

# Mihoko Otake, Ph. D

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## Education

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- Ph. D, 2003** Department of Mechano-Informatics,  
Graduate School of Engineering, the University of Tokyo, Tokyo, Japan  
Dissertation: "Modeling, Design and Control of Electroactive Polymer Gel Robots"  
Advisor: Dr. Hirochika Inoue
- M.E., 2000** Department of Mechano-Informatics,  
Graduate School of Engineering, the University of Tokyo, Tokyo, Japan  
Intelligent Systems
- B.E., 1998** Department of Mechano-Informatics,  
Faculty of Engineering, the University of Tokyo, Tokyo, Japan  
Intelligent Systems

## Professional Experience

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- 2006-present Associate Professor  
Research into Artifacts, Center for Engineering (RACE),  
The University of Tokyo, Japan  
Secondary Appointment in Science Integration Program - Humans,  
The University of Tokyo, Japan
- 2008-present Associate Professor (joint appointment for Graduates Teaching)  
Department of Systems Innovation, Graduate School of Engineering  
The University of Tokyo, Japan
- 2006-present Associate Professor (joint appointment for Undergraduates Teaching)  
Department of Systems Innovation, Faculty of Engineering  
The University of Tokyo, Japan
- 2008-present Founding Director(concurrently)  
NPO Fonobono Research Institute (FRI)  
*FRI is a multisector organization for collaboration among community, industry,  
government and academia for action research on prevention of dementia.  
Fonobono means heart warming in Japanese.*
- 2010-present PRESTO Researcher(concurrently)  
Precursory Research for Embryonic Science and Technology,  
Japan Science and Technology Agency (JST)
- 2006-2008 Associate Professor (joint appointment for Graduates Teaching)  
Department of Environmental & Ocean Engineering,  
Graduate School of Engineering, The University of Tokyo, Japan

2005-2006	Lecturer/Assistant Professor Science Integration Program - Humans, The University of Tokyo, Japan
2004-2008	PRESTO Researcher Precursory Research for Embryonic Science and Technology, Japan Science and Technology Agency (JST)
2003-2005	Project Assistant Professor 21 COE Program, Graduate School of Information Science and Technology, The University of Tokyo, Japan
2001-2003	JSPS Research Fellow Japan Society for the Promotion of Science (JSPS)

### **Awards and Honors**

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2010	PRESTO Fellowship Award, the Japan Science and Technology Agency (JST)
2010	Best Paper Award Finalist, 2010 IEEE/SICE International Symposium on System Integration
2009	Winner, the 2008 WIE Affinity Group of the Year Award (Serve as Vice Chair of IEEE WIE Japan)
2009	Winner, the R10 Women in Engineering Affinity Group of the Year Certificate of Honour 2008 (Serve as Vice Chair of IEEE WIE Japan)
2007	Nominated Speaker, ICSU Global Scientific Challenge: Perspectives from Young Scientists, Lindau, Germany
2007	Honorable mention, the 2006 WIE Affinity Group of the Year Award (Serve as Chief Secretary of IEEE WIE Japan)
2006	Invited Speaker, JSPS Japanese-German Colloquium Robotics, Ismaning, Germany
2006	Invited Speaker, Japan-America Frontiers of Engineering Symposium (JAFOE), Tsukuba, Japan
2004	PRESTO Fellowship Award, the Japan Science and Technology Agency (JST)
2003	Young Investigator Award, the Robotics Society of Japan (RSJ)
2003	Excellent Presentation, Robotics and Mechatronics Conference 2003, the Japan Society of Mechanical Engineers (JSME)
2001	Doctoral Scholarship Award from the Japan Society for the Promotion of Science (JSPS)
2000	Excellent Presentation, Robotics and Mechatronics Conference 2000, the Japan Society of Mechanical Engineers (JSME)
1996	Museum Incentive Award, Advanced Visual Communication Center (AVCC)

### **Grants**

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- [1] Precursory Research for Embryonic Science and Technology (PRESTO) Grant of the Japan Science and Technology Agency (JST) "Individually Adapted Cognitive Activity Support based on Large Scale Conversation Data", PI: Mihoko Otake, JPY 96,000K (approx. US\$1200K), October 2010 - March 2016.
- [2] Grant-in-Aid of Japan Society for the Promotion of Science for Scientific Research on Innovative Areas "Founding a Creative Society via Collaboration between Humans and Robots", Nahomi Miyake (PI on parent grant) and Mihoko Otake (PI on University of Tokyo subgroup), "Development of Conversation Support Robots and Modelling of Interaction via

- Conversation Interactivity Measuring Method”, University of Tokyo subgroup for JPY 8,300K (approx. US\$104K), April 2010 - March 2012.
- [3] Promotion of Social Welfare Grant of the Welfare And Medical Service Agency (WAM) “Encouraging Social Involvement of Older Adults by Coimagination Method”, PI: Mihoko Otake, JPY 4,677K (approx. US\$58K), April 2010 - March 2011.
  - [4] Grant for Solutions to the Community Challenges of the Social Welfare Council of Kashiwa City “Dementia Prevention Activity by the Older Adults for the Older Adults”, PI: Mihoko Otake, JPY 250K (approx. US\$3K), April 2010 - March 2011.
  - [5] Core Research for Evolutional Science and Technology (CREST) Grant of the Japan Science and Technology Agency (JST) “Mobile Sensing Technology for Security and Safety”, PI: Tomomasa Sato, Member: Mihoko Otake for JPY 2000K (approx. US\$25), April 2010 - March 2011.
  - [6] Grant-in-Aid for Scientific Research from the Japanese Ministry of Education, Culture, Sports, Science and Technology, Scientific Research on Priority Areas "New IT Infrastructure for Information-explosion Era", Masaru Kitsuregawa (PI on parent grant) and Mihoko Otake (PI on University of Tokyo subgroup) “Development of Parallel Computing Platform for Realworld Information” for JPY 5400K (approx. US\$68K), April 2007 - March 2009.
  - [7] Grant for Promotion of International Academic Research Center for Excellence Formation of Chiba Prefecture “Development of Service for Prevention and Recovery from Dementia by Coimagination Method”, PI: Mihoko Otake, JPY 1800K (approx. US\$23K), October 2007 - March 2008.
  - [8] Grant for Investigation Research of Regional Development by Cooperation of University and Community in Kashiwa City “Growth and Evolution of Novel Remotely Support System for Prevention of Dementia by Collaborative Relationship among Community, Industry, Government and Academia”, PI: Mihoko Otake, JPY 1662K (approx. US\$21K), October 2007 - March 2008.
  - [9] Research Commission of Toyota Physical and Chemical Research Institute “Development of Dementia Prevention and Recovery Support System by Communication”, PI: Mihoko Otake, JPY 700K (approx. US\$9K), April 2008 - March 2009.
  - [10] Research Commission of Toyota Physical and Chemical Research Institute “Neural Model of Dementia and its Application to the Development of Communication Support System”, PI: Mihoko Otake, JPY 700K (approx. US\$9K), April 2007 - March 2008.
  - [11] Precursory Research for Embryonic Science and Technology (PRESTO) Grant of the Japan Science and Technology Agency (JST) “Development of Bidirectional Multiscale Neural Simulator”, PI: Mihoko Otake, JPY 31,560K (approx. US\$395K), October 2004 - March 2008.
  - [12] Grants-in-Aid of Japan Society for the Promotion of Science, “Development of Somatosensory Estimation Method” PI: Mihoko Otake, JPY 2,900K (approx. US\$ 36K), April 2004 - March 2006.
  - [13] Research Promotion Fund of the Japan Society for the Promotion of Science, “Gel Robots: Deformation and Motion Generation of Deformable Robots made of Functional Polymers,” PI: Mihoko Otake, JPY 2,000K (approx. US\$25K), April 2001 - March 2003.
  - [14] Grants-in-Aid of Japan Society for the Promotion of Science, “Gel Robots: Shape Design and Motion Control of Electroactive Polymer Gel” PI: Hirochika Inoue (Collaborator: Mihoko Otake), JPY 19,150K (approx. US\$ 239K), April 2001 - March 2003.
  - [15] Grants-in-Aid of Japan Society for the Promotion of Science, “Gel Robots” PI: Hirochika Inoue (Colaborator: Mihoko Otake), JPY 2100K (approx. US\$ 26K), April 2000 - March 2001.

## Publications

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### Original Papers

- [1] Mihoko Otake, Motoichiro Kato, Toshihisa Takagi, Shuichi Iwata, Hajime Asama, and Jun Ota, "Multiscale Service Design Method and its Application to Sustainable Service for Prevention and Recovery from Dementia", Proceedings of the International Workshop on Innovating Service Systems, pp. 21 - 30, 2010.
- [2] Takashi Otani, Jun Ota, and Mihoko Otake, "Conversation Characteristics of Older Adults in Care Facilities", Proceeding of The 14th Asia Pacific Symposium on Intelligent and Evolutionary Systems, pp. 283 - 292, 2010.
- [3] Takuya Ueshima, Jun Ota, and Mihoko Otake, "Semi-automated Conversation Measuring System", Proceeding of The 14th Asia Pacific Symposium on Intelligent and Evolutionary Systems, pp. 293 - 304, 2010.
- [4] Tetsunari Inamura, Tomohiro Shibata, Hideaki Sena, Takashi Hashimoto, Nobuyuki Kawai, Takahiro Miyashita, Yoshiki Sakurai, Masahiro Shimizu, Mihoko Otake, Koh Hosoda, Satoshi Umeda, Kentaro Inui and Yuichiro Yoshikawa, "Simulator platform that enables social interaction simulation --SIGVerse: SociolntelliGenesis simulator—", Proceedings of the 2010 IEEE/SICE International Symposium on System Integration, 2010.
- [5] Mihoko Otake, "Development of Support Service for Prevention and Recovery from Dementia and Science of Lethe -Thought State Transition Model during Conversation and Set Theoretical Measure of Interaction-", Transactions of the Japanese Society fo Artificial Intelligence, Vol. 25, No. 5, pp. 662 - 669, 2010.
- [6] Mihoko Otake, "Development of Support Service for Prevention and Recovery from Dementia and Science of Lethe -Conversation Support Service for Social Interaction via Coimagination Method-", Transactions of the Japanese Society fo Artificial Intelligence, Vol. 24, No. 6, pp. 568 - 575, 2009.
- [7] Mihoko Otake, "Development of Support Service for Prevention and Recovery from Dementia and Science of Lethe -Proposal of Multiscale Service Design Method-", Transactions of the Japanese Society fo Artificial Intelligence, Vol. 24, No.2, pp. 295 - 302, 2009.
- [8] Mihoko Otake, Ryo Fukano, Shinji Sako, Masao Sugi, Kiyoshi Kotani, Junya Hayashi, Hiroshi Noguchi, Ryuichi Yoneda, Kenjiro Taura, Nobuyuki Otsu, and Tomomasa Sato, "Autonomous Collaborative Environment for Project Based Learning", Robotics and Autonomous Systems, Vol. 57, Issue 2, pp. 134-138, 2009.
- [9] Mihoko Otake, Motoichiro Kato, Toshihisa Takagi and Hajime Asama, "Coimagination method: supporting interactive conversation for activation of episodic memory, division of attention, and planning function and its evaluation via conversation interactivity measuring method", Proceedings of the 2009 International Symposium on Early Detection and Rehabilitation Technology of Dementia, pp. 167 - 170, 2009.
- [10] Mihoko Otake, "Coimagination method: sharing imagination with images and time limit", Proceedings of the International Reminiscence and Life Review Conference 2009, pp.97 - 103, 2009.
- [11] Masataka Murabayashi, Yusuke Ikemoto, Mihoko Otake, Takaki Maeda, Motoichiro Kato, and Hajime Asama, "Sense of Agency Effected by Causal Relationship Between Motor Command and Sensory Feedback", Proceedings of the 3rd International Symposium on Mobiligence, pp. 304 - 307, 2009.
- [12] Mihoko Otake, Motoichiro Kato, Toshihisa Takagi and Hajime Asama, "Development of Coimagination Method towards Cognitive Enhancement via Image based Interactive

- Communication”, Proceedings of the 18th IEEE International Symposium on Robot and Human Interactive Communication, pp. 835 - 840, 2009.
- [13] Hiroshi Matsuyama, Hajime Asama, Mihoko Otake, “Design of differential Near-Infrared Spectroscopy based Brain Machine Interface”, Proceedings of the 18th IEEE International Symposium on Robot and Human Interactive Communication, pp. 775 - 780, 2009.
- [14] Mihoko Otake, Motoichiro Kato, Toshihisa Takagi and Hajime Asama, “Coimagination Method: Communication Support System with Collected Images and its Evaluation via Memory Task”, Universal Access in Human-Computer Interaction Constantine Stephanidis (Ed.), LNCS 5614, Springer-Verlag, pp.403-411, 2009.
- [15] Masataka Murabayashi, Yusuke Ikemoto, Mihoko Otake, Takaki Maeda, Motoichiro Kato, and Hajime Asama, “Analysis of the Sense of Agency using a Tactile Device”, Proceedings of 17th CISM-IFTOMM Symposium on Robot Design, Dynamics, and Control, pp. 35-42, 2008.
- [16] Mihoko Otake, Toshihisa Takagi, and Hajime Asama, “Open Brain Simulator Estimating Internal State of Human through External Observation towards Human Biomechatronics”, Proceedings of the 2008 IEEE International Conference on Robotics and Automation, pp. 1089-1093, 2008.
- [17] Mihoko Otake. Science for Society is to be Done within the Society, The 21st International CODATA Conference Abstracts, pp. 96 - 97, 2008.
- [18] Mihoko Otake, Toshihisa Takagi, and Hajime Asama, " Development of Open Brain Simulator for Human Biomechatronics", Transactions on Electronics, Information and Systems, Vol. 127, No. 10, pp. 1705 - 1711, 2007.
- [19] Mihoko Otake, Kohei Arai, Motoichiro Kato, Takaki Maeda, Yusuke Ikemoto, Kuniaki Kawabata, Toshihisa Takagi, and Hajime Asama, “Experimental Analysis of the Attribution of Own Actions to the Intention of Self or Others by the Multiple Forward Models”, Journal of Robotics and Mechatronics, Vol. 19, No. 4, pp. 482-488, 2007.
- [20] Mihoko Otake, Kohei Arai, Motoichiro Kato, Takaki Maeda, Yusuke Ikemoto, Kuniaki Kawabata, Toshihisa Takagi, and Hajime Asama, “Experimental Analysis and Computational Simulation of the Attribution of Own Actions by the Multiple Forward Models”, Proceedings of IEEE International Conference on Robotics and Biomimetics, pp. 1417 - 1421, 2007.
- [21] Kanako Nakajima, Soichiro Morishita, Tomoki Kazawa, Mihoko Otake, Ryohei Kanzaki, Hajime Asama and Taketoshi Mishima, “Compensation of binarized CLSM images for extraction of the form of a single neuron in the silkworm moth brain”, Proceedings of IEEE International Conference on Robotics and Biomimetics, pp. 1224 - 1229, 2007.
- [22] Yuuki Horita, Satoshi Ito, Kenji Kaneda, Takuya Nanri, Yasuyuki Shimohata, Kenjiro Taura, Mihoko Otake, Tomomasa Sato and Nobuyuki Otsu, "High Precision Gait Recognition Using a Large-Scale PC Cluster", Proceedings of the IFIP International Conference on Network and Parallel Computing, pp. 43 - 49, 2006.
- [23] Takayoshi Shiraki, Hideo Saito, Yoshikazu Kamoshida, Katsuhiko Ishiguro, Ryo Fukano, Tatsuya Shirai, Kenjiro Taura, Mihoko Otake, Tomomasa Sato and Nobuyuki Otsu, "Real-Time Motion Recognition Using CHLAC Features and Cluster Computing", Proceedings of the IFIP International Conference on Network and Parallel Computing, pp. 50 - 56, 2006.
- [24] Mihoko Otake, Ryo Fukano, Shinji Sako, Masao Sugi, Kiyoshi Kotani, Junya Hayashi, Hiroshi Noguchi, Ryuichi Yoneda, Kenjiro Taura, Nobuyuki Otsu, and Tomomasa Sato, "Autonomous Collaborative Environment for Project Based Learning", Intelligent Autonomous Systems 9 T. Arai et al. (Eds.) IOS Press, pp.756-763, 2006.

- [25] Mihoko Otake, Yoshihiko Nakamura, Masayuki Inaba, and Hirochika Inoue, "Wave-shape Pattern Control of Electroactive Polymer Gel Robots", *Experimental Robotics IX*, Marcelo H. Ang Jr. and Oussama Khatib (Eds.), Springer-Verlag, pp. 87 - 96, 2006.
- [26] Mihoko Otake, "From Muscle to Brain - Modelling and Control of Functional Materials and Living Systems", *Intelligent Autonomous Systems 9* T. Arai et al. (Eds.) IOS Press, pp.1025-1032, 2006.
- [27] Mihoko Otake, "Human Science Integration through the Cycle of Communication, Contents and Community", *Proceedings of the 20th CODATA International Conference*, pp.16-17, 2006.
- [28] Mihoko Otake and Toshihisa Takagi, "Multiscale Neural Simulation Platform for Sharing and Integrating Neuroscience Knowledge", *Proceedings of the 20th CODATA International Conference*, pp. 137-138, 2006.
- [29] Mihoko Otake and Toshihisa Takagi, "Efferent copy activation and comparator inhibition model describes under-attribution and over-attribution in schizophrenic subjects", *Society for Neuroscience Abstract*, 122.4, 2006.
- [30] Mihoko Otake. "Agent Model of Electroactive Polymers: How can we bring out intelligence from smart materials?" *Proceedings of the Third Conference on Artificial Muscles*, 2006.
- [31] Mihoko Otake and Toshihisa Takagi, "Reassembly and Interfacing Neural Models Registered on Biological Model Databases", *Genome Informatics*, vol. 16, no. 2, pp.76-85, 2005.
- [32] Mihoko Otake and Yoshihiko Nakamura, "Spinal Information Processing and its Application to Motor Learning Support", *Journal of Robotics and Mechatronics*, Vol. 17, No. 6, pp. 617-627, 2005.
- [33] Mihoko Otake and Yoshihiko Nakamura, "Anatomical Model of the Spinal Nervous System and its Application to the Coordination Analysis for Motor Learning Support System", *Proceedings of the IEEE International Conference on Robotic Systems*, pp. 847 - 852, 2005.
- [34] Mihoko Otake, Yoshihiko Nakamura, and Hirochika Inoue, "Pattern Formation Theory for Electroactive Polymer Gel Robots", *Proceedings of the 2004 IEEE International Conference on Robotics and Automation*, pp. 2782-2787, 2004.
- [35] Mihoko Otake, Yoshihiko Nakamura, Masayuki Inaba, and Hirochika Inoue, "Wave-shape Pattern Control of Electroactive Polymer Gel Robots", *Proceedings of the 9th International Symposium on Experimental Robotics*, ID178, 2004.
- [36] Mihoko Otake, Yoshihiko Nakamura, and Hirochika Inoue. Wave-shape Pattern Generation of Electroactive Polymer Gel in Controlled Electric Fields. *Proceedings of the Second Conference on Artificial Muscles*, 2004.
- [37] Mihoko Otake, Yoshiharu Kagami, Yasuo Kuniyoshi, Masayuki Inaba, and Hirochika Inoue, "Inverse Dynamics of Gel Robots made of Electroactive Polymer Gel", *Proceedings of the 2003 IEEE International Conference on Robotics and Automation*, pp.2299-2304, 2003.
- [38] Mihoko Otake, Yoshiharu Kagami, Masayuki Inaba, and Hirochika Inoue, "Motion design of a starfish-shaped gel robot made of electro-active polymer gel", *Robotics and Autonomous Systems*, vol. 40, pp. 185-191, 2002.
- [39] Mihoko Otake, Yoshiharu Kagami, Yasuo Kuniyoshi, Masayuki Inaba, and Hirochika Inoue, "Inverse Kinematics of Gel Robots made of Electro-Active Polymer Gel", *Proceedings of the 2002 IEEE International Conference on Robotics and Automation*, pp.3224-3229, 2002.
- [40] Takashi Kiriya, Mihoko Otake, Hiroya Tanaka, Junichi Tokuda, Haruka Tanji, Takeshi Matsushita, Masatoshi Arikawa, and Ryosuke Shibasaki", *Exploring Exhibit Space in a Personal Perspective: An Interactive Photo Collage of a Folk Crafts Museum*", *Proceedings of ACM SIGCHI Designing Interactive Systems*, pp. 393-398, 2002.

- [41] Mihoko Otake, Yoshiharu Kagami, Masayuki Inaba, and Hirochika Inoue, "Dynamics of Gel Robots made of Electro-Active Polymer Gel", Proceedings of the 2001 IEEE International Conference on Robotics and Automation, pp.1458-1462, 2001.
- [42] Mihoko Otake, Yoshiharu Kagami, Kohei Ishikawa, Masayuki Inaba, and Hirochika Inoue, "Shape Design of Gel Robots made of Electroactive Polymer Gel", Proceedings of SPIE Vol.4234 Smart Materials A. R. Wilson et al. (eds.), pp.194-202, 2001.
- [43] Mihoko Otake, Masayuki Inaba, and Hirochika Inoue, "Kinematics of Gel Robots made of Electro-Active Polymer PAMPS Gel", Proceedings of the 2000 IEEE International Conference on Robotics and Automation, pp.488-493, 2000.
- [44] Mihoko Otake, Yoshiharu Kagami, Masayuki Inaba, and Hirochika Inoue, "Behavior of a Mollusk-Type Robot Made of Electro-Active Polymer Gel under Spatially Varying Electric Fields", Intelligent Autonomous Systems 6 E. Pagello et al. (Eds.), pp.686-691, 2000.
- [45] Mihoko Otake, Masayuki Inaba, and Hirochika Inoue, "Development of Electric Environment to control Mollusk-Shaped Gel Robots made of Electro-Active Polymer PAMPS Gel", Proceedings of SPIE Vol.3987 Electroactive Polymer Actuators and Devices (EAPAD) Y. Bar-Cohen (ed.), pp.321-330, 2000.
- [46] Mihoko Otake, Masayuki Inaba, and Hirochika Inoue, "Development of Gel Robots made of Electro-Active Polymer PAMPS Gel", Proceedings of the 1999 IEEE International Conference on Systems Man and Cybernetics, pp. II 788-793, 1999.

## Reviews

- [1] Mihoko Otake, "Measuring Amount of Words which can be Retrieved by Asking Questions - Introduction to Heart Warming Conversation for Effective Care 7 -", Ohayo21: Magazine for Nursing Care Professionals, Vol. 22, No. 4, pp. 62 - 65, 2011.
- [2] Mihoko Otake, "Measuring Attitude and Excitement of Conversation - Introduction to Heart Warming Conversation for Effective Care 6 -", Ohayo21: Magazine for Nursing Care Professionals, Vol. 22, No. 3, pp. 62 - 65, 2011.
- [3] Mihoko Otake, "Memorizing and Recording Conversation utilizing Photos - Introduction to Heart Warming Conversation for Effective Care 5 -", Ohayo21: Magazine for Nursing Care Professionals, Vol. 22, No. 2, pp. 62 - 65, 2011.
- [4] Mihoko Otake, "Providing Place and Chance during Conversation - Introduction to Heart Warming Conversation for Effective Care 4 -", Ohayo21: Magazine for Nursing Care Professionals, Vol. 22, No. 1, pp. 62 - 65, 2011.
- [5] Mihoko Otake, "Coimagination Method for Communication Disorder - Multilateral Approaches to Dementia -", Rehabilitation in the Community, Vol. 5, No. 12, pp. 1049 - 1052, 2010.
- [6] Mihoko Otake, "Seeing Together What You Saw - Introduction to Heart Warming Conversation for Effective Care 3 -", Ohayo21: Magazine for Nursing Care Professionals, Vol. 21, No. 13, pp. 60 - 63, 2010.
- [7] Mihoko Otake, "Blancing Listening and Speech during Conversation - Introduction to Heart Warming Conversation for Effective Care 2 -", Ohayo21: Magazine for Nursing Care Professionals, Vol. 21, No. 12, pp. 60 - 63, 2010.
- [8] Mihoko Otake, "Looking for Topics to Share through Exploring Themes - Introduction to Heart Warming Conversation for Effective Care 1 -", Ohayo21: Magazine for Nursing Care Professionals, Vol. 21, No. 11, pp. 60 - 63, 2010.
- [9] Mihoko Otake, "Development of Coimagination Method for Prevention of Dementia and Discussion", Kansei Engineering International Journal, Vol. 9, No. 3, pp. 160 - 166, 2010.

- [10] Mihoko Otake, "Novel Method for Prevention of Dementia - Coimagination Method - ", Group Home Care, Vol.16, pp. 22 - 31, 2009.
- [11] Mihoko Otake, "Why People Feel Time Flies When They are Getting Old? -Temporal Cognition of Older Adults- ", Clinical Neuroscience, Vol. 27, No.5, pp. 587, 2009.
- [12] Mihoko Otake, "Electroactive Polymer Gel Robots- Modeling and Control of Artificial Muscles", WW-EAP Newsletter, vol. 11, no.2, pp. 20, 2009.
- [13] Mihoko Otake, "Development of Molluscan Gel Robots - Design of Deformable Robots made of Electroactive Polymer Gel ", Future Materials, Vol.8, No.12, pp. 2-5, 2008.
- [14] Motoichiro Kato, Mihoko Otake, Kohei Arai, Takaki Maeda, Yusuke Ikemoto, Kuniaki Kawabata, Toshihisa Takagi, and Hajime Asama, "Neural Mechanism of Gaze and Intention Understanding and Sense of Agency towards Robotic Design capable of Social Cognition", Journal of the Society of Instrument and Control Engineers, Vol.46, No.12, pp. 940 - 944, 2007.
- [15] Kei Yoshimura and Mihoko Otake, "Reports on ICSU Global Scientific Challenges: Perspectives from Young Scientists", Journal of Japan Society of Hydrology and Water Resources, Vol. 20, No. 6, pp. 542-544, 2007.
- [16] Mihoko Otake, Tomomasa Sato and Masato Takeichi. Bidirectional Multiscale Neural Simulation and A Hundred Hour Workshop -Information Science and Technology Strategic Core-, Journal of the Robotics Society of Japan, vol. 25, no. 3, pp.330-333, 2007.
- [17] Shinya Aoi, Hiroyuki Ishii, Kazuhiro Kawahara, Masaki Takahashi, Terumasa Narukawa, Hiroya Yamada, Yuichi Kurita, Yusuke Sugahara and Mihoko Otake, "Young Researchers in the 21st Century COE program". Journal of Robotics Society of Japan, vol. 25, no. 3, pp. In Press, 2007.
- [18] Mihoko Otake, "What do we Develop? What will Happen by the Development? - Japan-America Frontiers of Engineering Symposium -, Kagaku, Iwanami, Vol.77, No.2, pp.123-124, 2007.
- [19] Mihoko Otake, Keiko Homma, Hiroshi Yokoi, Hajime Asama and Tamio Arai, "Women in Robotics towards Human Science, Technology and Society at IAS-9", Journal of the Robotics Society of Japan, vol. 24, no. 5, pp. 564-569, 2006.
- [20] Mihoko Otake, "Smart Gels", Journal of the Robotics Society of Japan, vol. 24, no. 4, pp. 460-465, 2006.
- [21] Mihoko Otake, "Bilateral Neural Simulation: Reading the Motion from Inside the Human Body", The Journal of the Institute of Electronics, Information and Communication Engineers, vol. 88, no. 11, pp.909-913, 2005.
- [22] Mihoko Otake, Keiko Homma, "Women in Robotics for Communication and Outreach", IEEE Robotics & Automation Magazine, vol. 13, no. 3, pp. 15, 2006.
- [23] Mihoko Otake, "Gel Actuator", Journal of the Robotics Society of Japan, vol. 21, no. 7, pp. 713 - 716, 2003.
- [24] Mihoko Otake and Hirochika Inoue, "Modeling, Design and Control of Electroactive Polymer Gel Robots", WW-EAP Newsletter, vol. 5, no.1, pp. 7, 2003.
- [25] Mihoko Otake, Yoshiharu Kagami, Yasuo Kuniyoshi, Masayuki Inaba, and Hirochika Inoue, "Starfish-shaped Gel Robots made of EAP", WW-EAP Newsletter, vol. 4, no.2, pp. 7-8, 2002.
- [26] Mihoko Otake, "The Seventh Anniversary of the Website of Japan Folk Crafts Art Museum", Mingei, The Japan Folk Craft Association, vol.582, pp.28-32, 2001.
- [27] Mihoko Otake, "Diverse Encounters of Producers and Users", Mingei, The Japan Folk Craft Association, vol.551, pp.16-18, 1998.

## **Books and Book Chapters**

- [1] Mihoko Otake, Motoichiro Kato, Toshihisa Takagi and Hajime Asama, "The Coimagination Method and its Evaluation via the Conversation Interactivity Measuring Method", Early Detection and Rehabilitation Technologies for Dementia: Neuroscience and Biomedical Applications, Jinglong Wu (Ed.), IGI Global, pp.In Press, 2011.
- [2] Mihoko Otake, "Electroactive Polymer Gel Robots - Modelling and Control of Artificial Muscles", Springer-Verlag, 2009 (238 pages).
- [3] Mihoko Otake, "Control of Electroactive Polymer Gel Actuator by Electric Fields", Soft Actuators Drive the Future - Research and Development of Polymers and Biomaterials -, Yoshihito Osada and Takahisa Taguchi (Eds.), CMC Press, Part 3 Chapter 21, pp.210 - 222, 2010.
- [4] Motoichiro Kato and Mihoko Otake, "Understanding of Others-Understanding the Intention of Others and Action of Self", Social Adaptation-Developmental Mechanism and Functional Disorder, Jun Ota and Hitoshi Aonuma (Eds.), Ohm Press, Mobiligence Series Volume 4 Chapter 5, pp. 161 - 212, 2010.
- [5] Mihoko Otake, "Design Review by TRIZ", Introduction to TRIZ, Study Group on Real-world Design (Eds.), Nikkan Kogyo Shimbun Press (Business & Technology Daily News) Part 5 Chapter 2, pp.157 - 174, 1997.
- [6] Mihoko Otake, "The Website of Japan Folk Crafts Art Museum Received Museum Incentive Award", Mingei, The Japan Folk Craft Association, vol.525, pp.68-69, 1996.
- [7] Mihoko Otake, "Japan Folk Crafts Art Museum Offers Information on the Internet", Mingei, The Japan Folk Craft Association, vol.520, pp.62-64, 1996.

## **Patents**

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- [1] Mihoko Otake, Masaaki Nakai, and Hajime Asama. Motor learning support instrument and method, 2009. JPO patent application number 2009-212559
- [2] Mihoko Otake and Yoshihiko Nakamura. Motor learning support instrument, method, motor learning support program and its recording media, 2004. JPO patent application number 2004-263636, patent filed number 4054879
- [3] Mihoko Otake and Yoshihiko Nakamura. Conversion instrument, method from motor information to neural information, conversion program and its recording media from motor information to neural information, 2004. JPO patent application number 2004-176455, patent filed number 4016112

## **Invited Talks**

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"Development of Coimagination Method which Supports Bidirectional Conversation for Cognitive Maintenance and Enhancement",

Welfare System Research Association, Tokyo, December 2010.

"Coimagination Method for Dementia -Development of Service for Prevention and Recovery from Dementia at Fonobono Research Institute-",

Seminar on Health and Sports, Kashiwa, November 2010.

"Development of Near Future Service for Prevention and Recovery from Dementia at Fonobono Research Institute",

Symposium Celebrating the 20th Anniversary of Japan Advanced Institute of Science and Technology, Tokyo, October 2010.

"Development of Coimagination Method for Prevention of Dementia - Collaboration with Older Adults at Fonobono Research Institute -",

- The 61th Artificial Intelligence Seminar on Healthcare from the Viewpoints of Prevention, Medicine and Care of the Japanese Society for Artificial Intelligence, Tokyo, October 2010.
- “Coimagination Seminar”,  
NPO Sightseeing Study of Musashi Area, Kawagoe, October 2010.
- “Coimagination Method for Supporting Communication among Older Adults”  
Tomise Area of Social Welfare Council of Kashiwa City, Kashiwa, August 2010.
- “Technology for Enhancing Human Intelligence at the Era of 21.1 Century”,  
Open Lecture for School Festival of the University of Tokyo, Tokyo, May 2010.
- “Collaborative Approach among Older Adults and Engineers towards Prevention of Dementia”,  
Holistic Prosthesis Research Center Seminar, Kyoto Institute of Technology, Kyoto, March 2010.
- “Modeling and Simulation of Electroactive Polymer Gel”,  
Joint Conference of Research Groups on Basic Properties of Polymers and Computational Polymer Science, The Society of Polymer Science, Japan, Tokyo, March 2010.
- “Listen, Speak for Brain with Energy”,  
Saturday Citizen University in Tama, Tokyo, February 2010.
- “Collaboration of Reminiscence and Coimagination”,  
Workshop by Research Group on Narrative Approach and Reminiscence, Tokyo, January 2010.
- “Simulation of Human Nervous Systems and its Application to Cognitive Activity Support Services”,  
Fall Meeting of Society of Computer Chemistry, Japan, Sendai, November 2009.
- “Heart Warming Form”,  
Open Lecture on Science of Representation, the 67th Symposium of Society for Science of Form, Japan, Kashiwa, June 2009.
- “Systems Cognition and Cognitive Systems”,  
Bioengineering, Nagoya University, Nagoya, June 2009.
- “Development of Service for Prevention and Recovery from Dementia “,  
Universal City Group Seminar, Knowledge Creating Communication Research Center, National Institute of Information and Communications Technology, Kyoto, May 2009.
- “Development of Conversation Support System by Displaying Images and its Evaluation via Memory Task”,  
Holistic Prosthesis Research Center Seminar on Assistive Technology for Patients with Dementia and Memory Disorder - Exploration of Possibility for Care by Advanced Technology, Kyoto Institute of Technology, Tokyo, March 2009.
- “Present State and Definition of Dementia and Strategy for Keeping Brain Active without Dementia”  
Special Lecture for Citizen University for Longevity in Northern Area of Noda City, Noda, March and April 2009 (2 lectures).
- “Development of Coimagination Method Supporting Prevention and Recovery from Dementia and its Application to the Generation and Sharing the Knowledge for Healthy Longevity”,  
The 6th Symposium on Knowledge-Creation Support System, Japan Advanced Institute of Science and Technology, Nomi, February 2009.
- “Service Engineering Approach for Prevention and Recovery from Dementia - Invention of Coimagination Method and Foundation at Fonobono Research Institute”,

- Research Group on Neurological Rehabilitation Medicine in Nagasaki, Nagasaki, February 2009.
- “Knowledge-Creation Support for Healthy Longevity with Coimagination Support System at Fonobono Research Institute”,  
Workshop for Formulation of Theory and Technology for Knowledge-Creation Support within Organizations, Japan Science and Technology Agency, Tokyo, January 2009.
- “Simulation of Cognitive Neural Systems and its Application to Service Platform for Aged Society”,  
Neural Network Forum, Kyoto University, Kyoto, January 2009.
- “Simulation of Cognitive Systems and Neural Systems and its Application to Service Platform for Aged Society”,  
Christmas Lecture, Nagoya University, Nagoya, December 2008.
- “Coimagination Method and Fonobono Research Institute”,  
Special Lecture for the Course on Motivation in Life, Center for Lifelong Learning of Chiba Prefecture, Kashiwa, December 2008.
- Prevention of Dementia,  
Center for Lifelong Learning of Chiba Prefecture  
Fall 2008 - Winter 2009 (course with 9 lectures and 11 practices)
- “Modeling and Simulation of Functional Polymer Gel”,  
Gel Workshop in Osaka of Research Group on Polymer Gel, The Society of Polymer Science, Japan, Osaka, September 2008.
- “Coimagination Method - Communication Support Method by Bringing Materials According to the Topics, Listening and Talking One After the Other”  
Nonverbal Communication for Assisting Patients with Memory Disorder and Dementia, Human Interface Symposium 2008, Osaka, September 2008.
- “Vita Nova in Japan Village-Data for e-health and Well-being”,  
The 18th Conference of CODATA-DSAO Task Group Conference Mishima, Mishima, August 2008.
- “Learning and Studying Robotics and Mechatronics”,  
Panel Discussion on Future of Robotics and Mechatronics Celebrating the 20th Anniversary of the the Robotics and Mechatronics Conference, the Japan Society of Mechanical Engineers, Robotics and Mechatronics Conference 2008, Nagano, June 2008.
- “Simulation of Human Neural Systems 2: Development of Cognitive Model for Attribution of Actions to the Intention of Self and Others”,  
Workshop on Integration and Theories and Experiments for Breakthrough on Working Principle of Neural Systems, Tokyo, February 2008.
- “Simulation of Human Neural Systems 1: Development of Open Brain Simulator”,  
Workshop on Integration and Theories and Experiments for Breakthrough on Working Principle of Neural Systems, Tokyo, February 2008.
- “Coimagination of Aizu”,  
Expedition of Aizu, Aizu University, Aizu, November 2007.
- “Prevention of Dementia”,  
The First Lecture for Academia Lecture Series in Kashiwa, Center for Lifelong Learning of Chiba Prefecture, Kashiwa, October 2007.
- “Robotics for Cognitive Impairment Support”,  
Joint Panel of Ministry of Economy, Trade and Industry, Japan Ergonomics Society, the

- Japanese Society for Artificial Intelligence towards Robotic Society in 2050, the 25th Annual Conference of Robotics Society of Japan, Chiba, September 2007.
- “Research on Gel Robots and Science Integration Program”,  
Embodied Mechanics, Department of Precision Engineering, the University of Tokyo, Tokyo, July 2007.
- “Report on Global Scientific Challenges: Perspectives from Young Scientists (ICSU) and The Steering Committee of the Science for Health and Well-Being Initiative (ICSU)”,  
The First Research Group Discussion on Intellectual Foundation, Committee on International Data Science, Science Council of Japan, Tokyo, May 2007.
- Science Café by Haiku Poetry  
National Museum of Emerging Science and Innovation, Tokyo, May 2007.
- “Neural-simulator and trans-disciplinary cooperation”,  
ICSU Global Scientific Challenge: Perspectives from Young Scientists, Lindau, Germany, April 2007.
- “Women in Robotics”,  
the Forth Seminar on Leadership in Female Scientists, Kyoto, February 2007.
- “Brain from the Viewpoint of Body Movement”,  
Live Demonstration by PRESTO Researchers 2006, Japan Science and Technology Agency (JST), Tokyo, December 2006.
- “Human Neural Simulation towards Human-oriented Innovation”,  
JSPS Japanese-German Colloquium on Robotics 2006, Ismaning, Germany, November 2006.
- “Bidirectional Multiscale Neural Simulation”,  
2006 Japan-America Frontiers of Engineering Symposium (JAFOE), Tsukuba, November 2006.
- “From Muscle to Brain: Development of Electroactive Polymer Gel Robots and Human Neural Simulator”,  
RIKEN Brain Science Institute, Wako, Japan, July 2006.
- “Gel Robots and Neural Simulation: Understanding and Application of Open Systems”,  
Hokkaido University, Sapporo, June 2006.
- “Gender and Outreach in Biomedical Engineering Education”,  
Symposium on Biomedical Engineering Education in Japan, the 45th Annual Meeting on Japanese Society for Medical and Biological Engineering, Fukuoka, May 2006.
- “Bidirectional Neural Simulation -Reading the Motion From Inside the Human Body-”,  
Seminar on Human Body Interacting with External Environment, Nara Institute of Advanced Science and Technology, Nara, March 2006.
- “Development of Bilateral Multiscale Neural Simulator – Towards Human Science Integration”,  
the First International Symposium of 21 Century COE Program, Hiroshima University, Hiroshima, November 2005.
- “Design and Control of Artifacts and Human Systems Interacting with External Environment”,  
Evening Seminar of Graduate School of Frontier Science, University of Tokyo, Tokyo, March 2005.
- “Neural Simulation”,  
the Thirteenth Workshop on Sociointelligences, Kyoto, March 2005.
- “Control of Electroactive Polymer Gel Robots”,  
Robotics Seminar, Computer Science and Artificial Intelligence Laboratory (CSAIL), MIT, Boston, USA, July 2004.

“Heart-shape Pattern Formation of Ionic Polymer Gel in Static Electric Fields”,  
Gordon Research Conference on Oscillations & Dynamic Instabilities in Chemical  
Systems, July 2004 (Invited Poster Presentation).

“Gel Robots”,  
the Second Seminar for Technical Committee on Soft Materials, Society of Instrument  
and Control Engineers, Osaka, July 2003.

“Gel Robots”,  
Laboratory of Soft and Wet Matter, Hokkaido University, Sapporo, February 2002.

“Workshop on Multidimensional Photo Collage of the Japan Folk Crafts Art Museum”,  
Knowledge Representation, Tokyo University of the Arts, Tokyo, November 2001.

“Electroactive Polymer Gel Robots”,  
the Sixth Seminar on Intelligent and Functional Materials and Structures, Japan Society  
of Mechanical Engineers, Tokyo, November 2000.

## **Teaching Experience**

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### **Courses Taught at the University of Tokyo**

Systems Cognitive Science (with Prof. Susumu Shirayama)

Fall 2010, Fall 2009, Fall 2008

Application Projects (Project Based Learning Class): Conversation and Services

Fall 2010

Learning through Experience Seminar: Listening Skill

Spring 2010, Spring 2009

Application Projects (Project Based Learning Class): Cognition and Services

Fall 2009

Special Exercise Class for Systems Innovation: Foundation of Cognitive Engineering

Spring 2009, Spring 2008

Application Projects (Project Based Learning Class): Motion and Services

Fall 2008

Learning through Experience Seminar: Expedition of Human Science

Spring 2008

Application Projects (Project Based Learning Class): Brain and Services

Fall 2007

Learning through Experience Seminar: Training Course for Community Designer

Fall 2007

Learning through Experience Seminar: Service Creation Workshop

Spring 2007

Teaching Assistant, System Control II

Spring 2004

Teaching Assistant, Exercise Class for Mechano-Informatics

Spring 2004, Spring 2003

### **Special Lecture in the Omnibus Series at the University of Tokyo**

Society and Management in 2030

Spring 2010

Intelligent Social System and Design of Artifacts

Winter 2010

Artifacts Engineering

Fall 2010, Winter 2009  
Foundation of Programming D  
Winter 2011, Winter 2010, Winter 2009  
Design and Management of Society and Business  
Spring 2008  
Advanced System Engineering  
Winter 2008  
Service Design V  
Fall 2007  
Service Design IV  
Spring 2007  
Advanced Artifacts Engineering  
Spring 2009, Spring 2007

### **Transdepartmental Workshop and Seminar at the University of Tokyo**

A Hundred Hour Workshop  
Summer 2005  
Human Science Integration Seminar  
Spring 2005 - Fall 2008

### **Courses and Lectures at NPO Fonobono Research Institute**

“Prevention of Dementia by Outing and Conversation”,  
Christmas Lecture, Kashiwa, December 2010  
“Coimagination Method for Everyone”  
Central Community Center of Koriyama City, Koriyama, July 2010.  
“Be Flexible for Prevention of Dementia - Tips for Keeping Brain Active in Daily Life –“  
Lecture Memorial to The Welfare And Medical Service Agency Support for Fonobono  
Research Institute, Kashiwa, July 2010  
“Reports on the International Reminiscence and Life Review Conference and the Annual  
Meeting of the Gerontological Society of America”,  
Christmas Lecture, Kashiwa, December 2009  
“Prevention of Dementia by Acquisition of Listening Skill”,  
Lecture Celebrating the Second Anniversary of Fonobono Research Institute, Kashiwa,  
July 2009.  
Prevention of Dementia  
Spring 2009 (course with 6 lectures)

### **Workshops at NPO Fonobono Research Institute**

Coimagination Workshop (5days, once a week, half day for each)  
At Center for Care Prevention of Kashiwa City:  
January 2007, May 2007, October 2007 (AM / PM), December 2007 (AM / PM),  
January 2008, April 2008  
At Center for Lifelong Learning of Chiba Prefecture:  
October 2008 (3 groups in parallel), January 2009 (3 groups in parallel)  
  
Introduction to Coimagination (3days, once a week, half day for each)  
At Center for Care Prevention of Kashiwa City:

October 2009, November 2009, December 2009, March 2010, April 2010  
At Center for Lifelong Learning of Nagareyama City  
May 2010

Standard Coimagination Workshop (4 days, once a week, half day for each)

At Center for Care Prevention of Kashiwa City:

February 2010, June 2010, September 2010, October 2010

At Long-Term Care Health Facility of Kashiwa City:

July 2010

At Multifunctional Long-Term Care in a Small Group Home in Koriyama City

August 2010

Coimagination Demonstration Workshop (One day)

At Shopping Center, Lalaport Kashiwanoha:

April 2008

At Community Center, Amuse Kashiwa:

May 2008

Coimagination Demonstration Workshop (One hour)

At Center for Care Prevention of Kashiwa City:

July 2007

At Center for Lifelong Learning of Chiba Prefecture:

July 2009

At Kashiwa Campus, the University of Tokyo:

July 2008, July 2010

At Long-Term Care Health Facility in Nagareyama City:

February 2009, February 2010

At Multifunctional Long-Term Care in a Small Group Home in Ichihara City:

September 2009

Coimagination Demonstration Workshop (Half an hour)

At Center for Care Prevention of Kashiwa City:

August 2009, September 2009, November 2009, January 2010, April 2010, January 2011

At Kashiwa Campus, the University of Tokyo:

May 2010, July 2010

At Hongo Campus, the University of Tokyo:

January 2011

At Center for Lifelong Learning of Nagareyama City:

November 2010

### **Student Supervisor (Complete)**

Shuhei Nakamoto (Systems Innovation, University of Tokyo, M.E., Awarded March 2010)

Thesis Title: Visual information affects the relationship between self and others

Hiroshi Matsuyama (Systems Innovation, University of Tokyo, M.E., Awarded March 2010)

Thesis Title: Development of Facial Score Generation System for Supporting

## Coimagination Method

- Ayaka Abe (Systems Innovation, University of Tokyo, B.E., Awarded March 2010)  
Thesis Title: Development of Motor Learning Support System which Extracts and Displays Differences of Motion Features between Experts and Non-experts in Real-time
- Satoshi Hagihara (Systems Innovation, University of Tokyo, B.E., Awarded March 2010)  
Thesis Title: Individual Difference and its Factor in Temporal Transition of Brain Blood Flow during Tasks Towards Maintaining and Improving Cognitive Functions
- Taichi Yamaguchi (Systems Innovation, University of Tokyo, B.E., Awarded March 2010)  
Thesis Title: Effects of Aging and Learning on Reactivity of Frontal Lobe Assessed by Near-Infrared Spectroscopy
- Hirota Inoue (Systems Innovation, University of Tokyo, B.E., Awarded March 2009)  
Thesis Title: Development of Global Calculation Platform for Analysis of Neural Activity
- Masaaki Nakai (Systems Innovation, University of Tokyo, B.E., Awarded March 2009)  
Thesis Title: Development of the Training System which Extracts and Displays Motion Features
- Chiaki Suzuki (Systems Innovation, University of Tokyo, B.E., Awarded March 2009)  
Thesis Title: Development of Conversation Measurement and Evaluation Technology in Coimagination Method for Supporting Prevention of Dementia
- Shingo Emoto (Systems Innovation, University of Tokyo, B.E., Awarded March 2008)  
Thesis Title: Episodic Memory Model using Hierarchical Chaotic Neural Network
- Hiroshi Matsuyama (Systems Innovation, University of Tokyo, B.E., Awarded March 2008)  
Thesis Title: Development of Head-Mounted Multimodal Interface based on BMI
- Shuhei Nakamoto (Systems Innovation, University of Tokyo, B.E., Awarded March 2008)  
Thesis Title: The research on the attentional field elicited by gaze cues

### **Student Supervisor (Expected)**

- Hirota Inoue (Systems Innovation, University of Tokyo, M.E., Expected in March 2011)  
Thesis Title: Development of Web Application for Supporting Operation and Analysis of Conversation via Coimagination Method
- Takashi Otani (Systems Innovation, University of Tokyo, M.E., Expected in March 2011)  
Thesis Title: Implementation and Assessment of Conversation Support Service based on Conversation Characteristics of Older Adults in Care Facilities
- Takuya Ueshima (Systems Innovation, University of Tokyo, M.E., Expected in March 2011)  
Thesis Title: Real-time Simultaneous Measurement of Speech and Physiological State during Conversation via Coimagination Method

Junya Nomura (Systems Innovation, University of Tokyo, B.E., Expected in March 2011)  
Thesis Title: Development of Set Theoretical Measure of Interaction

Junpei Fujii (Systems Innovation, University of Tokyo, B.E., Expected in March 2011)  
Thesis Title: Development of Motor Learning Support System which Displays Motion  
Features via Audio in Real-time

### **Doctoral Committee Member**

Yun-Sung Chang (Naval and Ocean Engineering, University of Tokyo, Ph.D. Awarded, October 2010)

Yewguan Soo (Precision Engineering, University of Tokyo, Ph.D. Awarded, September 2010)

Yoshie Itou (Integrated Biosciences, University of Tokyo, Ph.D. Awarded, June 2010)

Midori Takao (Naval and Ocean Engineering, University of Tokyo, Ph.D. Awarded, March 2009)

Woo-Sang Jung (Naval and Ocean Engineering, University of Tokyo, Ph.D. Awarded, September 2008)

Hiroshi Kimura (Naval and Ocean Engineering, University of Tokyo, Ph.D. Awarded, September 2007)

### **Professional Activities**

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#### **Service for Government**

- 2009 - present Chief Secretary, Committee on International Science Data, Science Council of Japan
- 2009 Invited Speaker, Workshop on Theories and Technologies for Supporting Knowledge Creation in Organizations, Center for Research and Development Strategy, Japan Science and Technology Agency
- 2007 Inspection Member, Global Technology Comparison on Brain Machine Interface in the United States, Center for Research and Development Strategy, Japan Science and Technology Agency
- 2007 Invited Speaker, Interdisciplinary Forum on New Trends in Life Sciences, Center for Research and Development Strategy, Japan Science and Technology Agency
- 2006 - 2007 Committee, Technological Strategy Roadmap Rolling Project in the Field of Robotics, Academic Roadmap Committee on Human Complex Systems, Ministry of Economy, Trade and Industry

#### **Program Committee / Local Committee / Associate Editor**

- 2011 Associate Editor, 2011 IEEE International Conference on Robotics and Automation
- 2011 Associate Editor, The 20th IEEE International Symposium on Robot and Human Interactive Communication
- 2011 Program Committee, IEEE/ICME 2011 IEEE International Conference on Complex Medical Engineering
- 2011 Program Committee, RSJ/SICE/JSME the 16th Robotics Symposia
- 2010 Program Committee, RSJ/SICE/JSME the 15th Robotics Symposia
- 2010 Program Committee, The 14th Asia Pacific Symposium on Intelligent and Evolutionary Systems
- 2010 Program Committee, IEEE/ICME 2010 IEEE International Conference on

- Complex Medical Engineering
- 2010 Program Committee, The 5th International Conference on Advanced Mechatronics
- 2009 Program Committee, The 2009 International Symposium on Early Detection and Rehabilitation Technology of Dementia
- 2009 Program Committee, The 3rd International Symposium on Mobiligence
- 2009 Program Committee, The 19th Intelligent System Symposium
- 2009 Program Committee, RSJ/SICE/JSME the 14th Robotics Symposia
- 2009 Program Committee, The 18th IEEE International Symposium on Robot and Human Interactive Communication
- 2008 Program Committee, 2008 IEEE/ASME International Conference on Advanced Intelligent Mechatronics
- 2008 Program Committee, The 26th Annual Conference of the Robotics Society of Japan
- 2008 Program Committee, 2008 JSME Annual Conference on Robotics and Mechatronics
- 2007 Program Committee, The 16th IEEE International Symposium on Robot and Human Interactive Systems
- 2007 Program Committee, 2007 IEEE/RSJ International Conference on Intelligent Robots and Systems
- 2007 Program Committee, The 25th Annual Conference of the Robotics Society of Japan
- 2007 Program Committee, 2007 JSME Annual Conference on Robotics and Mechatronics
- 2007 Local Committee, Third Asian Pacific Conference on Biomechanics
- 2006 Program Committee, 2006 IEEE/RSJ International Conference on Intelligent Robots and Systems
- 2006 Program Committee, The 9th International Conference on Intelligent Autonomous Systems
- 2006 Program Committee, Workshop on Gender and Interaction at Advanced Visual Interfaces
- 2006 Program Committee, The 16th Intelligent System Symposium
- 2005 Program Committee, The 10th Annual Conference of The Virtual Reality Society of Japan

### **Organizing Committee**

- 2011 Session Organizer, Session on Development of Support Service for Prevention and Recovery from Dementia and Science of Lethe, The 25th Annual Conference of The Japanese Society for Artificial Intelligence
- 2010 Session Organizer, Session on Development of Support Service for Prevention and Recovery from Dementia and Science of Lethe, The 24th Annual Conference of The Japanese Society for Artificial Intelligence
- 2009 Session Organizer, Session on Development of Support Service for Prevention and Recovery from Dementia and Science of Lethe, The 23rd Annual Conference of The Japanese Society for Artificial Intelligence
- 2009 Tutorial/Workshop Co-Chair, The 18th IEEE International Symposium on Robot and Human Interactive Communication

- 2008 Session Organizer, Session on Development of Support Service for Prevention and Recovery from Dementia and Science of Lethe, The 22nd Annual Conference of The Japanese Society for Artificial Intelligence
- 2008 Organizing Committee, Luncheon Seminar by Network of Young Robotics Researchers, 2008 JSME Annual Conference on Robotics and Mechatronics
- 2007 Organizing Committee, Open Seminar by Network of Young Robotics Researchers, The 25th Annual Conference of the Robotics Society of Japan
- 2007 Coordinator, Women in Robotics: Robotics for Society with Diversity", Robotics and Mechatronics Conference
- 2007 Organizing Committee, 2007 Japan-America Frontiers of Engineering Symposium (JAFOE)
- 2006 Session Organizer, Human Science Integration and its Synthetic Research Methodology, CODATA06
- 2006 Session Organizer, Women in Robotics, Human Science and Technology, The 9th International Conference on Intelligent Autonomous Systems

### **Selection Committee**

- 2010 Selection Committee, The 26th Young Investigator Award of Robotics Society of Japan
- 2010 Selection Committee, The 24th Best Paper Award of Robotics Society of Japan
- 2010 Selection Committee, The Second Journal of Robotics and Mechatronics Best Paper Award
- 2009 Selection Committee, The 25th Young Investigator Award of Robotics Society of Japan
- 2009 Selection Committee, The 23th Best Paper Award of Robotics Society of Japan
- 2009 Selection Committee, The First Journal of Robotics and Mechatronics Best Paper Award

### **Editorial**

- 2007-present Editorial Board, Journal of Robotics and Mechatronics
- 2008 Editor in Chief, Special Issue on Service Technology for Health and Well-Being, Journal of Robotics and Mechatronics
- 2007 Editor in Chief, Special Issue on 21 COE Programs in Japan from the Viewpoint of Young Robotics Researchers, Journal of Robotics Society of Japan, vol. 25, no. 3, 2007
- 2006 Editor in Chief, Special Issue on Women in Robotics, Journal of Robotics Society of Japan, vol. 24, no. 5, 2006
- 2005 - 2007 Editorial Board, Journal of Robotics Society of Japan

### **Technical Committee**

- 2008-present Committee, Technical Committee on Neural Engineering of IEE
- 2006 Steering Committee, the Initiative for Science for Health and Well-Being, ICSU
- 2005-present Secretary Committee, Society for Sociointelligence
- 2003 -present Committee, Technical Committee on Soft Material of SICE

### **Membership**

Institute of Electrical and Electronics Engineers (IEEE)

Society for Neuroscience (SfN)  
Gerontology Society of America (GSA)  
Japan Society for Artificial Intelligence (JSAI)  
Robotics Society of Japan (RSJ)  
Information Processing Society of Japan (IPSJ)

### **Service for Diversity**

2010 - Present Society Liason Coordinator, IEEE WIE Robotics and Automation Society  
2008-2009 Vice Chair, IEEE Japan Council Women in Engineering (WIE)  
2006-2007 Chief Secretary, IEEE Japan Council Women in Engineering (WIE)  
2006-2009 Founding Chair, Women in Robotics Community

### **Service for University**

2010-present Planning Committee, Department of Systems Innovation, Graduate School of Engineering, the University of Tokyo  
2010 Open Campus Committee, Research into Artifacts, Center for Engineering, the University of Tokyo  
2009-2010 Editorial Committee, Committee for Engineering Vision, Faculty of Engineering, the University of Tokyo  
2009-2010 Planning Committee Chair, Department of Systems Innovation, Faculty of Engineering, the University of Tokyo  
2008-2009 Exploratory Committee, Committee for Engineering Vision, Faculty of Engineering, the University of Tokyo  
2007-2009 Planning Committee, Department of Systems Innovation, Faculty of Engineering, the University of Tokyo  
2006-present Harassment Committee, Research into Artifacts, Center for Engineering, the University of Tokyo  
2005-present Building Committee, Research Complex Building in Kashiwa Campus, the University of Tokyo  
2003-2006 Steering Committee, Real World Information Systems Project, 21 COE Program, the University of Tokyo

### **Media Coverage**

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- [1] "Prof. Otake with the University of Tokyo Developed Coimagination by Activating Brain Activities through Talking about Present and its Evaluation of Effectiveness for Prevention of Dementia", Asahi Shimbun, Chiba Version, November 26, 2010.
- [2] "Coimagination Method Stimulate Brain via Presentation and Questions on Real World", Asahi Shimbun, Aichi Version, November 20, 2010.
- [3] "Prevention of Dementia", The Tokyo Metropolitan Area Network, Japan Broadcasting Corporation (NHK), July 22, 2010.
- [4] "Extention on Technology for Enhancing Human Intelligence in the 83th May Festival of the University of Tokyo" UT-Life, May 30, 2010.
- [5] "Fonobono Research Institute towards Realization of Platinum Society, Watanabe Vice Minister & Hiroshi Komiyama", LIVE PRIME NEWS, BS Fuji TV, May 19, 2010.
- [6] "Coimagination Method in a Friendly Manner", Short Letter, Advanced Medical Information,

- Kyodo News Service, August 26, 2008.
- [7] "Experiencing Coimagination Method for Prevention of Dementia in a Friendly Manner", Health, ZAKZAK, October 14, 2009.
  - [8] "Experiencing Coimagination Method in a Friendly Manner", Medical Short Letter, Kumamoto Nichinichi Shimbun, October 13, 2009.
  - [9] "Associate Professor of the University of Tokyo Invented Coimagination Method in a Short Time towards Prevention of Dementia", Sanyo Shimbun, October 12, 2009.
  - [10] "Experiencing Coimagination Method in a Friendly Manner", Stethoscope, Yamaguchi Shimbun, October 12, 2009.
  - [11] "Experiencing Coimagination Method in a Friendly Manner", Short Letter, Advanced Medical Information, Daily Tohoku, October 12, 2009.
  - [12] "The Second Anniversary of Fonobono Research Institute in Kashiwa to Prevent Dementia via Conversation Looking at Photos", Tokyo Shimbun, July 16, 2009.
  - [13] "Brain Activation with Original Method, Associate Professor Otake with the University of Tokyo", Chiba Daily News, July 7, 2009.
  - [14] "Prevention of Dementia by Social Interaction Considering Provisions Respectively by Associate Professor Mihoko Otake", The University of Tokyo Newspaper, June 2, 2009.
  - [15] "Cheer Up Brains via Talking and Listening", Lepotage on Vigorous People, Choyo, Summer 2009, pp. 27-29, May 2009.
  - [16] "Coimagination Method, Novel Method for Prevention of Dementia Supporting Conversation with Photos", Sankei Shimbun, April 7, 2009.
  - [17] "Let's Increase Conversation among Older Adults in Neighbors and Care Facilities Surrounding Photos with Excitement Anticipating Prevention of Dementia", The Nikkei, March 17, 2009.
  - [18] "Photos Awake Memories for Prevention of Dementia via Coimagination Method in Collaboration between the University of Tokyo and NPO", The Yomiuri, September 24, 2008.
  - [19] "Fonobono Research Institute Incorporating NPO", Short Letter, Advanced Medical Information, Kyodo News Service, August 26, 2008.
  - [20] "Fonobono Research Institute Incorporating NPO", Sankei Shimbun, August 25, 2008.
  - [21] "Call for Supporting Member of NPO Fonobono Research Institute", Tokatsu Mainichi, August 13, 2008.
  - [22] "80 Years Old as Mid-Level by Dr. Otake", Laser, Nikkan Kogyo Shimbun, July 30, 2008.
  - [23] "Mihoko Otake, Associate Professor with Research into Artifacts, Center for Engineering, the University of Tokyo", Portrait No.364, Kashiwa Public News, July 25, 2008.
  - [24] "The First Anniversary Event of Fonobono Research Institute", J:COM TV, July 21-27, 2008.
  - [25] "Mihoko Otake, Associate Professor with Research into Artifacts, Center for Engineering, the University of Tokyo and Director of Fonobono Research Institute Promoting Participatory Science and Technology Research towards Realization of Heart Warming Society", CloseUp People, J:COM TV, June 9-15, 2008.

- [26] "Health Promotion by Liaison to University, Coimagination at Fonobono Research Institute", Kashiwa Newsletter, June 15, 2008.
- [27] "Presentation on Prevention of Dementia by Researcher at the Age of 84 at Annual Conference of Japan Society for Artificial Intelligence in Asahikawa", Hokkaido Shimbun, June 14, 2008.
- [28] "Research on Human and Service for Bringing Human and Society More Interesting and Enhancing Well-Being", Message from Scientists, Science Channel, December 15, 2007.
- [29] "Foundation of Fonobono Research Institute, Looking Back on 2007", Kashiwa Newsletter, December 15, 2007.
- [30] "Prevention of Dementia in a Group, Conversation Looking at Images for Brain Stimulation", Gifu Shimbun, September 24, 2007.
- [31] Action Research on Brain Stimulation towards Prevention of Dementia via Conversation Looking at Images", Nagasaki Shimbun, September 8, 2007.
- [32] "The University of Tokyo Developed Coimagination Method for Brain Stimulation towards Prevention of Dementia via Conversation Looking at Images", Medicine in the New Millenium, Advanced Medical Information, Kyodo News Service, September 4, 2007.
- [33] "Step Together with Community", Neighbors, Kashiwa Newsletter, September 1, 2007.
- [34] "Prevention of Dementia by Conversation with Images", Fukushima Mimpo, August 26, 2007.
- [35] "Mihoko Otake", Science Mail, 1 - 13, August – November 2007.
- [36] "Multisector Research Institute among Citizen, Industry, Government and Academia was Founded in Kashiwa City for the Development of Method for Prevention and Recovery from Dementia, Anticipating Novel Technology, Coimagination Method from the Viewpoint of Home Care <114>", Asahi Reska, August 20, 2007.
- [37] "Effective for Prevention of Dementia, Call for Participation to Coimagination Workshop", Kashiwa Newsletter, August 15, 2007.
- [38] "Development of Prevention of Dementia Program, The University of Tokyo and Kashiwa City Founded Fonobono Research Institute", Kashiwa Public News, August 10, 2007.
- [39] "Expectation to Prevention and Recovery from Dementia, Foundation of Fonobono Research Institute for Collaboration among Citizen, Industry, Government and Academia", Tokatsu Mainichi, August 8, 2007.
- [40] "Foundation of Center of Excellence to Study Dementia via Collaboration among Citizen, Industry, Government and Academia in Kashiwa City", The University of Tokyo Newspaper, August 7, 2007.
- [41] "Prevention of Dementia by Conversation", NHK Ohayo Japan, The Tokyo Metropolitan Area Broadcasting Center, Japan Broadcasting Corporation (NHK), July 31, 2007.
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