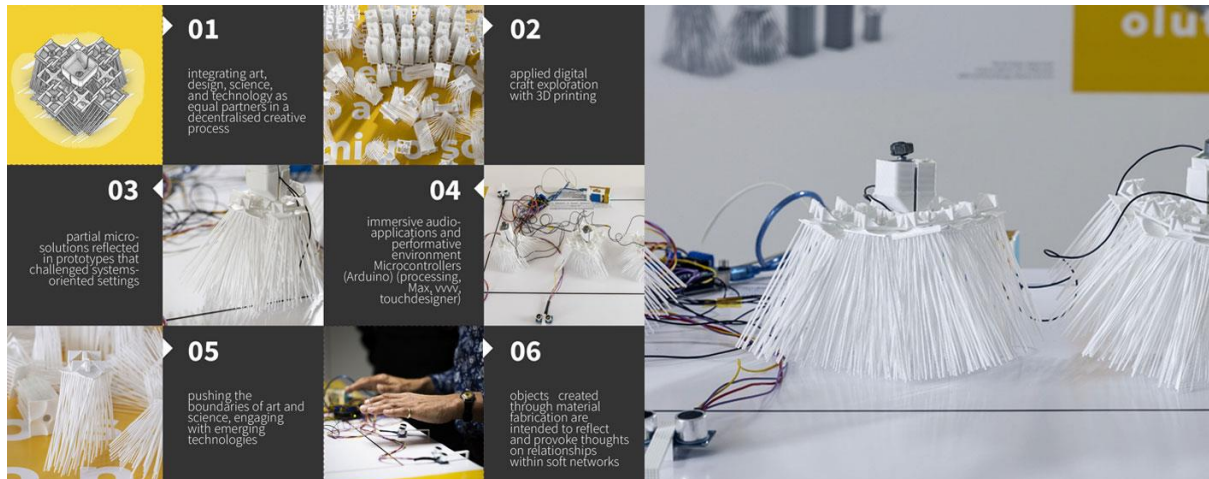**Course title:**

'Soft'Robots and connectivity digitalcrafting and microcontrolling softrobots

Image attached! (In order to represent the course, an expressive image or graphic can be placed next to the title, in the size of 1410x560 px, the format is jpg or png.)

Course instructors:
- Dr. Dezső Renáta - senior research fellow at MOME Academy – dezso.renata@mome.hu
- Elizabeth Jochum - associate professor at Aalborg University and head of the RELATE Research Laboratory for Art and Technology - jochum@ikp.aau.dk
- Kalman Tarr, Invited lecturer doctoral candidate- ezremek@gmail.com

Course code: B-KH-201-A-232402-01, M-KH-101-A-232402-01, M-KH-E-101-A-232402-01

Course description:

Embark on an inspiring interdisciplinary journey alongside international lecturers and students, with an open invitation to all students, regardless of their major, though those specializing in Industrial Design and Media Design are particularly encouraged to participate. The semester-long KFI course titled "SoftRobots and Connectivity" offers a unique and extensive opportunity to delve into the fascinating world of soft robotics throughout the entire semester following the workshop. Whether you're pursuing a Bachelor's or Master's degree, our course extends a warm welcome to you at the state-of-the-art MOME Tech Park, our newly established digital laboratory.

Our collaboration with Aalborg University in Denmark, under the guidance of the esteemed Elizabeth Jochum, an associate professor and the head of the RELATE

Research Laboratory for Art and Technology, will provide you with a platform for international collaboration, fostering invaluable connections. During this week-long workshop, you will immerse yourself in the innovative robots crafted by Renata Dezso and Kalman Tarr, which were showcased at AQB Project Space in 2023 participating in the ABRA (Artificial Biology, Robotics, and Art) international project merging the realms of art, design, science, and technology.

Through hands-on experimentation, 3D printing, and the transformation of digital data into tangible prototypes, you will be encouraged to adopt a problem-seeking approach, enabling you to capture and utilize kinetic energy from viewers, converting it into dynamic motion through the use of vibration motors. We invite you to join us in shaping the future of robotics and embrace a world where innovation knows no bounds.

Application

Number of participant: 8-10 student

Schedule: MOME Courseweek February 12-16 (Monday-Friday)

Outcome:

Basic knowledge about theories and methods of collaborative and networked creativity, the influence of globalization on digital art technological conditions, and solutions to collaborative work. You will finish the course with a basic understanding of Soft Robotics, Digital Craft Prototyping. Moreover, you will be introduced to Microcontroller Integration, which will enable you to understand the concepts of these essential components in a project. Interactive Movement Design will allow you to ideate robots that engage with their environment and users.

Prerequisite for completing the course (please underline)**:**

To successfully complete this course, students will need to bring their laptops with 3D modeling software installed, along with notebooks, pens, scrap paper, and a marker pen (such as a Sharpie).

Course recommendation

This course is designed for students who are eager to explore the world of digital technology, preferably with prior experience in 3D printing, 3D modeling, or microcontrollers like Arduino. However, if you don't speak English or lean towards a strictly theoretical approach without group collaboration, this course may not meet your expectations. Get ready for stimulating group work and hands-on workshops that foster active student participation!

Links: https://www.renatadezso.com/portfolio/designresearch/

Readings:

Bishop, Ganising, Parikka (2016): "Across and Beyond: Post-digital Practices, Concepts, and Institutions" in: Bishop et.al. (eds), , Sternberg Press and transmediale e.V., pp 1-10,

Dezso, R., 2023. Prototypes as a Structured Information Source in Theory Nexus, in: From Abstractness to Concreteness – Experiential Knowledge and the Role of Prototypes in Design Research. Presented at the International Conference 2023 of the Design Research Society Special Interest Group on Experiential Knowledge (EKSIG), Politecnico di MIlano, Department of Design, Politecnico di Milano, Italy, pp. 470–489.

Dezső, R., 2019. Co-Ability Practices. Proceedings of the 2019 8th biannual Nordic Design Research Society (Nordes) conference at Aalto University, Finland 0.

Dieter Daniels: Transmediale Unformatted. A (pre)history of thirty years or more. Transmediale Journal

Howard S. Becker (1982): Art Worlds. Berkeley: University of California Press, pp 1-40, 131-165 & 300-351

Hans van Maanen (2009): How to Study Art Worlds, Amsterdam University Press, pp 7-14, pp 31-52, 83-104.

Geert Lovink: Organization After Social Media, Minor Compositions Press, 2018. Introduction and pp 30-43.

Jussi Parikka (2016): The Lab Imaginary, Transmediale Journal,

S. Zielinski (2006): A Deep Time of the Media: Toward an Archaeology of Hearing and Seeing by Technical Means, Introduction.