception of space. This seem to create new possibilities and drew a focus to listening/experiencing.

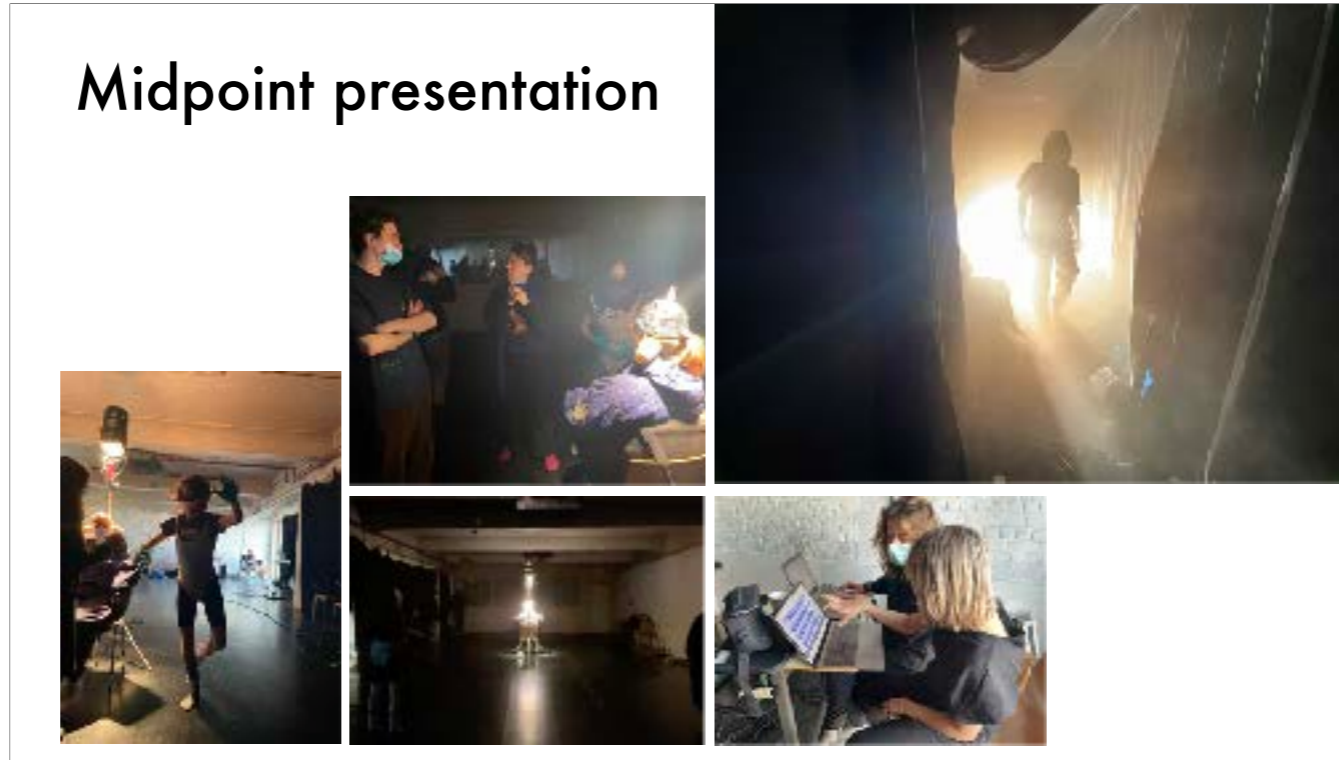
## Clothing experiments

Experiment with clothing that would make you feel different about your body.



For example, at one point while we were exploring experimenting with how clothes can change the way they experienced their bodies, a couple of the students were goofing around with some coffee cups, when they discovered that they created a really cool effect that happens when you put the over your ears. We think that they made this discovery because of their previous experience with the binaural beats and the fact that it was really important that we focused on non-visual senses because of the blind workshop participant.

## Midpoint presentation



This ear-cup device became one of the central elements of this totally wild midpoint performance that they did. They created new spaces that were inspired by the earlier discussion of whiteouts and sensory disorientation.

## Unstructured environmental exploration



AKA, we wandered around and stumbled across interesting spaces.

Finally, we had some downtime where just basically wandered around the gigantic building of RITCS. We then accidentally stumbled into like sub-sub-basement, which was unimaginably huge. And that kind of was the spark that led to the final outcome.

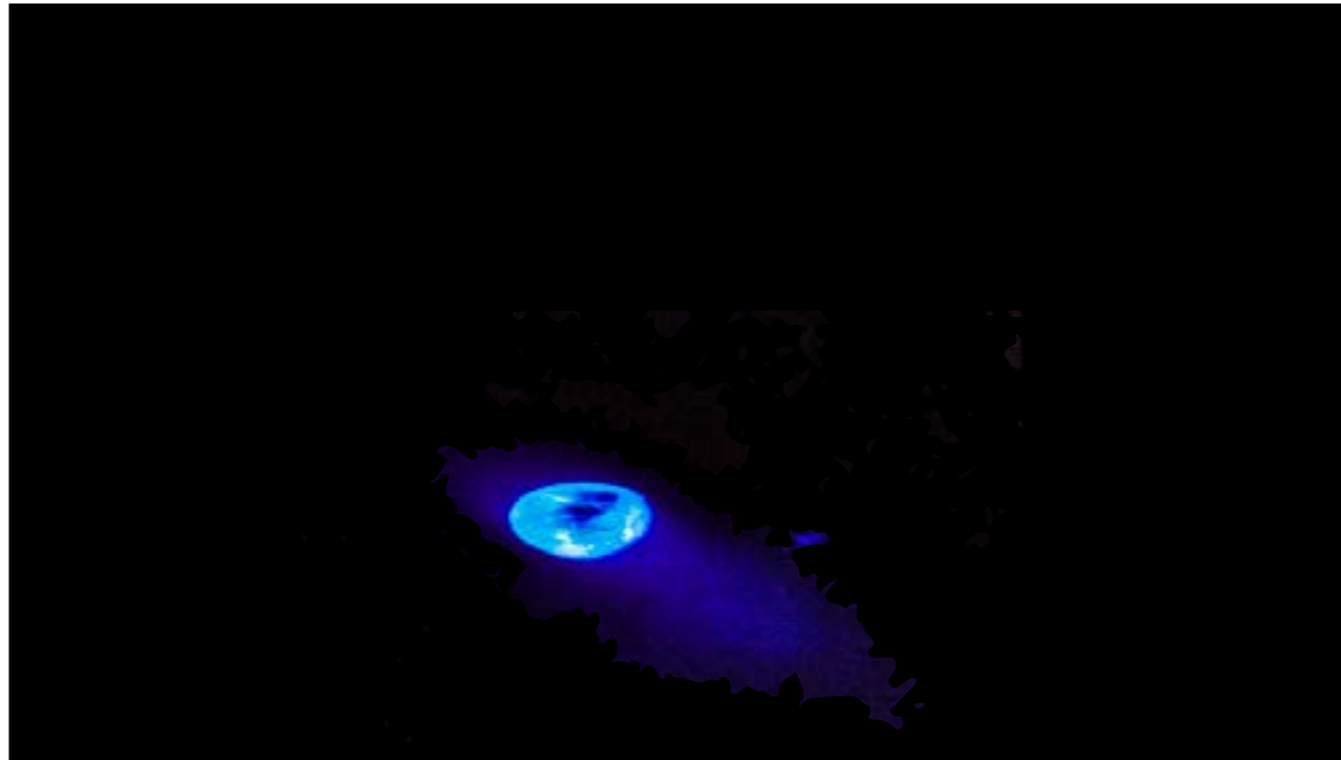
So what was the final outcome?



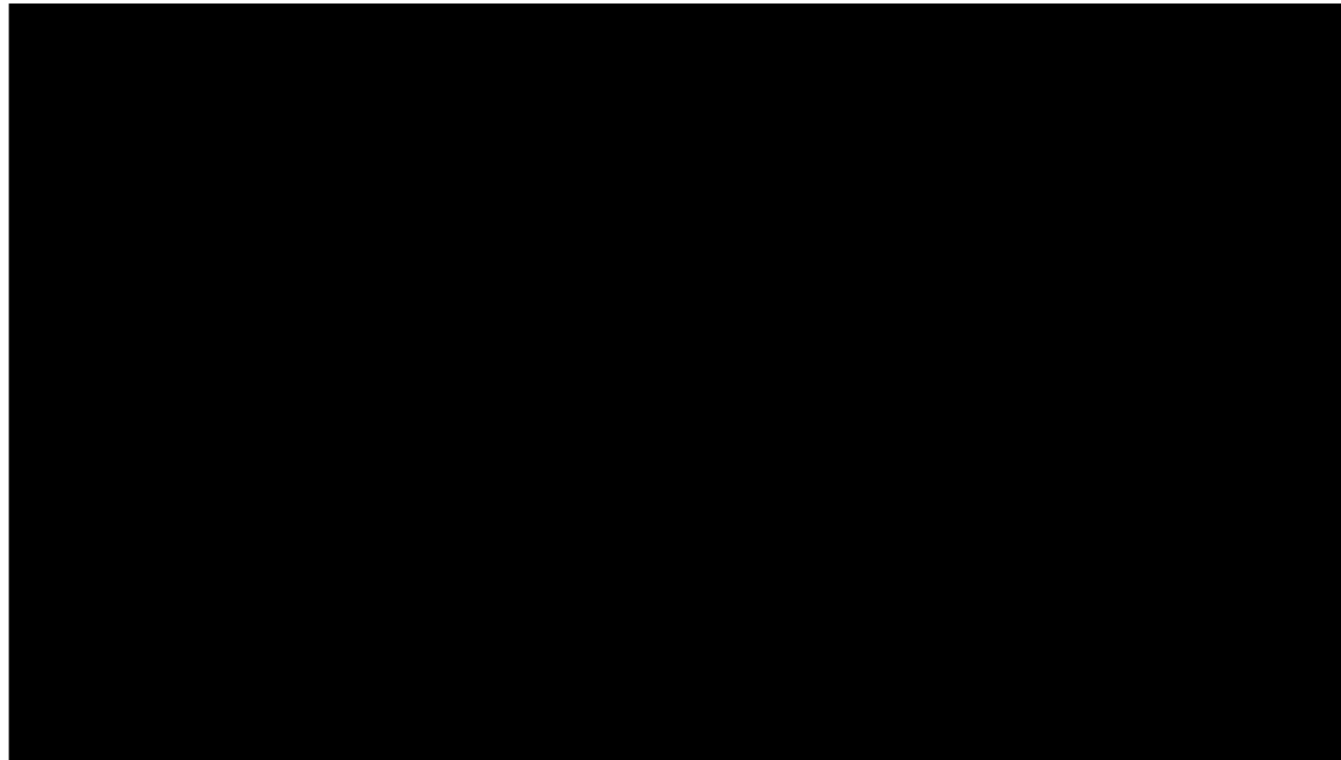
Volunteers escort you down a flight of stairs, and then down another flight of stairs, and down yet another flight of stairs... you descend into the depths of the building further than what seems possible. And as you do, the air slowly begins to get foggier, the visibility gets increasingly poorer... courtesy of flour, a smoke machine, and other forms of tech theatre magic.



And as you go down, it gets colder, and colder, and colder, and it gets darker and darker and darker. And finally you end up somewhere pitch black. It's hard to see anything at all, but you get the sense that you're in a gigantic room, because you hear sounds coming from a distance away—water dripping, feet shuffling, and above it all there is a wordless shapeless ever-shifting harmony. In the dark, these sounds seem to be coming from everywhere and nowhere all at once, echoing all around you.



And then suddenly in front of you a section of the floor far away lights up. It's very dim, but you can see that it is an image of the spinning Earth, projected on the floor. And you see that there are people near the projection. And it's only when you see that the people seem to be quite tiny that you realize that the projection and the people are actually very far away from you, farther than what you even thought was possible. The people seem to be walking across the projection.



And then you hear a phrase, spoken by someone but as if from nowhere, echoing all around. “Freshly cut grass.” You hear a series of words, but taken together they don’t seem to make any sense. “Chocolate cookies baking in the oven”. “An open sewer.” “Bleach.” And then the words stop, but the wordless shapeless harmonies continue to fill the vast blackness.



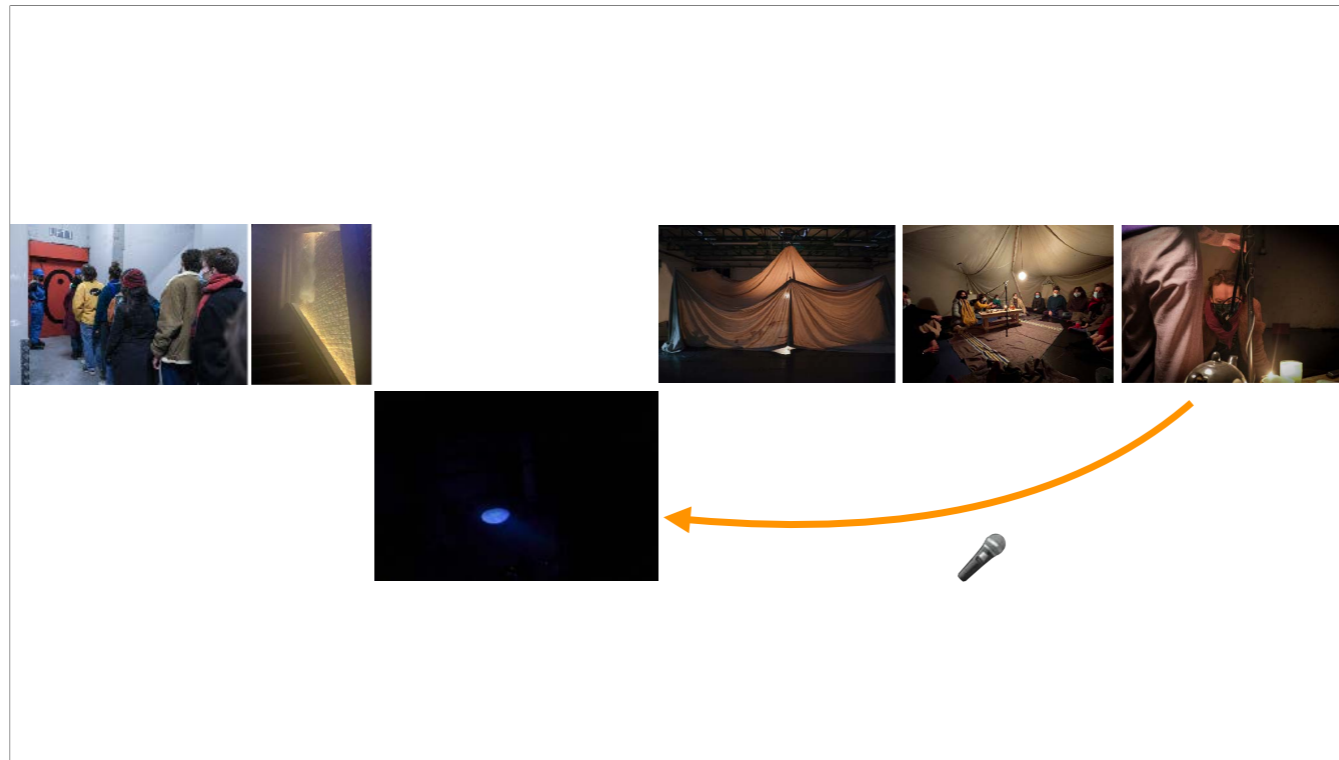
Before you can make sense of what you just experienced, you are led out by volunteers back the way you came, through an elevator, and then through several corridors, and finally into a room, where you see this: a tent lit from within by a warm light. You are asked to take off your shoes and enter the tent.



Once you settle down, your hosts tell you who you are and why you are there: you are interstellar travelers, colonists who have just arrived a remote exoplanet. You have come a long distance away, across the vastness of space to your new home. To settle you, your hosts guide you through a body awareness meditation.



At the end of this meditation, your hosts then ask you for a favor: help the other travelers who are still making their way across the galaxy, stuck out in the cold black void of space, by sending a brief message to them. The message? **Share with your fellow space travelers of a smell that reminds you of home.** One by one, you and the other audience members speak into a microphone, and you realize that that's what you were hearing earlier in that far away, remote, cold, dark place: sensory reminders of home, amplified whispers from across a vast distance by a previous group of interstellar traveling audience members who have already made the journey. "Freshly cut grass." "Chocolate cookies baking in the oven". "An open sewer." "Bleach."



This entire experience lasts about 20 minutes. To summarize, two different performance spaces with different audience experiences enabled through completely multisensory experiences—dark vs. lit (visual), cold vs. warm (thermal), resonant and echoing vs intimate and hushed (auditory), floating vs. settled (proprioceptive). These performance spaces were linked by a clever technology-mediated audience participation strategy.

## Experiencing and embodying the universe as home

- Taking inspiration from artistic simulations—and real-life experiences—of **whiteouts and sensory deprivation** as a way to transform the performance space and the audience's relationship to it.
- Using the scale of physical spaces to create different experiences that a sense of **vastness** (the basement) or **intimacy** (the tent).
- Using multi-part improvisational **harmony** that uses the acoustic properties of the basement to give a **sense of immense size**, even in the dark
- Using microphone technology to allow you to use a **vocal register that is intimate**, but can then be acoustically amplified
- Using **felt temperature** as a way to convey the idea of outer space (cold) and home (warm)
- Using **body awareness** prompts (inspired by the Feldenkrais Method) to create a state of settledness and evoke the concept of home

To conclude, we are still processing the information we've collected from this workshop, but I think that the students successfully crafted an embodied, multisensory expression of the idea of the universe as home, by integrating many of the activities they did during the two week workshop.



Thank you

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In the future, we hope to be able to report on and analyze this workshop in more detail. And most of all, we're very curious to see whether this experience might influence the creative processes of these students for the rest of their career. **CLICK:** This

Thanks