

## Hideki Kozima

(Ph.D in Computer Science and Information Mathematics, UEC 1994)

Professor  
Department of Spatial Design and Information Systems  
School of Project Design  
Miyagi University  
Gakuen 1, Taiwa, Kurokawa, Miyagi 918-3298, Japan  
e-mail: xkozima@myu.ac.jp  
<http://www.myu.ac.jp/~xkozima/>

### Identity

Lastname: Kozima  
Firstname: Hideki  
Birthdate: Feb. 19, 1966 (Tokyo, Japan)  
Sex: Male  
Nationality: Japanese

### Research Experience

- **Miyagi University** (Miyagi, Japan)
  - [Oct. 2008 – present]  
Professor at Department of Spatial Design and Information Systems, School of Project Design
- **National Institute of Information and Communications Technology** (Headquarters: Tokyo, Japan)
  - [Apr. 2006 – Sep. 2008]  
Senior Researcher in Universal City Group (Group-Leader: Hiromitsu Wakana), Knowledge Creating Communication Research Center (Director: Takashi Matsuyama; Kyoto, Japan).  
On April 1st, 2004, *Communications Research Laboratory* changed its name as *National Institute of Information and Communications Technology*.  
Research on developmental robotics and communication-care. I investigate the underlying mechanism of human communicative development and its disorders. I designed and constructed the upper-torso humanoid, *Infanoid 5 and 6*, for this study. Also, I designed and constructed a small creature-like robot, *Keepon*, for remedial application for children with developmental disorders.
- **Communications Research Laboratory** (Headquarters: Tokyo, Japan)
  - [Apr. 2001 – Mar. 2006]  
Senior Research Scientist in Social Interaction Group (Group-Leader: Hiroyuki Yano), Keihanna Human Info-Communication Research Center (Kyoto, Japan). (Note that Social Interaction Group is formerly Cyber Human Technology Section.)
  - [Oct. 1999 – Mar. 2001]  
Senior Research Scientist in Knowledge Systems Section (Section-Chief: Hiroyuki Yano), Kansai Advanced Research Center (Kobe, Japan).  
Research on epigenesis of human communication. I worked on psycho-robotic model of the development of social skills, including non-verbal and verbal communication. I designed and constructed a new infant robot, *Infanoid 4*, as an experimental platform of this study.

- **Massachusetts Institute of Technology** (Cambridge, Massachusetts, USA)
  - [Oct. 1998 – Oct. 1999]
 

Visiting Researcher at Artificial Intelligence Laboratory (Supervisor: Prof. Rodney A. Brooks)

Research on attentional interaction between human and robot. I worked on cognitive modules that enables humanoid robots to share visual attention with human users. I designed and implemented an eye-contact detector and a face-direction detector.
- **Communications Research Laboratory** (Headquarters: Tokyo, Japan)
  - [Oct. 1996 – Oct. 1998]
 

Research Scientist in Knowledge Systems Section (Section-Chief: Akira Ito), Kansai Advanced Research Center (Kobe, Japan).

Research on pre-verbal communication. I worked on cognitive development of communication abilities, e.g. attention-sharing by gaze and pointing, in normal and autistic infants. I designed and implemented an attention-sharing robot, *Infanoid*, which currently can perform face-contact (i.e. orientation to human faces).
  - [Apr. 1994 – Sep. 1996]
 

Research Scientist in Knowledge Systems Section (Section-Chief: Akira Ito), Kansai Advanced Research Center (Kobe, Japan).

Research on semantic processing of natural language. I developed a computational method for measuring context-sensitive semantic distance between concepts. I designed and evaluated a discourse-scene-based model of word prediction, which predicts succeeding words according to the preceding words in a text.
- **The University of Electro-Communications** (Tokyo, Japan)
  - [Apr. 1990 – Mar. 1994]
 

Graduate student working for doctoral degree (Supervisor: Prof. Teiji Furugori).

Research on semantic measurement of linguistic concepts. I devised a method for computing semantic distance between concepts by spreading activation on an English dictionary. Using the semantic measurement, I devised a method for finding scene boundaries in a given text.
  - [Apr. 1988 – Mar. 1990]
 

Graduate student working for master degree (Supervisor: Prof. Teiji Furugori).

Research on knowledge representation for natural language processing. I designed a psycholinguistic model of knowledge representation and implemented a simple converter between text and the internal representation.

## Past Teaching Experience

- **University of Electro-Communications** (Tokyo, Japan)
  - [Oct. 2005 – Mar. 2007]
 

Lecturer (Faculty of Electro-Communications) for “Natural Language Processing”.
- **Gifu University** (Gifu, Japan)
  - [Oct. 2000 – Mar. 2001]
 

Lecturer (Faculty of Engineering) for “Special Course in Information Engineering”.

## Education

- **The University of Electro-Communications** (Tokyo, Japan)
 

Apr. 1990 – Mar. 1994

Received a Doctor of Engineering in Computer Science and Information Mathematics.

Thesis: “Computing lexical cohesion as a tool for text analysis” (in English). Supervisor: Prof. Teiji Furugori.

- **The University of Electro-Communications** (Tokyo, Japan)  
Apr. 1988 – Mar. 1990  
Received a Master of Engineering in Computer Science and Information Mathematics.  
Thesis: “A lexical/structural disambiguation model for natural language understanding” (in Japanese). Supervisor: Prof. Teiji Furugori.
- **The University of Electro-Communications** (Tokyo, Japan)  
Apr. 1984 – Mar. 1988  
Received a Bachelor of Engineering in Information Mathematics.  
Thesis: “A model of bi-directional conversion between text and meaning” (in Japanese). Supervisor: Prof. Teiji Furugori (Apr. 1983 – Mar. 1984).

## Languages

- **Japanese** (native language)
- **English** (limited proficiency)
  - **TOEIC**: 980 points (2000).
  - **STEP** (*Ei-ken*): Pre-1st Grade (1996).
  - **Harvard University Extension School** (Cambridge, Massachusetts, USA)  
[Feb. 1999 – May. 1999] (Spring semester)  
Completed the Intensive Intergrated Skills Course (High Advanced Level) in the Harvard Institute for English Language Program.

## Major Publications

- **Articles in Journals and Book Chapters**
  - Hideki Kozima, Marek P. Michalowski, Cocoro Nakagawa: Keepon: A playful robot for research, therapy, and entertainment, *International Journal of Social Robotics*, Vol.1, No.1, pp.3–18, 2009.
  - Hideki Kozima: Un robot interactif comme m?dia pour l’observation d’enfants: technique du “Magicien d’Oz” dans le cadre de la th?rapie de l’autisme, Hiroko Norimatsu et Nathalie Pigem (eds.), *Les Techniques d’Observation en Sciences Humaines*, Paris: Armand Colin, pp.59–70, 2008.
  - Hideki Kozima: Robots seen from children, children seen from robots (*in Japanese*), Masahiro Fujita and Hideki Shimomura (eds.), *Intelligence Dynamics 3*, Tokyo: Springer Japan, pp.139–173, 2008.
  - Hideki Kozima: What do children see in the interaction with robots (*in Japanese*), *Human Interface*, Vol.10, No.2, pp.99–104, 2008.
  - Marek P. Michalowski, Hideki Kozima: Rhythm in human-robot social interaction, *IEEE Intelligent Systems*, Vol.23, No.2, pp.78–80, 2008.
  - Tetsuya Ogata, Hiroshi G. Okuno, Hideki Kozima: Motion from sound: Intermodal neural network mapping, *IEEE Intelligent Systems*, Vol.23, No.2, pp.76–78, 2008.
  - Hideki Kozima and Yuriko Yasuda: When an action grounds on the meaning — Findings from autism therapy (*in Japanese*), *The Journal of the Acoustical Society of Japan*, Vol.49, pp.36–42, 2008.
  - Hideki Kozima and Cocoro Nakagawa: Agents who relate to people, agents who relate people together: Case studies in autism therapy (*in Japanese*), in Seiji Yamada (ed.), *Designing the interaction between people and robots*, Tokyo: Tokyo Denki University Press, pp.223–241, 2007.

- Hideki Kozima, Cocoro Nakagawa, and Yuriko Yasuda: Children-robot interaction: A pilot study in autism therapy, Claes von Hofsten (ed.), *Progress in Brain Research — From Interaction to Cognition*, Vol.164, pp.385–400, 2007.
- Luc Berthouze, Christopher G. Prince, Michael Littman, Hideki Kozima, Christian Balkenius (eds): *Proceedings of the 7th International Conference on Epigenetic Robotics: Modeling Cognitive Development in Robotic Systems*, Lund University Cognitive Studies, Vol.135. Lund: Lund University, 2007.
- Hideki Kozima and Cocoro Nakagawa: Interactive robots as facilitators of children’s social development, Aleksandar Lazinica (ed.), *Mobile Robots: Towards New Applications*, Vienna: Advanced Robotic Systems, pp.269–286, 2006.
- Hideki Kozima and Cocoro Nakagawa: L’interazione uomo-robot e i disturbi neurologici: una sperimentazione nella terapia dell’autismo (*in Italian*), Paolo Dario, Sergio Martinoia, Giacomo Rizzolatti, Giulio Sandini (eds): *Neuro-Robotica: Neuroscienze e robotica per lo sviluppo di macchine intelligenti*, Bologna: Pàtron Editore, pp.157-171, 2006.
- Frédéric Kaplan, Pierre-Yves Oudeyer, Arnaud Revel, Philippe Gaussier, Jacqueline Nadel, Luc Berthouze, Hideki Kozima, Christopher G. Prince, and Christian Balkenius (eds): *Proceedings of the 6th International Workshop on Epigenetic Robotics: Modeling Cognitive Development in Robotics Systems*, Lund University Cognitive Studies, Vol.128, Lund: Lund University, 2006.
- Hideki Kozima: “Can robot and human understand each other? — A possible mechanism for empathy” (*in Japanese*), Shoko Ide and Masako Hiraga (eds.). *Cultures and Communication, Social Linguistics Volume 1*, Tokyo: Hituzi Syobô, pp.104-115, 2005.
- Luc Berthouze, Frédéric Kaplan, Hideki Kozima, Hiroyuki Yano, Jürgen Konczak, Giorgio Metta, Jacqueline Nadel, Giulio Sandini, Georgi Stojanov, and Christian Balkenius (eds.): *Proceedings of the Fifth International Workshop on Epigenetic Robotics: Modeling Cognitive Development in Robotics Systems*, Lund University Cognitive Studies, Vol. 123, Lund University, 2005.
- Hideki Kozima: “Emergence of imitation and communication” (*in Japanese*), *Journal of Society of Bio-Mechanism*, Vol. 29, No. 1, pp.26-30, 2005.
- Hideki Kozima and Shoji Nagataki: “When robots feel mind in humans / when humans feel mind in robots” (*in Japanese*), S. Nagataki (ed.), *Phenomenology and Scientific Knowledge of 21st Century*, Tokyo: Nakanishiya, pp.108-136, 2004.
- Hideki Kozima, Cocoro Nakagawa, and Hiroyuki Yano: “Can a robot empathize with people?” , *Artificial Life and Robotics*, Vol.8, pp.83-88, 2004.
- Luc Berthouze, Hideki Kozima, Christopher G. Prince, Giulio Sandini, Georgi Stojanov, and Giorgio Metta (eds.): *Proceedings of the Fourth International Workshop on Epigenetic Robotics: Modeling Cognitive Development in Robotics Systems*, Lund University Cognitive Studies, Vol.117, Lund University, 2004.
- Hideki Kozima: What can robotics contribute to the therapy for handicapped children (*in Japanese*), Shinichi Watabe (ed.), *Special Education and Technology of 21st Century*, Tokyo: Gakusha, pp.105-113, 2004.
- Hideki Kozima: Robots — Do humans feel mind in robots? (*in Japanese*), *Understanding Communication Sciences, AERA-Mook*, Tokyo: Asahi Shimbun, pp.146-149, 2004.
- Christopher G. Prince, Luc Berthouze, Hideki Kozima, Daniel Bullock, Georgi Stojanov, and Christian Balkenius (eds.): *Proceedings of the Third International Workshop on Epigenetic Robotics: Modeling Cognitive Development in Robotics Systems*, Lund University Cognitive Studies, Vol.101, Lund University, 2003.
- Hideki Kozima: Emergence of communication: viewing from a baby robot (*in Japanese*), *Hattatu*, Kyoto: Minerva Shobo, Vol.24, No.95, pp.52-60, 2003.
- Hideki Kozima: Is embodied communication ‘background’ or ‘figure’? (*in Japanese*), *Baby Science*, Vol.2 pp.15-16, 2003.

- Hideki Kozima and Akira Ito: From joint attention to language acquisition, Jonathan Leather and Jet van Dam (eds.), *Ecology of Language Acquisition*, Dordrecht: Kluwer Academic Publishers, pp.65-81, 2003.
- Hideki Kozima: Infanoid: a babybot that explores the social environment, Kerstin Dautenhahn, et al. (eds.), *Socially Intelligent Agents: Creating Relationships with Computers and Robots* (in series of “Multiagent Systems, Artificial Societies, and Simulated Organizations”), pp.157–164, Dordrecht: Kluwer Academic Publishers, 2002.
- Christopher G. Prince, Yiannis Demiris, Yuval Marom, Hideki Kozima, and Christian Balkenius (eds.): *Proceedings of the Second International Workshop on Epigenetic Robotics: Modeling Cognitive Development in Robotic Systems*, Lund University Cognitive Studies, Vol.94, Lund University, 2002.
- Hideki Kozima and Akira Takada: Developmental approach to social interaction (*in Japanese*), *Journal of the Japanese Society for Artificial Intelligence*, Vol.17, pp.812-818, 2001.
- Hideki Kozima: Looking at humans from the viewpoint of robots (*in Japanese*), *Understanding Human Sciences, AERA-Mook*, Tokyo: Asahi Shimbun, pp.51-55, 2001.
- Christian Balkenius, Jordan Zlatev, Hideki Kozima, Kerstin Dautenhahn, and Cynthia Breazeal (eds.): *Proceedings of the First International Workshop on Epigenetic Robotics: Modeling Cognitive Development in Robotic Systems*, Lund University Cognitive Studies, Vol.85, Lund University, 2001.
- Hideki Kozima: Prerequisites for language acquisition by robots (*in Japanese*), *Language Development Newsletter, Japan Society of Developmental Psychology*, Vol.1, pp.4–8, 2001.
- Hideki Kozima: Artificial social intelligence — robotics and developmental psychology (*in Japanese*), *New Understanding Psychology, AERA-Mook*, Tokyo: Asahi Shimbun, pp.80–83, 2000.
- Hideki Kozima and Akira Ito: Context-sensitive word distance by adaptive scaling of a semantic space, Ruslan Mitkov and Nicolas Nicolov (eds.), *Recent Advances in Natural Language Processing* (in series of “Contemporary Issues in Linguistic Theory” 136), pp.111–124, John Benjamins, 1997.
- Hideki Kozima and Akira Ito: A context-sensitive measurement of semantic word distance (*in Japanese*), *Transaction of Information Processing Society of Japan*, Vol.38, pp.481–489, 1997.
- Hideki Kozima and Teiji Furugori: Segmenting narrative text into coherent scenes, *Literary and Linguistic Computing*, Vol.9, pp.13–19, 1994.
- Hideki Kozima and Teiji Furugori: A disambiguation model for text interpretation using knowledge and context (*in Japanese*), *Transaction of Information Processing Society of Japan*, Vol.32, pp.1366–1373, 1991.

• **Invited Talks at International Conferences\***

- Hideki Kozima: A social robot in the wild world: practices in therapeutic and pedagogical applications, ”Vancouver Society for Cognitive Science Conference: Robotics and Social Science” (Vancouver, Canada), 2007/02/03.  
<http://ling75.arts.ubc.ca/cogs/roboticsforsociety/>
- Hideki Kozima, Cocoro Nakagawa: Human-robot interaction and neurological disorders, XXV Scuola Annuale di Bioingegneria (Bressanone, Italy), 2006/09/27.  
<http://www.bioing.it/ATTIVITA/CONGRESSI/BRESS06/>
- Hideki Kozima, Cocoro Nakagawa, Yuriko Yasuda: Peer interactions between autistic children and a creature-like robot, Quatriemes Rencontres du Reseau Interdisciplinaire Autisme-Science (Paris, France), 2006/09/19.  
<http://autisme.risc.cnrs.fr/>

---

\*About 24 invited talks/papers at domestic (Japanese) conferences and workshops are excluded here. For details, refer to my homepage: <http://www.nict.go.jp/x/x164/people/xkozima/publication.html>

- Hideki Kozima: Children-robot interaction: From interaction to cognition, *ESF Research Conference on Brain Development and Cognition in Human Infants “From Action to Cognition”* (Acquafredda di Maratea, Italy), 2005/10/5.  
[http://www.esf.org/esf\\_genericpage.php?section=10&language=0&genericpage=2193](http://www.esf.org/esf_genericpage.php?section=10&language=0&genericpage=2193)
- Hideki Kozima: Social interaction between children and humanoid and non-humanoid robots, *Japan-Italy 2005 Workshop “The Man and the Robot”* (Tokyo, Japan), 2005/9/7.  
[http://www.robocasa.net/old\\_website/workshop2005/](http://www.robocasa.net/old_website/workshop2005/)

• **Presentations at International Conferences**<sup>\*\*</sup>

- Hideki Kozima, Cocoro Nakagawa: Longitudinal Child-Robot Interaction at Preschool, *AAAI Spring Symposium on “Multidisciplinary Collaboration for Socially Assistive Robotics”* (Palo Alto, CA, USA), accepted for publication.
- Marek Michalowski, Hideki Kozima: A dancing robot for rhythmic social interaction, *The 2nd ACM/IEEE International Conference on Human-Robot Interaction (HRI-2007; Washington DC, USA)*, 2007.
- Tetsuya Ogata, Yuya Hattori, Hideki Kozima, Kazunori Komatani, Hiroshi G. Okuno: Generation of Robot Motions from Environmental Sounds using inter-modality mapping by RNNPB, *International Workshop on Epigenetic Robotics (EpiRob-2006; Paris, France)*, 2006.
- Hideki Kozima, Cocoro Nakagawa, Yuriko Yasuda: Wowing together: What facilitates social interactions in children with autistic spectrum disorders, *International Workshop on Epigenetic Robotics (EpiRob-2006; Paris, France)*, 2006.
- Hideki Kozima: An anthropologist in the children’s world: A field study of children’s everyday interaction with an interactive robot, *International Conference on Development and Learning (ICDL-2006; Bloomington, IN, USA)*, 2006.
- Hideki Kozima, Cocoro Nakagawa: Social robots for children: Pactice in communication-care, *IEEE International Workshop on Advanced Motion Control (AMC-2006; Istanbul, Turkey)*, pp.768–773, 2006.
- Hideki Kozima, Cocoro Nakagawa, Yuriko Yasuda: Interactive robots for communication-care: A case-study in autism therapy, *IEEE International Workshop on Robot and Human Interactive Communication (ROMAN-2005; Nashville, TN, USA)*, pp.341–346, 2005.
- Yuya Hattori, Hideki Kozima, Kazunori Komatani, Tetsuya Ogata, Hiroshi G. Okuno: Robot gesture generation from environmental sounds using inter-modality mapping, *International Workshop on Epigenetic Robotics (EpiRob-2005; Nara, Japan)*, pp.139–140, 2005.
- Hideki Kozima, Cocoro Nakagawa, Yuriko Yasuda: Designing and observing human-robot interaction for the study of social development and its disorders, *IEEE International Symposium on Computational Intelligence in Robotics and Automation (CIRA-2005; Espoo, Finland)*, Tu-A2-2, 2005.
- Hideki Kozima, Cocoro Nakagawa, Hiroyuki Yano: Using robots for the study of human social development, *AAAI Spring Symposium on Developmental Robotics (DevRob-2005; Palo Alto, CA, USA)*, pp.111–114, 2005.
- Hideki Kozima, Cocoro Nakagawa, Hiroyuki Yano: The role of facial and gestural information in child-robot interaction, *ATR Symposium on the Cross-modal Processing of Faces and Voices* (Kyoto, Japan), pp.23–24, 2005.
- Hideki Kozima, Cocoro Nakagawa, Daisuke Kosugi, Nobuyuki Kawai, Yoshio Yano: A humanoid robot in company with children, *IEEE-RAS/RSJ International Conference on Humanoid Robotics (Humanoids-2004; Santa Monica, CA, USA)*, CD-ROM, 2004.

---

<sup>\*\*</sup>About 33 regular talks/papers at domestic (Japanese) conferences and workshops are excluded here. For details, refer to my homepage: <http://www.nict.go.jp/x/x164/people/xkozima/publication.html>

- Hideki Kozima: Humanoid and non-humanoid robots in company with children, *IEEE-RAS/RSJ International Conference on Humanoid Robotics* (Humanoids-2004; Santa Monica, CA, USA), *Workshop “Humanoid Robots as Helpful Partners for People”*, 2004.
- Hideki Kozima, Cocoro Nakagawa, Yuriko Yasuda, Daisuke Kosugi: A toy-like robot in the playroom for children with developmental disorders, *International Conference on Development and Learning* (ICDL-2004; San Diego, CA, USA), CD-ROM, 2004.
- Hideki Kozima, Cocoro Nakagawa, Hiroyuki Yano: Attention coupling as a prerequisite for social interaction, *IEEE International Workshop on Robot and Human Interactive Communication* (ROMAN-2003; San Francisco, CA, USA), CD-ROM/2B2, 2003. **(Best Paper Award)**
- Hideki Kozima, Cocoro Nakagawa, Hiroyuki Yano: Can a robot empathize with people?, *International Symposium “Artificial Life and Robotics”* (AROB-2003; Beppu, Japan), pp.518–519, 2003.
- Hideki Kozima, Cocoro Nakagawa, Hiroyuki Yano: Designing a robot for spatio-temporal contingency-detection game, *International Workshop on Robotic and Virtual Agents in Autism Therapy* (Paris, France), 2002.
- Hideki Kozima, Cocoro Nakagawa, Hiroyuki Yano: Emergence of imitation mediated by objects, *International Workshop on Epigenetic Robotics* (EpiRob-2002; Edinburgh, Scotland), pp.59–61, 2002.
- Hideki Kozima, Eric Vatikiotis-Bateson: Communicative criteria for processing time/space-varying information, *IEEE International Workshop on Robot and Human Interactive Communication* (ROMAN-2001; Paris, France), pp.377–382, 2001.
- Hideki Kozima, Hiroyuki Yano: Designing a robot for contingency-detection game, *International Workshop on Robotic and Virtual Agents in Autism Therapy* (Hertfordshire, England), pp.35–38, 2001.
- Hideki Kozima, Hiroyuki Yano: A robot that learns to communicate with human caregivers, *International Workshop on Epigenetic Robotics* (EpiRob-2001; Lund, Sweden), pp.47–52, 2001.
- Hideki Kozima, Hiroyuki Yano: In search of ontogenetic prerequisites for embodied social intelligence, *International Conference on Cognitive Science* (ICCS-2001; Beijing, China), *Workshop on Emergence and Development of Embodied Cognition* (EDEC-2001), pp.30–34, 2001.
- Hideki Kozima: Ontogeny of socially communicative robots, *Interactivist Summer Institute* (ISI-2001; Bethlehem, PA, USA), 2001.
- Hideki Kozima, Hiroyuki Yano: A robotogenetic model of human social development, *International Workshop on the Relationship between Cognitive and Linguistic Development* (Bangkok, Thailand), p.35, 2001.
- Hideki Kozima, Jordan Zlatev: An epigenetic approach to human-robot communication, *IEEE International Workshop on Robot and Human Communication* (ROMAN-2000; Osaka, Japan), pp.346–351, 2000.
- Hideki Kozima??? Attention-sharing, behavior-sharing, and acquisition of language, *International Workshop “Ecology of Language Acquisition”* (EcoLang-1999; Amsterdam, The Netherlands), 1999.
- Hideki Kozima: Attention-sharing and behavior-sharing in human-robot communication, *IEEE International Workshop on Robot and Human Communication* (ROMAN-1998; Takamatsu, Japan), pp.9–14, 1998.
- Hideki Kozima, Akira Ito: An attention-based approach to symbol acquisition, *IEEE ISIC/CIRA/ISAS International Joint Conference on the Science and Technology of Intelligent Systems* (ISIC/CIRA/ISAS-1998; Gaithersburg, MD, USA), pp.852–856, 1998.
- Hideki Kozima, Akira Ito: Towards mindreading by an attention-sharing robot, *International Symposium “Artificial Life and Robotics”* (AROB-1998; Beppu, Japan), pp.478–481, 1998.

- Akira Ito, Hideki Kozima: An architecture of an artificial mind for collaborating and communicating robots, *International Symposium “Artificial Life and Robotics”* (AROB-1998; Beppu, Japan), pp.474–477, 1998.
- Hideki Kozima, Akira Ito: Towards language acquisition by an attention-sharing robot, *International Conference “Computational Natural Language Learning”* (CoNLL-1998; Sydney, Australia), pp.245–246, 1998.
- Hideki Kozima, Akira Ito: A scene-based model of word prediction, *International Conference on New Methods in Language Processing* (NeMLaP-1996; Ankara, Turkey), pp.110–120, 1996.
- Hideki Kozima, Akira Ito: Context-sensitive measurement of word distance by adaptive scaling of a semantic space, *International Conference “Recent Advances in Natural Language Processing”* (RANLP-1995; Bulgaria), pp.161–168, 1995.
- Hideki Kozima: Text segmentation based on similarity between words, *Annual Meeting of the Association for Computational Linguistics* (ACL-1993; Ohio, USA), pp.286–288, 1993.
- Hideki Kozima, Teiji Furugori: Similarity between words computed by spreading activation on an English dictionary, *Conference of the European Chapter of the Association for Computational Linguistics* (EACL-1993; Utrecht, the Netherlands), pp.232–239, 1993.

## Other Academic Activities

- International Conference on Development and Learning (ICDL)  
Governing Board (Member)  
Feb. 2005 –.
- International Workshop on Epigenetic Robotics (EpiRob-2005)  
Organizing Committee (Chair)  
Oct. 2004 – Sep. 2005.
- International Conference on Development and Learning (ICDL-2005)  
Organizing Committee (Member)  
Jun. 2004 – Jul. 2004.
- University of Electro-Communication  
Advanced Human-Machine Interface Research Station (Research Member)  
May 2004 –.
- RobotCub Project (A project of Unit E5 “Cognition”)  
International Research Partner (Member)  
Jan. 2004 –.
- Robotic Audition Committee, Robotics Society of Japan  
Committee (Member)  
Nov. 2003 –.
- International Workshop on Epigenetic Robotics (EpiRob-2004)  
Organizing Committee (Member)  
Oct. 2003 – Oct. 2004.
- IEEE Computational Intelligence Society, Autonomous Mental Development  
Technical Committee (Member)  
Attention and Joint Attention Task Force (Chair)  
Robotics Task Force (Member)  
Oct. 2003 –.
- International Workshop on Epigenetic Robotics (EpiRob-2003)  
Organizing Committee (Member)  
Oct. 2002 – Oct. 2003.

- Japan Society of Developmental Psychology (JSDP)  
Planning Committee (Member) Jan. 2002 – Dec. 2003.
- International Workshop on Epigenetic Robotics (EpiRob-2002)  
Organizing Committee (Member)  
Oct. 2001 – Oct. 2002.
- International Workshop on Epigenetic Robotics (EpiRob-2001)  
Organizing Committee (Member)  
Oct. 2000 – Oct. 2001.

## Honors and Grants

- Human Agent Interaction 2006, Outstanding Research Award, The first prize (HAI-2006; Tokyo, Japan)  
“Human-robot interaction in therapeutic and pedagogical fields”  
Mar. 2007.
- Grant-in-Aid for Scientific Research (B) (Ministry of Education and Science and Technology, Japan)  
“Exploratory reserach on robotic therapy for autistic children”  
Apr. 2006 – Mar. 2009.
- IEEE International Workshop on Robot and Human Interactive Communication (ROMAN-2003; San Francisco, CA, USA)  
Best Paper Award  
“Attention coupling as a prerequisite for social interaction” (Hideki Kozima, Cocoro Nakagawa, Hiroyuki Yano)  
Sep. 2004.
- SICE System Integration 2002 (SI-2002; Kobe, Japan)  
Best Session Award  
“What is the prerequisite for empathetic communication”  
Jan. 2003.
- Communications Research Laboratory  
Outstanding Research Award  
“Research on cognitive mechanisms of preverbal communication”  
Aug. 2002.
- Science and Technology Agency, the Japanese Government  
Long-term Visiting Research Grant  
“Visiting research on humanoid robotics at MIT AI Lab.”  
Oct. 1998 – Oct. 1999.
- The Okawa Foundation for Information and Telecommunications  
Grants for Individual Researchers and Research Groups  
“Memory based natural language understanding”  
Jul. 1996 – Jun. 1997.
- Japanese Foundation for Education (*Nihon Ikuei Kai*)  
Scholarship for Undergraduate Student  
Apr. 1985 – Mar. 1988.  
Scholarship for Master’s Candidates  
Apr. 1988 – Mar. 1990.  
Scholarship for Doctoral Candidates  
Apr. 1990 – Mar. 1993.

## Research Interests

- **Objectives:** I am a scientist working on cognitive science, artificial intelligence, and robotics. My major research interest is “the ability to imagine others’ mind”, which is the underlying core mechanism for interpersonal communication specific to human species. Where did it come from? How does it develop over time? Investigating these issues, I would like to make robots and artificial systems that have “the ability to imagine others’ mind”, which would enable them to understand people’s feelings and pain, to make a promise with people, and then to live together with people in the community.

*Keywords:* human-robot communication, development of communication and its disorders, empathy and imitation, acquisition of language and culture, communication-care for children and aged.

- **Background knowledge:** General linguistics (semiotics), developmental/cognitive psychology, ethnomethodological approach to human behavior.
- **Techniques:** Designing and building mechanical apparatus (e.g., robots) and electrical apparatus (e.g., sensors and computers), 3D-CAD, machining and soldering.