

[Special Lecture 1]

Artistic Approach to Extraterrestrial Life

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The search for extraterrestrial life by deep space probes and interdisciplinary scientific research into the origins of life on Earth are advancing rapidly. At the same time, a de-anthropocentric or multi-species humanities is beginning to expand, in which human beings themselves are being reconsidered in the context of the entanglement of multiple species, including non-human organisms. Under these circumstances, what kind of thoughts and practices are possible for art and design?

In my talk, I will introduce the Proto-A project (<https://proto-a.jp/>) which I have been working on since 2019, together with Associate Professor Juan Castro of IAMAS and Associate Professor Taro Toyota of the University of Tokyo, to create (something like) extraterrestrial life. We are now trying to synthesize it artificially and artistically, rather than finding it. What kind of agency and performativity would a self-propelling, deforming, dividing protocell (life-like medium) composed of extraterrestrial materials, without water, possess? In Proto-A's first exhibition, FORMATA (Form+Automata), the non-terrestrial autonomous protocells swim, divide, and interact in a sea of formamide on a mini-planet with an atmosphere of argon and carbon dioxide.

Creative hypotheses often emerge from unexpected encounters between practice and theory, experience and contemplation, and imitation and deviance. I would like to think with you about the possibilities of art as "material/matter fiction" that creates a physicality where the possible and the impossible coexist.



Akihiro Kubota is currently the professor of Art and Media Course in the Information Design Department and the Manager of International Exchange Center at Tama Art University. He earned his doctorate in Naval Architecture at the University of Tokyo, Faculty of Engineering in 1989. His pioneering interdisciplinary hybrid projects include the ARTSAT Project (ARTSAT.JP) which launches personal art satellites into space, Bio Art, Software Art, Live Coding performances with handmade instruments. His team's first art satellite ARTSAT1: INVADER won the Award of Distinction of the

Hybrid Art of Prix Ars Electronica in 2015, and the entire ARTSAT Project received the 66th Minister of Education Award for Fine Arts (Media Arts Division). His most recent publications are "Design for Otherness" (BNN, 2017), "Basic Concept of Media Art" (Film Art, Co-ed. with Minoru Hatanaka, 2018) and "Instagram and Contemporary Visual Culture" (BNN, Co-ed. with Kiritorimederu, 2018), "New Dark Age" (NTT Pub, Co-tr., 2018), "The New World Champion Paper Airplane Book" (O'Reilly Japan, Co-tr., 2019).

[Special Lecture 2]

Reframing Disability through Art

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Science observes a phenomenon from an objective point of view and tries to reduce it into component elements. On the other hand, art stands inside of it and deals it as an irreducible whole. This talk will focus on artistic approach to subjective experiences of people with diverse bodies. We tend to think that the body of someone without impairment is a complete whole, whereas the body with impairment is an incomplete one from which some kinds of function are somehow missing. However, one's own body is something that generates a unique meaning, in terms of its relationship to the surrounding environment. Art enhances your emotional and epistemological ability to encounter and communicate with others.



Professor Asa Ito is Director of the Future of Humanity Research Center at the Tokyo Institute of Technology's Institute of Innovative Research, specializing in aesthetics and contemporary art. She obtained her PhD in Literature in 2010, at the University of Tokyo Graduate School of Humanities and Sociology. As author, Dr. Ito's major works include *Me no mienai hito wa sekai wo do miteiru no ka* (How Do People Without Sight See the World?, Kobunsha), *Domoru karada* (The Stuttering Body, Igaku-Shoin), *Kioku suru karada* (The Remembering Body, Shunjusha), and *Te no Rinri* (Ethics of hands, Kodan-sha) . Her work was

recognized with the 42nd Suntory Prize for Social Sciences and Humanities in 2020. She is also a Visiting Scholar at MIT (2019).

[Special Lecture 3]

Connecting Nano, Macro, and the Future

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Among the many materials science fields, the speaker will discuss his expertise in polymer science, especially rubber science. Polymer molecules move around in the nano-world, resulting in macroscopic rubber elasticity. To look into the nano world, he will use a microscope called an atomic force microscope. He will also use a statistical mechanics approach to explain the movement of these polymer molecules. The nano-world is like a microcosm of our society, and the lecture will include a social scientific discussion of this aspect. The talk will also provide a glimpse into what the future holds for us at the cutting edge of rubber science.



Dr. Ken Nakajima completed his doctorate in applied physics with the development and application of various types of scanning probe microscope (SPM) to polymeric materials at the University of Tokyo, Japan, under the supervision of Prof. Toshio Nishi, in 1997. After a post-doctorate in RIKEN, Japan, he joined Tokyo Institute of Technology, Japan, in 2003, where he directed his research on the basic study of rubber elasticity and reinforcement using an atomic force microscope (AFM). This study led to the development of AFM-based nanomechanics in 2005. In 2008, he moved to WPI-Advanced Institute for Materials Research, Tohoku University, Japan, as

Associate Professor. Then, he was promoted to be Professor at Tokyo Institute of Technology in 2015, where he continued the application of AFM nanomechanics to various types of polymeric materials. He published 170 papers with 3,788 citations, which results in the h-index of 32.