## Embodied Semiotics: Understanding Gesture and Sign Language in Language Interaction

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| Research Area Information | Number of Research Area : 22B102    Project Period (FY) : 2022-2024<br>Keywords： Language Interaction, Gesture, Sign Language, Modality |

## Purpose and Background of the Research

● **Outline of the Research**

The purpose of this field of research is to develop the existing semiotics discussed in linguistics and the philosophy of language as "Multimodal Semiotics" by focusing on phenomena such as gestures and sign languages in language interactions, which are not yet clearly characterized as symbols.
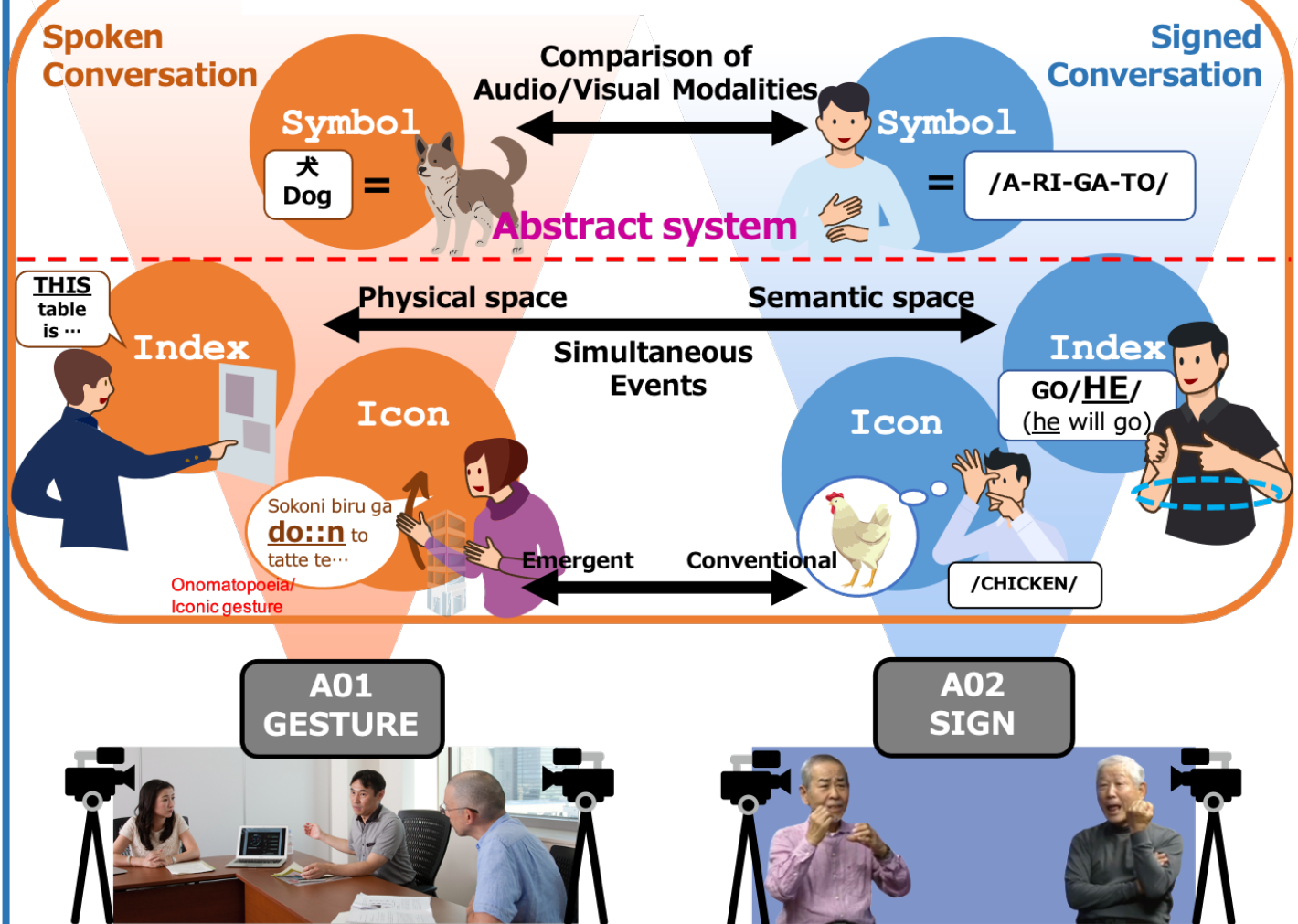


Figure 1. The Scope of "Multimodal Semiotics"

● **Embodied Semiotics**

The overall goal of the field is to handle not only speech but also gestures and sign languages methodologically and engineering-wise in a cross-modality manner (cross-modality).

# ●Research Organiztion

This research area consists of a GESTURE group (A01) that handles gestures associated with spoken conversation, a SIGN group (A02) that handles signed language, an AI group (A03) that uses natural language processing and image processing methods, and a DATA-INTEGRATION group (B01) that connects A01 and A02 in the humanities and A03 in the science and engineering fields using existing and new data sets (Figure 2).
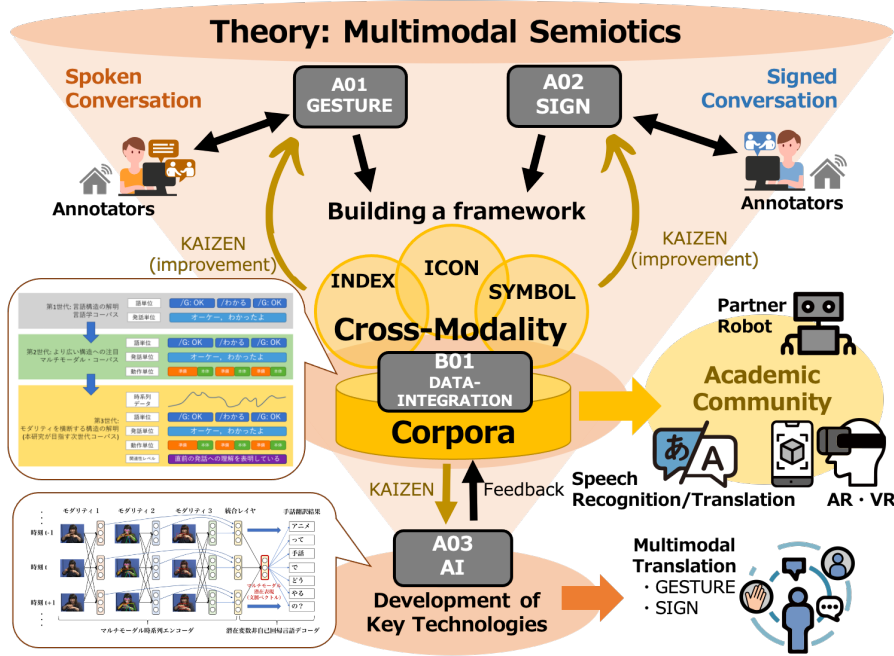


Figure 2. Research Organization

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# Expected Research Achievements

## ●Specific Objectives of the Research Areas

A01 Establishment of "multimodal semiotics" for gestures
A02 Establishment of "multimodal semiotics" for sign languages
A03 Development and sharing of technology for modality crossing using deep learning
B01 Establishment of a next-generation corpora and users' feedback environment
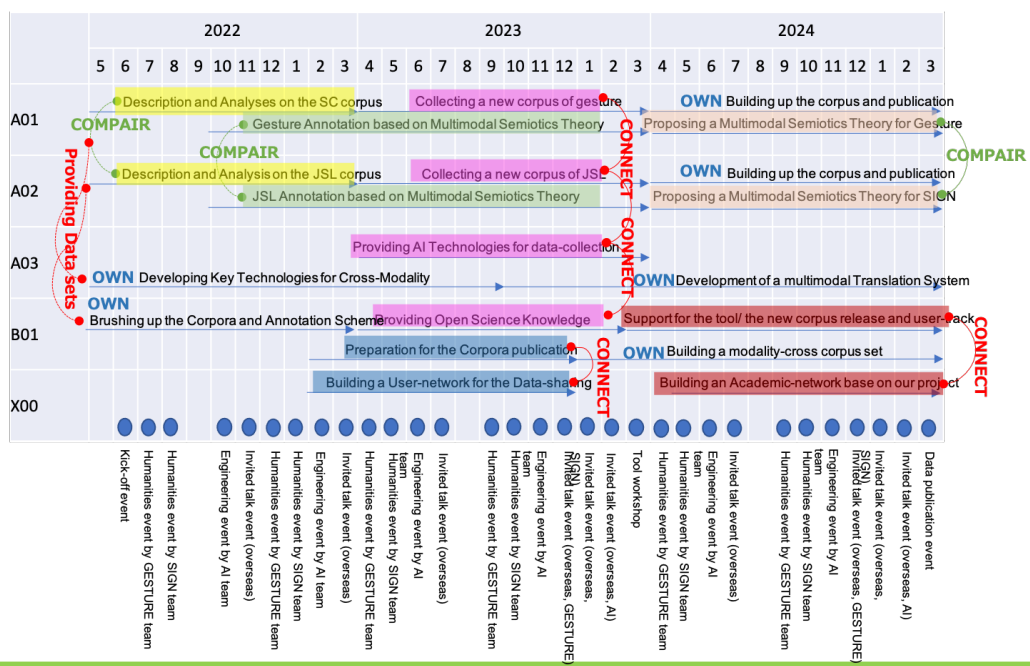X00 Establishment of academic community and network



Figure 3. Specific Research Themes and Collaborations

| Homepage Address, etc. | https://research.nii.ac.jp/EmSemi/index_e.html |
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