



Head Investigator	National Institute of Informatics, Information and Society Research Division, Associate Professor
	BONO Mayumi Researcher Number:50418521
Research Area Information	Number of Research Area : 22B102 Project Period (FY) : 2022-2024 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.

Theory: Multimodal Semiotics

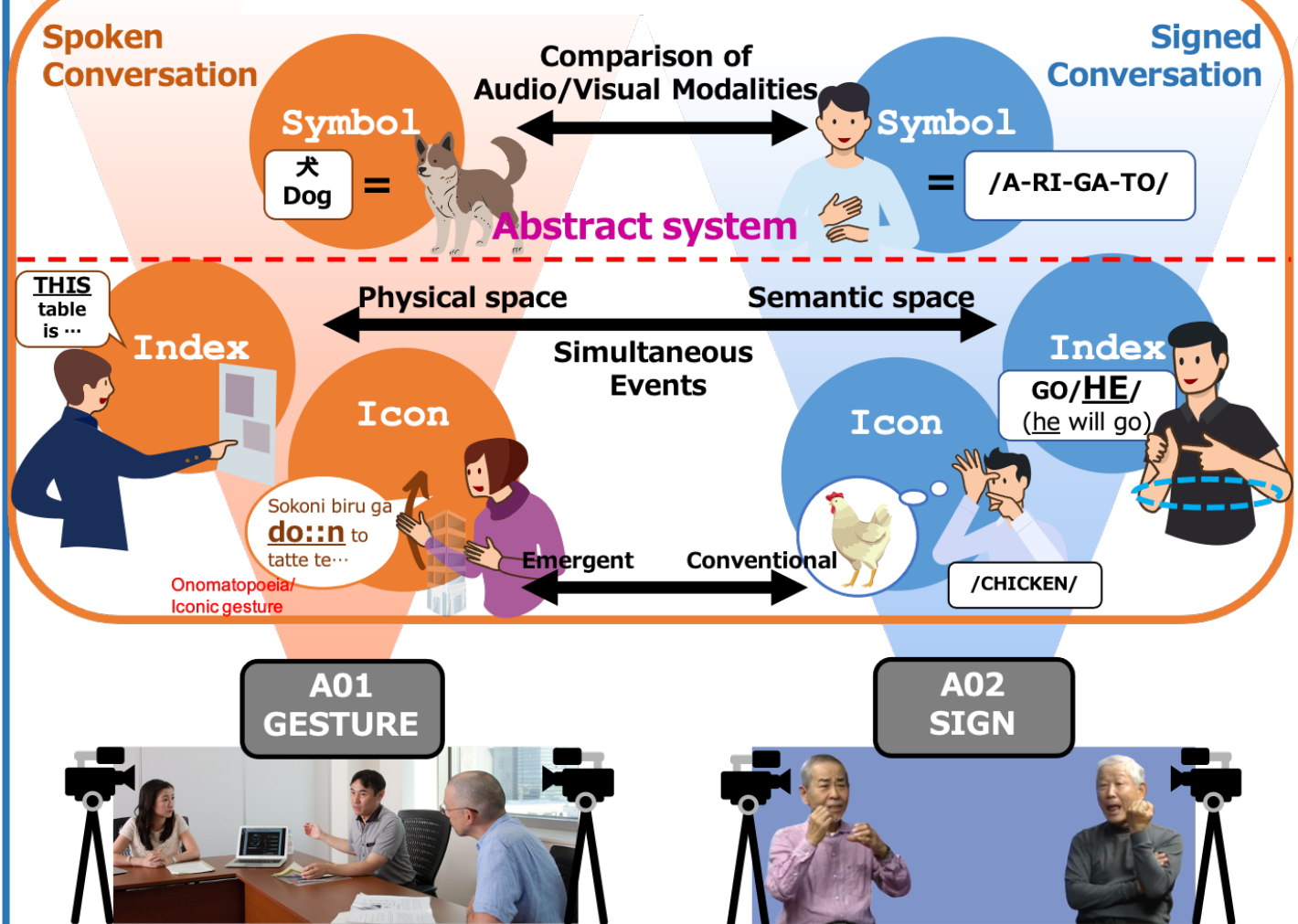


Figure 1. The Scope of "Multimodal Semiotics"

● 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 Organization

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).

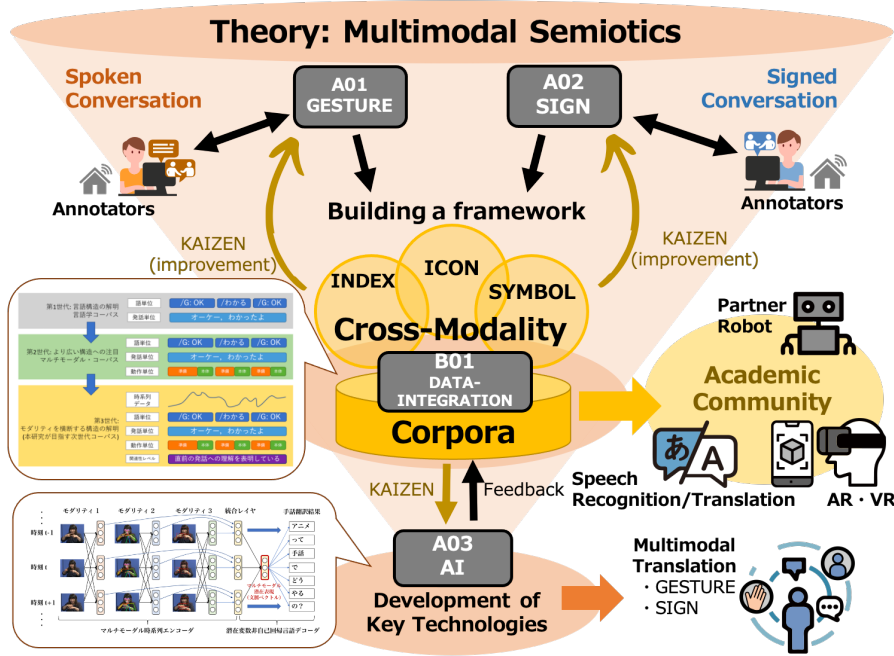


Figure 2. Research Organization

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

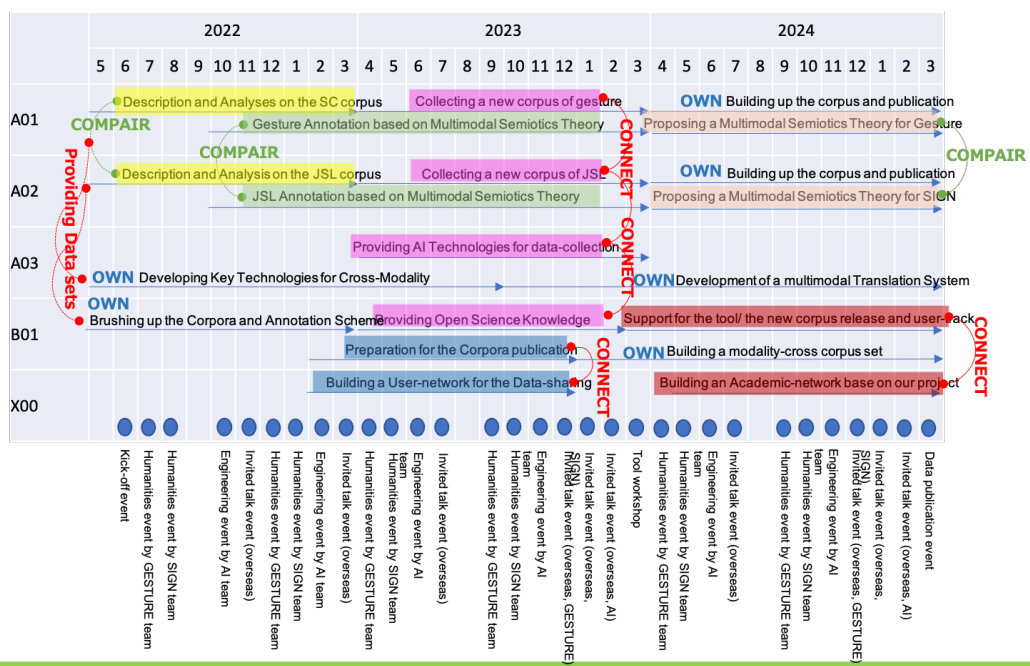


Figure 3. Specific Research Themes and Collaborations