

MESSAGES



Keigo Watanabe

General Chair

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It is my great pleasure to welcome you to AROB-ISBC2025, the joint symposium of the 30th International Symposium on Artificial Life and Robotics (AROB2025) and the 10th International Symposium on Bio-Complexity (ISBC2025).

This symposium brings together diverse perspectives to explore the cutting-edge advancements in artificial life, robotics, and bio-complexity. In recent years, the field has expanded beyond traditional bioinspired robotics to encompass transformative technologies such as AI-powered robots utilizing deep learning for perception, autonomous vehicles reshaping transportation, and innovations in human augmentation enhancing human capabilities through robotics and AI integration. These developments represent a new paradigm, blending biology, robotics, and artificial intelligence to address some of humanity's greatest challenges.

For example, autonomous driving technologies and advanced robotics are becoming essential components in smart cities and mobility solutions, while human augmentation technologies are unlocking new possibilities in healthcare, accessibility, and productivity. Additionally, the integration of AI with robotics is enabling systems capable of adaptive decision-making, environmental interaction, and even ethical reasoning—paving the way for broader societal applications.

In the context of artificial life, emerging trends such as the creation of synthetic organisms, self-organizing systems, and life-like simulations are offering profound insights into the nature of life and its engineering. Furthermore, advances in biologically inspired systems, from molecular robots to large-scale biohybrid systems, are contributing to breakthroughs in medicine, sustainability, and beyond.

This year's symposium reflects these exciting trends and serves as a forum for exchanging ideas across disciplines. I extend my deepest gratitude to the supporting organizations, including SICE, IEEJ, IEICE, ISCIE, JSST, and the IEEE Robotics and Automation Society Japan Chapter, for their generous contributions.

We hope this symposium fosters vibrant discussions, new collaborations, and innovative insights as we collectively shape the future of artificial life, robotics, and bio-complexity. I look forward to engaging with all of you and exploring the exciting possibilities ahead.

Welcome Message

Welcome to AROB/ISBC2025, the joint symposium of the 30th International Symposium on Artificial Life and Robotics (AROB2025) and the 10th International Symposium on Bio-Complexity (ISBC2025).

Due to the COVID-19 pandemic in Japan, the symposium was held online from 2020 to 2022 to ensure the safety of all participants. In 2023 and 2024, the symposium adopted a hybrid format, taking place in Beppu, Japan, to accommodate both in-person and remote attendees. Recognizing the value of face-to-face discussions, this year we are delighted to host the symposium entirely as an in-person event.

In this AROB/ISBC2025, we have 326 general presentations in 38 general and 25 organized sessions from 7 countries. We are honored to have three plenary talks by Prof. Dong Seog HAN (Kyungpook National University, Korea), Dr. Nobuyasu Ito (RIKEN Center for Computational Science, Japan), Prof. Keisuke Suzuki (Hokkaido University, Japan), and four invited talks by Prof. Alexis E. Block (Case Western Reserve University, USA), Prof. Kenzo Nonami (Fukushima Institute for Research, Education and Innovation (F-REI), Japan), Prof. Jun Morimoto (Kyoto University, Japan), Prof. Shinichi Kimura (Tokyo University of Science, Japan). This symposium shall provide the best possible opportunity to all the participants for the exchange of research ideas and information related to artificial life, robotics, control, AI, bio-complexity, etc.

This symposium offers an exceptional opportunity for participants to exchange research ideas and information on topics including artificial life, robotics, control, AI, bio-complexity, and more.

We extend our heartfelt gratitude to our plenary and invited speakers, session organizers, and all participants for their valuable contributions. Special thanks go to the advisory, organizing, executive, and program committee members, the AROB office, and everyone who dedicated their time and effort to make this symposium a success.

We sincerely hope you find AROB/ISBC2025 an enriching and rewarding experience.

P.S.

This year marks the 30th anniversary of the International Symposium on Artificial Life and Robotics, as well as the 30th volume of the Artificial Life and Robotics journal, which is closely associated with the symposium. To commemorate this milestone, we plan to highlight some of the most highly cited papers from the journal's history and make several recent papers available through open access.



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