

Karl F. MacDorman

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Research Interests

Human-robot interaction; symbol emergence; sensorimotor representation; computational neuroscience

Education

- 1992 – 1996 *Ph.D., Computer Science*
University of Cambridge
Symbol Grounding: Learning Categorical and Sensorimotor Predictions for Coordination in Autonomous Robots (thesis title)
- 1985 – 1988 *B.A., Computer Science*
University of California, Berkeley

Academic Appointments

- 11/2005 – *Associate Professor*
School of Informatics, Indiana University (IUPUI)
Adjunct Professor, School of Engineering and Technology, Purdue University
- 7/2003 – 10/2005 *Associate Professor*
Department of Adaptive Machine Systems, Graduate School of Engineering,
Osaka University
- 11/2000 – 3/2003 *Visiting Professor*
Faculty of Systems Engineering, Wakayama University
- 7/2002 *Visiting Researcher*
Advanced Telecommunications Research Institute (ATR), Kyoto
- 7/1997 – 8/2000 *Assistant Professor*
Department of Systems and Human Science, Osaka University
- 6/1997 *Visiting Professor*
Department of Computer Science, Meiji University, Tokyo
- 10/1996 – 10/1997 *Senior Member, Research Fellow*
Hughes Hall, Cambridge
- 10/1991 – 6/1997 *Supervisor, Projects Supervisor*
Trinity Hall College, Cambridge

Other Appointments

- 4/2000 – 6/2003 *Chief Technology Officer*
CTO, FILOSAFE Corporation, Vancouver (4/2001 – 6/2003)
Director of Research and Development, Postgram Incorporated, Seoul (4/2000 – 4/2001)
Director, PostGram (4/2001 – 1/2004), merged with ADI Data System
Chief Scientist, Iaso Research Center, Seoul (9/2000 – 1/2004)
- 2/1989 – 12/1990 *Software Engineer*
Sun Microsystems (Switzerland) AG, Schwerzenbach, Zurich

Professional Organizations

Life (1991 –)	Fellow, Cambridge Philosophical Society
Life (2005 –)	Member, American Association for Artificial Intelligence
2008 –	Member, euCognition: The European Network for the Advancement of Artificial Cognitive Systems
2007 –	Senior Member, Institute of Electrical and Electronics Engineers (member since 1999)
1999 –	Member, IEEE Computer Society
1999 –	Member, IEEE Communications Society
2005 –	Member, Association for Computing Machinery
2005 – 2010	Member, Cognitive Science Society
2005 –	Member, Distributed Language Group
1997 –	Senior Member, Wolfson College, University of Cambridge
1997 –	Member, Governing Body, University of Cambridge
2005	Affiliate, American Psychological Association
1995 – 2002	Member, Society for the Study of Artificial Intelligence and the Simulation of Behaviour
1995 – 2002	Member, Institute of Electrical Engineers
1996 – 2000	Research Fellow, Toho Institute, Tokyo
1997 – 2000	Member, Robotics Society of Japan
1997 – 2002	Member, Association for the Scientific Study of Consciousness
1997 – 1999	Member, Organizer, Future Robotics Symposia
1997 – 2000	Founder, Organizer, Kansai Open Colloquium on Cognitive Robotics
2000 – 2003	Member, Sociointelligenisis Symposia
1987 – 1988	Member, University of California Society of Electrical Engineers
1992 – 1995	Member, Cambridge University Cognitive Science Society

Honors and Awards

1992 – 1995	Scholar, American Friends of Cambridge University
1992 – 1995	Awardee, Overseas Research Student Award
1992 – 1995	Awardee, Cambridge Overseas Trust
1991	Honorable Mention, National Science Foundation
1999 –	Marquis <i>Who's Who in the World</i> (16 th , 18 th , 23 rd ed.), <i>in Asia</i> (1 st ed.)
1999	<i>Dictionary of International Biography</i> (28 th ed.)

Teaching Assignments

Indiana University School of Informatics

<i>Semester</i>	<i>Year</i>	<i>Course Title</i>	<i>Course No.</i>	<i>Students</i>	<i>Score</i>
Spring	2008	The Psychology of Human-Computer Interaction	I563	8	
Spring	2008	Independent Study in Human-Computer Interaction	I554	1	
Spring	2008	Thesis/Project in Human-Computer Interaction	I694	7	
Fall	2007	Informatics Research Design	I575	10	3.63
Fall	2007	Human-Robot Interaction	I590	7	3.32
Fall	2007	Thesis/Project in Human-Computer Interaction	I694	5	
Summer	2007	Informatics Research Design	I575	7	
Summer	2007	Independent Study in Human-Computer Interaction	I554	2	
Summer	2007	Thesis/Project in Human-Computer Interaction	I694	3	
Spring	2007	Research Design	I575	16	3.47
Spring	2007	Independent Study in Human-Computer Interaction	I554	2	
Spring	2007	Thesis/Project in Human-Computer Interaction	I694	2	
Fall	2006	The Psychology of Human-Computer Interaction	I590	7	3.51
Fall	2006	Independent Study in Human-Computer Interaction	I554	2	
Fall	2006	Thesis/Project in Human-Computer Interaction	I694	1	
Summer	2006	Thesis/Project in Human-Computer Interaction	I694	1	
Spring	2006	The Psychology of Human-Computer Interaction	I590	9	3.53
Spring	2006	Independent Study in Human-Computer Interaction	I554	1	
Spring	2006	Thesis/Project in Human-Computer Interaction	I694	1	
<i>Total:</i>	7	19 courses (5 unique course titles)		92	
	semesters				

Developed the Psychology of I563 Human-Computer Interaction and I590 Human-Robot Interaction. Completely redeveloped I575 Informatics Research Design. Class evaluation scores are on a 4.0 scale. All available scores are reported.

Osaka University Graduate School of Engineering

April – Sept.	2005	Machine Learning for Developing Intelligent Machines	23
Oct. – Feb.	2004	Neuroscience Fundamentals for Machine Intelligence (with Minoru Asada)	20
April – Sept.	2004	Machine Learning for Developing Intelligent Machines	22
April – Sept.	2000	Machine Learning for Developing Intelligent Machines	28
April – Sept.	1999	Machine Learning for Developing Intelligent Machines	27

Osaka University Graduate School of Engineering Science

April – Sept.	2000	Neural Networks, Self-Organization, and Artificial Intelligence	17
April – Sept.	2000	Artificial Intelligence for the World Wide Web	5
April – Sept.	1999	Neural Networks, Self-Organization, and Artificial Intelligence	15
April – Sept.	1999	Artificial Intelligence for the World Wide Web	5
April – Sept.	1998	Neural Networks, Self-Organization, and Artificial Intelligence	16
April – Sept.	1998	Artificial Intelligence for the World Wide Web	5

Thesis Advisor

Indiana University School of Informatics

2007 – 2009	Himalaya Patel	MS in HCI (Expected)
2007 – 2009	Wade Mitchell	MS in HCI (Expected)
2006 – 2008	Chin-Chang Ho	MS in HCI (Expected)
2006 – 2008	Joe Coram	MS in HCI (Expected)
2006 – 2008	Adam Burton	MS in HCI (Expected)
2006 – 2008	David A. Fouts, Sr. (Committee Member Only)	MS in HCI (Expected)
2006 – 2008	Christine BenMessaoud	MS in Health Informatics
2006 – 2008	David O. Kennedy (Committee Member Only)	MS in Laboratory Informatics
2006 – 2008	Timothy Whalen	MS in HCI (Expected)
2006 – 2010	Christine Newlon	PhD in HCI (Expected)
2006 – 2008	Sandosh Vasudevan	MS in HCI (Expected), Research Assistant
2006 – 2007	Robert D. Green	MS in HCI
2006 – 2007	Mark Tarrant (Committee Member Only)	MS in HCI
2006 – 2007	Stuart Ough	MS in HCI
2006	Dipankar Roychowdhury	MS in HCI
3/2007 –	Silpa Wairatpanij	Research Associate
2006	Piyanaat Taksaphan	MS in HCI

Osaka University Graduate School of Engineering

7/2004 – 6/2005	Max Mandelbaum	Research Assistant
2005 – 2006	Junpeng Gong	M.Eng.
2004 – 2005	Daisuke Matsui	B.Eng.

Osaka University Graduate School of Engineering Science

1997 – 1999	Tetsuya Manabe <i>Learning Control Algorithms in the Frequency Domain and Their Industrial Applications</i>	PhD
1998 – 2000	Yoji Miyazaki	MS
1998 – 2001	Koji Tatani	MS, BS
1999 – 2000	Masanao Koeda	BS

Professional Service

- 2008 Evaluator, European Commission, *Seventh EU Framework Programme for Research and Technology Development*
- 2008 Reviewer, *Connection Science*
- 2008 Reviewer, *Pragmatics and Cognition*
- 2008 Jury Member, Design Competition, *Conference on Human-Robot Interaction*
- 2008 Reviewer, *IEEE/RSJ International Conference on Intelligent Robots and Systems*
- 2008 Program Committee, *7th International Conference on Development and Learning*
- 2008 Executive Committee, Review Board, *IV'08 HCI Symposium, 12th International Conference on Information Visualisation*
- 2007 Evaluator, European Commission, *Seventh EU Framework Programme for Research and Technology Development*
- 2007 Editor, Special Issue of *Interaction Studies* (8:3) on Psychological Benchmarks of Human-Robot Interaction (with Peter Kahn)
- 2007 Program Committee, *6th International Conference on Development and Learning*
- 2007 Editor, Special Issue of *Interaction Studies* (8:1) on the Symbol Grounding (with Tony Belpaeme and Stephen Cowley)
- 2007 Program Committee, Reviewer, *Conference on Human-Robot Interaction*
- 2007 Reviewer, *Computers in Human Behavior*
- 2007 Reviewer, *International Journal of Humanoid Robotics*
- 2007 Reviewer, *Autonomous Robotics*
- 2007 Reviewer, *Seventh International Conference on Epigenetic Robotics*
- 2007 Reviewer, *11th International Conference on Information Visualisation*
- 2006 Co-organizer, *IEEE International Symposium on Robot and Human Interactive Communication*, Special Session "Toward Psychological Benchmarks of Human-Robot Interaction"
- 2006 Program Committee, *IEEE International Symposium on Robot and Human Interactive Communication*
- 2006 Editor, Special Issue of *Connection Science* (18:4) on Android Science (with Hiroshi Ishiguro)
- 2006 Co-organizer, *CogSci 2005 Workshop: Toward Social Mechanisms of Android Science*
- 2006 Co-organizer, *External Symbol Grounding Workshop* of the Distributed Language Group (Plymouth, UK , July 3-4, 2006)
- 2006 Program Committee, *International Conference on Development and Learning*
- 2006 Reviewer, Special Issue of *Adaptive Behavior* on Mechanisms of Action Selection
- 2006 Reviewer, 10th International Conference on Information Visualisation (University of London, July 5–7 2006)

2006 Reviewer, *Conference on Human-Robot Interaction*

2005 Co-organizer, Views of the Uncanny Valley workshop, *IEEE-RAS International Conference on Humanoid Robots* (with Frank Pollick and Christian Keyzers)

2005 Reviewer, Special Session of *IEEE International Symposium on Robot and Human Interactive Communication* on Robot Companions on Robot Companions

2005 Program Committee, *International Conference on Development and Learning*

2005 Program Committee, *Robotics: Science and Systems Conference*

2005 Reviewer, *RoboCup International Symposium*

2005 Program Committee, *IJCAI 2005 Workshop: Modeling Natural Action Selection*

2005 Organizer, *CogSci 2005 Workshop: Toward Social Mechanisms of Android Science*

2005 Grant proposal reviewing for the Government of Singapore

2004 Reviewer, *Neural Computation*

2003 Reviewer, *The International Joint Conference on Artificial Intelligence*

2002 Reviewer, Program Committee, *The Second International Workshop on Epigenetic Robotics*

1999 Reviewer, *Connection Science*

1999 Reviewer, *New Generation Computing*

1997 Reviewer, *AI & Society*

1996 – Associate, Reviewer, *Behavioral and Brain Sciences*

University Service

IUPUI Committees

4/2006 – IUPUI Research Support Fund Grant (RSFG) Standing Review Panel

10/2006 – 11/2007 IUPUI Informatics Signature Center Review Panel

2006 IUPUI Computer and Information Science Review Team

Indiana University School of Informatics Committees

8/2007 – Member, Nominating Committee, Indiana University School of Informatics

1/2007 – Chair, Colloquia Committee, Indiana University School of Informatics

Osaka University Graduate School of Engineering Committees

4/2005 Curriculum Development

1/2004 – 8/2005 Preparation of Master's and Doctoral Entrance Examinations

Talks since 2005

- MacDorman, K. F. (submitted). Building the mega-collaboration interface: Behavioral, cultural, and cognitive factors in visualization support. *12th International Conference on Information Visualisation (IV2008)*.
- MacDorman, K. F. (2008). Long-term relationships as a benchmark for robot personhood. *AAAI 2008 Spring Symposium on Emotion, Personality, and Social Behavior*. Stanford, California. March 26-28, 2008.
- MacDorman, K. F. (2008). Engagement, trust and intimacy: Are these the essential elements for a 'successful' interaction between a human and a robot? Panel Discussion. *AAAI 2008 Spring Symposium on Emotion, Personality, and Social Behavior*. Stanford, California. March 26-28, 2008.
- MacDorman, K. F. (2008). Android Science and the uncanny valley. *IUPUI Psychology Seminar*. March 7, 2008.
- MacDorman, K. F. (2008). The beautiful robot. *IUPUI Cutting Edge Lecture Series*. Office of Academic Affairs. March 5, 2008.
- Ho, C.-C., MacDorman, K., & Pramono, Z. A. D. (2008). Human emotion and the uncanny valley: A GLM, MDS, and ISOMAP analysis of robot video ratings. *Third ACM/IEEE International Conference on Human-Robot Interaction*. March 12, 2008.
- MacDorman, K. F. (2007). Android science. *Chancellor's Circle*. November 8, 2007.
- MacDorman, K. F. (2007). Charting the uncanny valley. *International Conference on Computer Graphics and Interactive Techniques. ACM SIGGRAPH 2007 panels*. San Diego, USA.
- MacDorman, K. F. (2007). The future of very humanlike robots in science and society. *38th International Symposium on Robotics*, June 12-14. Chicago, USA.
- MacDorman, K. F. (2007). The uncanny valley. *2007 NMC Summer Conference*. June 6-9, 2007. Indianapolis, USA.
- MacDorman, K. F. (2007). Android science and the uncanny valley. Electrical and Computer Engineering seminar. November 15, 2007.
- MacDorman, K. F. (2007). Meet an android scientist. The Children's Museum. September 29, 2007.
- MacDorman, K. F. (2007). Android Science and the Uncanny Valley. Mechanical Engineering seminar. September 27, 2007.
- MacDorman, K. F. (2007). Android science. *Medical Education Executive Committee Meeting*. Room 302, Fesler Hall. January 23, 2007.
- MacDorman, K. F. (2007). The uncanny advantage of using androids. IU Alumni Relations. *Winter College*, Sanibel, Florida. February 9-11, 2007.
- MacDorman, K. F. (2006). Long-term relationships as a benchmark for robot personhood. *15th IEEE International Symposium on Robot and Human Interactive Communication*. September 6-9, 2006. University of Hertfordshire, Hatfield, UK.
- MacDorman, K. F. (2006). Subjective ratings of robot video clips for human likeness, familiarity, and eeriness: An exploration of the uncanny valley. *ICCS/CogSci-2006 Long Symposium: Toward Social Mechanisms of Android Science*. July 26, 2005. Vancouver, Canada.
- MacDorman, K. F. (2006). Life after the symbol system metaphor. External Symbol Grounding Workshop (ESG2006). 3 and 4 July 2006. Plymouth, UK.
- MacDorman, K. F. (2006). The uncanny advantage of using androids in cognitive science research. Cognitive Science Colloquium, Indiana University, Bloomington. September 18, 2006.
- MacDorman, K. F. (2006). Android Science. Meeting of the Institute for Human and Machine Cognition. Indiana University, Bloomington. June 15-16, 2006.

- MacDorman, K. F. (2006). The uncanny advantage of using androids in cognitive science research. CSCI Seminar Series. Computer and Information Science Department, IUPUI. February 3, 2006.
- MacDorman, K. F. (2006). The uncanny advantage of using androids in cognitive science research. Dean's Advisory Council Meeting, School of Informatics, IUPUI. June 2, 2006.
- MacDorman, K. F. (2006). The uncanny advantage of using androids in cognitive science research. I501 Guest Lecture. School of Informatics. March 30, 2006.
- MacDorman, K. F. (2006). Android science: Using very humanlike robots in cognitive science. I501 Guest Lecture. School of Informatics. Fall 2006.
- MacDorman, K. F. (2006). Android science: Using very humanlike robots in cognitive science. Research Day. School of Informatics, IUPUI. October 27, 2006.
- MacDorman, K. F. (2006). Android science: Using very humanlike robots in cognitive science. I100 Guest Lecture. School of Informatics. November 1, 2006.
- Views of the Uncanny Valley. IEEE Humanoids 2005 Workshop.
- MacDorman, K. F. (2005). Mortality salience and the uncanny valley. IEEE-RAS International Conference on Humanoid Robots. December 5 – 7, 2005. Tsukuba, Japan.
- MacDorman, K. F. (2005). Androids as experimental apparatus: Why is there an uncanny valley and can we exploit it? CogSci-2005 Workshop: Toward Social Mechanisms of Android Science. July 25 – 26, 2005. Stresa, Italy.
- MacDorman, K. F., Minato, T., Shimada, M., Itakura, S., Cowley, S. & Ishiguro, H. (2005). Assessing human likeness by eye contact in an android testbed. Proceedings of the XXVII Annual Meeting of the Cognitive Science Society. July 21 – 23, 2005. Stresa, Italy.
- MacDorman, K. F., Minato, T., Shimada, M., Itakura, S., Cowley, S. & Ishiguro, H. (2005). Humanity is in the gaze of the beholder: Experiments with androids and people. Proceedings of the Second Conference of the International Society for Gesture Studies.

Grants and Fellowships

- 4/2008 – 3/2011 US\$420,000 (PI: Karl F. MacDorman)
PI, Indiana University Purdue University Indianapolis Signature Center Grant
Android Science Signature Center
- 6/2007 – 8/2007 US\$4,000 (PI: Karl F. MacDorman)
PI, Tom Gerety Fellowships for Action
Mega-Response to Mega-Disasters
- 8/2007 – 3/2008 US\$4,000 (PI: Karl F. MacDorman)
PI, Research Investment Fund Grant Program, IU School of Informatics
The Impact of Anthropomorphism, Nonverbal Cues, and Contingency on Ethical
Decision Making about Medical
- 11/2006 – 11/2008 \$174,000.00 (PI: Jake Chen)
Collaborator, Indiana Lung Cancer Working Group
Predictive Lung Cancer Systems Biology: Towards Postoperative Patient
Chemotherapy Survival.
- 11/2005 – 11/2008 US\$50,000 (PI: Karl F. MacDorman)
PI, Indiana University Start-up Funds
- 8/2005 – 3/2006 US\$286,000 (33,200,000 yen, 4 researchers, PI: Hiroshi Ishiguro)
Co-PI, NEDO Prototype Robot, New Energy and Industrial Technology
Development Organization, Japan
The Development of a Humanlike Android
(in preparation for the World Expo 2005 in Aizu, Japan)
- 4/2004 – 3/2008 US\$310,000 (36,010,000 yen, 9 researchers, PI: Hiroshi Ishiguro)
Co-PI, Basic Research (*Kiban A.2*), Ministry of Education, Japan
Robot-Environment Integration: The Development of Eveliee P1 and a Sensor
Network
- 7/2003 – 10/2005 US\$430,000 (50,000,000 yen, 4 researchers, PI: Minoru Asada)
Co-PI, Frontier Research Center, Osaka University, Japan
- 1/2001 – 12/2003 US\$440,000 (PI: Karl F. MacDorman)
PI, Scientific Research & Experimental Development
Government of Canada
FiloSafe: A Secure Online Business Collaboration Environment with Duty-
oriented Access Control
- 7/2000 – 3/2005 US\$210,000 subcontract (24,700,000 yen, PI: Toru Ishida)
Collaborator (from 1/2004), Core Research for Evolutional Science and
Technology, Japan Science and Technology Corp.
The Development of a Distributed Omnidirectional Vision System for Subway
Station Surveillance, The Development of an Omnidirectional Display, Town
Digitizing Project
- 4/2000 – 4/2002 US\$45,000 (PI: Karl F. MacDorman)
PI, Encouragement of Scientists (*Shourei Kenkyu*), Ministry of Education, Japan
- 4/1998 – 4/2003 US\$100,000 subcontract (PI: Yoshihiko Nakamura)
Co-PI, Robot Brain Project, Japan Science and Technology Corp.










7/1997 – 8/2000




US\$30,000 (PI: Karl F. MacDorman)

PI, Government Grant (*Kouhi*), Ministry of Education, Japan





Publications

Refereed Journal Papers



- Green, R. D., MacDorman, K. F., & Koch, C. (submitted). "Almost too real"? Uncanny results on the perception of CG faces. *ACM SIGGRAPH 2008*, Los Angeles. August 11-15.
- Ho, C.-C., Tarrant, M. A., Faiola, A., & MacDorman, K. F. (submitted). Expressive homepage design: An empirical comparison of US and South Korean aesthetic dimensions and the impact of design factors on aesthetic intensity. *International Journal of Human-Computer Studies*.
- MacDorman, K. F., Vasudevan, S. K., & Ho, C.-C. (2008). Does Japan really have robot mania? Comparing attitudes by implicit and explicit measures. *AI & Society*.
- Faiola, A. & MacDorman, K. F. (2008). The influence of holistic and analytic cognitive styles on online information design: Toward a communication theory of cultural cognitive design. *Information, Communication & Society*.
- MacDorman, K. F., Ough, S., & Ho, C.-C. (2007). Automatic emotion prediction of song excerpts: Index construction, algorithm design, and empirical comparison. *Journal of New Music Research*, 36(4), 283-301. 
- MacDorman, K. F. (2007). Life after the symbol system metaphor. *Interaction Studies*, 8(1), 143-158. 
- MacDorman, K. F., Nobuta, H., Koizumi, S. & Ishiguro, H. (April 2007). Memory-based attention control in a distributed vision system that recognizes group activity at a subway station. *IEEE Multimedia*, 14(2), 38-49. 
- Wee, K. B., Pramono, Z. A. D., Wang, J. L., MacDorman, K. F., Yee, W. C., & Lai, P. S. (2007). Accounting for pre-mRNA co-transcriptional folding in selection of antisense oligonucleotide targets for induction of exon skipping in DMD. *Neuromuscular Disorders*, 17(9-10), 782-783.
- MacDorman, K. F. & Ishiguro, H. (2006). The uncanny advantage of using androids in social and cognitive science research. *Interaction Studies*, 7(3), 297-337. 
- MacDorman, K. F. & Ishiguro, H. (2006). Opening Pandora's uncanny box: Reply to commentaries on "The uncanny advantage of using androids in social and cognitive science research." *Interaction Studies*, 7(3), 361-368. 
- Cowley, S. J. & MacDorman, K. F. (2006). What baboons, babies, and Tetris players tell us about interaction: A biosocial view of norm-based social learning. *Connection Science*, 18(4), 363-378. 
- Chalodhorn, R., MacDorman, K. F. & Asada, M. (2004). An algorithm that recognizes and reproduces distinct types of humanoid motion based on periodically-constrained nonlinear PCA. In D. Nardi, M. Riedmiller, C. Sammut, & J. Santos-Victor (Eds.), *RoboCup 2004: Robot Soccer World Cup VIII (Lecture Notes in Artificial Intelligence, Vol. 3276)*, pp. 370-380. Berlin: Springer.
- MacDorman, K. F. (2004). Extending the medium hypothesis: The Dennett-Mangan controversy and beyond. *The Journal of Mind and Behavior*, 25(3), 237-257. 
- Oyama, E., MacDorman, K. F., Maeda, T., Tachi, S., & Agah, A. (2002). A new model of the visual feedback coordinate transformation in humans based on disturbance noise and feedback error that accounts for time delays. *IEEE/RSJ International Conference on Intelligent Robots and Systems*. September 30-October 4, EPFL, Lausanne, Switzerland, Vol. 2, 950-957.
- Oyama, E., Maeda, T. Tachi, S., MacDorman, K. F., & Agah, A. (2002). On the use of forward kinematic models in visually guided hand position control: Analysis based on ISLES model. *Neurocomputing*, 44-46, 965-972. (Also in J. M. Bower, Ed., *Computational Neuroscience: Trends in Research 2002*. New York: Elsevier.) 
- Asada, M., MacDorman, K. F., Ishiguro, H. & Kuniyoshi, Y. (2001) Cognitive developmental robotics as a new paradigm for the design of humanoid robots. *Robotics and Automation*, 37, 185-193. 

- Oyama, E., MacDorman, K. F., Agah, A., Maeda, T. & Tachi, S. (2001). Coordinate transformation learning of a hand position feedback controller with time delay. *Neurocomputing*, 38-40(1-4), 1503-1509. 
- Oyama, E., Agah, A., MacDorman, K. F., Maeda, T. & Tachi, S. (2001). A modular neural network architecture for inverse kinematics model learning. *Neurocomputing*, 38-40(1-4), 797-805. 
- Cowley, S. J. & MacDorman, K. F. (1995). Simulating conversations: The communion game. *AI & Society*, 9(3), 116-137. 
- Sommerhoff, G. & MacDorman, K. F. (1994). An account of consciousness in physical and functional terms: A target for research in the neurosciences. *Integrative Physiological and Behavioral Science*, 29(2), 151-181.





Invited Journal Papers








- MacDorman, K. F. & Kahn, P. H., Jr. (2007). Introduction to the special issue on psychological benchmarks of human-robot interaction. *Interaction Studies*, 8(3), 359-362 
- MacDorman, K. F. & Ishiguro, H. (2006). Toward social mechanisms of android science: A CogSci 2005 workshop. *Interaction Studies*, 7(2), 289-296. 
- MacDorman, K. F. (2006). Introduction to the special issue on android science. *Connection Science*, 18(4), 313-318. 
- Nakamura, T., Sato, T., Kuniyoshi, Y., Hiraki, K. F., Shibata, T., Asada, M., MacDorman, K. F. & Tani, J. (1999). Why is cognitive robotics promising? *Journal of the Robotics Society of Japan*, 17(1), 38-43. (in Japanese)
- MacDorman, K. F. (1999). Grounding symbols through sensorimotor integration. *Journal of the Robotics Society of Japan*, 17(1), 20-24. 





Refereed Journal Commentary

- MacDorman, K. F. (1998). Feature learning, multiresolution analysis, and symbol grounding: A peer commentary on Schyns, Goldstone, and Thibaut's "The development of features in object concepts." *Behavioral and Brain Sciences*, 21(1), 32-33. 
- MacDorman, K. F. (1997). Memory must also mesh affect: A peer commentary on Glenberg's "What memory is for." *Behavioral and Brain Sciences*, 20(1), 29. 

Refereed Conference Papers

- Newlon, C., Faiola, A. & MacDorman, K. F. (submitted). Building the mega-collaboration interface: Behavioral, cultural, and cognitive factors in visualization support. *12th International Conference on Information Visualisation (IV2008)*. 
- Ho, C.-C., MacDorman, K., & Pramono, Z. A. D. (2008). Human emotion and the uncanny valley: A GLM, MDS, and ISOMAP analysis of robot video ratings. *Proceedings of the Third ACM/IEEE International Conference on Human-Robot Interaction* (pp. 169-176). March 11-14. Amsterdam. 
- Newlon, C., MacDorman, K. F., & Scerri, P. (2008). A new model for mega-collaboration. *HCI for Emergencies, CHI 2008, ACM SIGCHI*. 
- Wee, K. B., Pramono, Z. A. D., Wang, J. L., MacDorman, K. F., Yee, W. C., & Lai, P. S. (2007). Accounting for pre-mRNA co-transcriptional folding in selection of antisense oligonucleotide targets for induction of exon skipping in DMD. *Proceedings of the 12th International Congress of the World Muscle Society*.
- MacDorman, K. F. & Cowley, S. J. (2006). Long-term relationships as a benchmark for robot personhood. *Proceedings of the 15th IEEE International Symposium on Robot and Human Interactive Communication*. September 6-9, 2006. University of Hertfordshire, Hatfield, UK. 

- MacDorman, K. F. (2006). Subjective ratings of robot video clips for human likeness, familiarity, and eeriness: An exploration of the uncanny valley. *ICCS/CogSci-2006 Long Symposium: Toward Social Mechanisms of Android Science*. July 26, 2005. Vancouver, Canada. 
- MacDorman, K. F., Minato, T., Shimada, M., Itakura, S., Cowley, S. J. & Ishiguro, H. (2005). Humanity is in the gaze of the beholder: Experiments with androids and people. *Proceedings of the Second Conference of the International Society for Gesture Studies*. (Abstract only)
- MacDorman, K. F., Minato, T., Shimada, M., Itakura, S., Cowley, S. J. & Ishiguro, H. (2005). Assessing human likeness by eye contact in an android testbed. *Proceedings of the XXVII Annual Meeting of the Cognitive Science Society*. July 21 – 23, 2005. Stresa, Italy. 
- Matsui, D., Minato, T., MacDorman, K. F. & Ishiguro, H. (2005). Generating natural motion in an android by mapping human motion. *Proceedings of the IEEE/RSJ International Conference on Intelligent Robots and Systems*. August 2 – 6, 2005. Edmonton, Canada. 
- MacDorman, K. F. (2005). Androids as experimental apparatus: Why is there an uncanny valley and can we exploit it? *CogSci-2005 Workshop: Toward Social Mechanisms of Android Science*. July 25 – 26, 2005. Stresa, Italy.
- MacDorman, K. F. (2005). Mortality salience and the uncanny valley. *IEEE-RAS International Conference on Humanoid Robots*. December 5 – 7, 2005. Tsukuba, Japan. 
- Oyama, E., Agah, A., MacDorman, K. F., Gan, Q., Rosales, E. & Maeda, T. (2005). Inverse kinematics learning for robotic arms with fewer degrees of freedom by modular neural network systems. *Proceedings of the IEEE/RSJ International Conference on Intelligent Robots and Systems*. August 2 – 6, 2005. Edmonton, Canada. 
- Chalodhorn, R., MacDorman, K. F. & Asada, M. (2004). An algorithm that recognizes and reproduces distinct types of humanoid motion based on periodically-constrained nonlinear PCA. *Proceedings of the Eighth RoboCup International Symposium*. July 5-7, 2004. Lisbon, Portugal.
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Programming / OS

C, Java, LISP, Modula-2, PostScript, Pascal, ML, Forth, MatLab, BASIC, the C and Bourne Shell, and PDP-11 Assembly Language. Experience with Unix and MS Windows.

Languages

Native English speaker. Basic competence in French, German, Spanish, and Japanese.

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