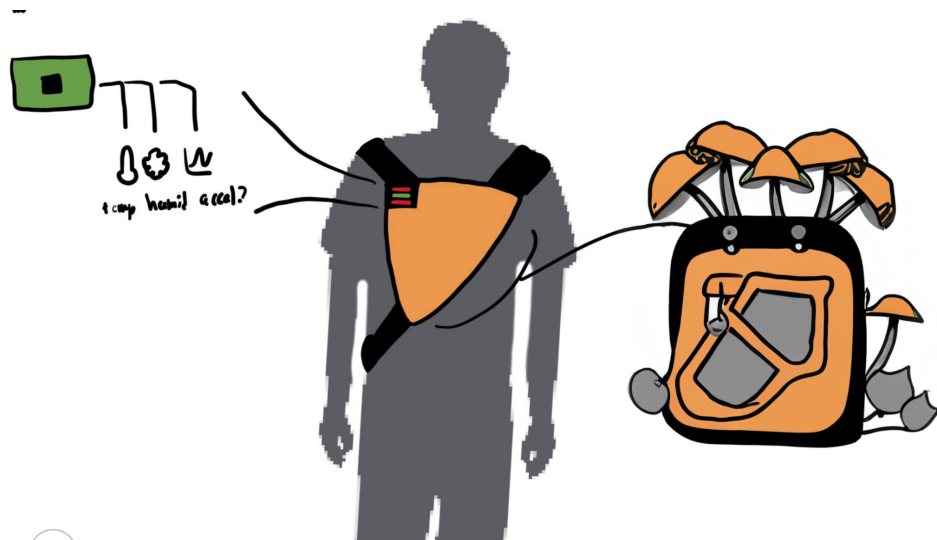


# funGUS - More than Human Affective Haptics with Fungi



Future missions will send humans deeper into space, where they will need to grow and maintain their own food sources. This presents a challenge for astronauts in developing a personal connection with and understanding of that food.

To address this challenge, we want to develop funGUS, a smart wearable designed to grow edible mycelium using body heat. By physically connecting to funGUS, astronauts can actively participate in the cultivation of their own food sources. funGUS will be more than just a functional device; it should foster a deeper relationship between humans and fungi through Affective Haptics, which enhances the interaction between humans and funGUS. Interactions could be hugging or purring. Through this immersive interaction, funGUS can help astronauts better understand and care for the fungi, ensuring their successful growth and sustainability.

## Student Profile

As a student, you have an inquisitive attitude and like to bring your ideas to life in physical prototypes. You are not afraid to explore new technologies and you love to tinker with electronics to make these technologies work. You would like to learn more about affective haptics, more than human interactions, and food and culture futures in space.

## Activities:

This work is part of research on future Human Food Interaction in space and can be (part of) a published paper. Since this work is still in early phases we are open to students bringing their own perspective and focusing on one of the following aspects:

- [more technical] Develop the funGUS wearable, including sensors and Affective Haptic actuators.
- [more interaction] Design the “haptic language” funGUS can speak, test how different combinations of patterns can be designed and interpreted.
- [more ethnographic] Explore the relationship between funGUS, the fungus, and the wearer through a series of studies.

## Related Work:

- Chen, D., Seong, Y. ah, Ogura, H., Mitani, Y., Sekiya, N., & Moriya, K. (2021). Nukabot: Design of Care for Human-Microbe Relationships. *Extended Abstracts of the 2021 CHI Conference on Human Factors in Computing Systems*, 1–7. <https://doi.org/10.1145/3411763.3451605>
- Genç, Ç., Launne, E., & Häkkinen, J. (2022). Interactive Mycelium Composites: Material Exploration on Combining Mushroom with Off-the-shelf Electronic Components. *Nordic Human-Computer Interaction Conference*, 1–12. <https://doi.org/10.1145/3546155.3546689>
- Hauptlik-Meusburger, S. (2011). *Architecture for astronauts: An activity-based approach*. Springer. <https://link.springer.com/book/10.1007/978-3-7091-0667-9>
- Obrist, M., Tu, Y., Yao, L., & Velasco, C. (2019). Space Food Experiences: Designing Passenger’s Eating Experiences for Future Space Travel Scenarios. *Frontiers in Computer Science*, 1. <https://www.frontiersin.org/articles/10.3389/fcomp.2019.00003>

## Interested?

If you’re interested in exploring how fungus and people can interact with haptics contact:

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