

2008 3rd ACM/IEEE International Conference on Human-Robot Interaction

(HRI 2008)

**Amsterdam, Netherlands
12 – 15 March 2008**



**IEEE Catalog Number: CFP08HRI-PRT
ISBN: 978-1-60558-017-3**



HRI 2008

Proceedings of the
**Third ACM/IEEE International Conference
on Human-Robot Interaction**
March 12-15, 2008 Amsterdam, The Netherlands

Table of Contents

Technical Papers (*Alphabetically by Title*)

Achieving Fluency through Perceptual-Symbol Practice in Human-Robot Collaboration (Page 1)

Guy Hoffman, Cynthia Breazeal (*Massachusetts Institute of Technology*)

Assessing Cooperation in Human Control of Heterogeneous Robots (Page 9)

Jijun Wang, Huadong Wang, Michael Lewis (*University of Pittsburgh*)

Behaviour Delay and Robot Expressiveness in Child-Robot Interactions: A User Study on Interaction Kinesics (Page 17)

Ben Robins, Kerstin Dautenhahn, René te Boekhorst, Chrystopher L. Nehaniv (*University of Hertfordshire*)

Beyond Dirty, Dangerous and Dull: What Everyday People Think Robots Should Do (Page 25)

Leila Takayama, Wendy Ju, Clifford Nass (*Stanford University*)

Combining Dynamical Systems Control and Programming by Demonstration for Teaching Discrete Bimanual Coordination Tasks to a Humanoid Robot (Page 33)

Elena Gribovskaya, Aude Billard (*Ecole Polytechnique Federal de Lausanne (EPFL)*)

A Comparative Psychophysical and EEG Study of Different Feedback Modalities for HRI (Page 41)

Xavier Perrin (*ETHZ*)

Ricardo Chavarriaga (*IDIAP Research Institute*)

Céline Ray, Roland Siegwart (*ETHZ*)

José del R. Millán (*IDIAP Research Institute and EPFL*)

Compass Visualizations for Human-Robotic Interaction (Page 49)

Curtis M. Humphrey, Julie A. Adams (*Vanderbilt University*)

Concepts about the Capabilities of Computers and Robots: A test of the scope of adults' theory of mind (Page 57)

Daniel T. Levin, Stephen S. Killingsworth, Megan M. Saylor (*Vanderbilt University*)

Construction and Evaluation of a Model of Natural Human Motion based on Motion Diversity (Page 65)

Takashi Minato (*Japan Science & Technology Agency*)

Hiroshi Ishiguro (*Osaka University*)

Crew Roles and Operational Protocols for Rotary-Wing Micro-UAVs in Close Urban Environments (Page 73)

Robin R. Murphy, Kevin S. Pratt, Jennifer L. Burke (*University of South Florida*)

Crossmodal Content Binding in Information-Processing Architectures (Page 81)

Henrik Jacobsson (*DFKI GmbH*)

Nick Hawes (*University of Birmingham*)

Geert-Jan Kruijff (*DFKI GmbH*)

Jeremy Wyatt (*University of Birmingham*)

Decision-Theoretic Human-Robot Communication (Page 89)

Tobias Kaupp, Alexei Makarenko (*The University of Sydney*)

Design Patterns for Sociality in Human-Robot Interaction (Page 97)

Peter H. Kahn Jr. (*University of Washington*)

Nathan G. Freier (*Rensselaer Polytechnic Institute*)

Takayuki Kanda (*ATR*)

Hiroshi Ishiguro (*ATR and Osaka University*)

Jolina H. Ruckert, Rachel L. Severson, Shaun K. Kane (*University of Washington*)

Development and Evaluation of a Flexible Interface for a Wheelchair Mounted Robotic Arm (Page 105)

Katherine Tsui, Holly Yanco (*University of Massachusetts Lowell*)
David Kontak, Linda Beliveau (*Crotched Mountain Rehabilitation Center*)

Enjoyment Intention to Use and Actual Use of a Conversational Robot by Elderly People (Page 113)

Marcel Heerink (*Hogeschool van Amsterdam*)
Ben Kröse, Bob Wielinga, Vanessa Evers (*University of Amsterdam*)

Governing Lethal Behavior: Embedding Ethics in a Hybrid Deliberative/Reactive Robot Architecture PART I: Motivation and Philosophy (Page 121)

Ronald C. Arkin (*Georgia Institute of Technology*)

Housewives or Technophiles?: Understanding Domestic Robot Owners (Page 129)

Ja-Young Sung, Rebecca E. Grinter, Henrik I. Christensen (*Georgia Institute of Technology*)
Lan Guo (*Siemens Medical Solutions Inc.*)

How Close? Model of Proximity Control for Information-presenting Robots (Page 137)

Fumitaka Yamaoka (*ATR IRC Laboratories and Osaka University*)
Takayuki Kanda (*ATR IRC Laboratories*)
Hiroshi Ishiguro (*ATR IRC Laboratories and Osaka University*)
Norihito Hagita (*ATR IRC Laboratories*)

How People Anthropomorphize Robots (Page 145)

Susan R. Fussell, Sara Kiesler, Leslie D. Setlock, Victoria Yew (*Carnegie Mellon University*)

How Quickly Should Communication Robots Respond? (Page 153)

Toshiyuki Shiwa (*Advanced Telecommunications Research Institute and Keio University*)
Takayuki Kanda (*Advanced Telecommunications Research Institute*)
Michita Imai (*Advanced Telecommunications Research Institute and Keio University*)
Hiroshi Ishiguro (*Advanced Telecommunications Research Institute and Osaka University*)
Norihito Hagita (*Advanced Telecommunications Research Institute*)

How Training and Experience Affect the Benefits of Autonomy in a Dirty-Bomb Experiment (Page 161)

David J. Bruemmer, Curtis W. Nielsen, David I. Gertman (*Idaho National Laboratory*)

Human Emotion and the Uncanny Valley: A GLM, MDS, and Isomap Analysis of Robot Video Ratings (Page 169)

Chin-Chang Ho, Karl F. MacDorman (*Indiana University*)
Z. A. Dwi Pramono (*National Neuroscience Institute*)

Human to Robot Demonstrations of Routine Home Tasks: Exploring the Role of the Robot's Feedback (Page 177)

Nuno Otero, Aris Alissandrakis, Kerstin Dautenhahn, Chrystopher Nehaniv, Dag Sverre Syrdal, Kheng Lee Koay (*University of Hertfordshire*)

A Hybrid Algorithm for Tracking and Following People using a Robotic Dog (Page 185)

Martijn Liem, Arnoud Visser, Frans Groen (*Universiteit van Amsterdam*)

Hybrid Tracking of Human Operators using IMU/UWB Data Fusion by a Kalman Filter (Page 193)

J. A. Corrales, F. A. Candelas, F. Torres (*University of Alicante*)

Integrating Vision and Audition within a Cognitive Architecture to Track Conversations (Page 201)

J. Gregory Trafton, Magdalena D. Bugajska, Benjamin R. Fransen, Raj M. Ratwani (*Naval Research Lab*)

Learning Polite Behavior with Situation Models (Page 209)

Rémi Barraquand, James L. Crowley (*INP Grenoble*)

Loudness Measurement of Human Utterance to a Robot in Noisy Environment (Page 217)

Satoshi Kagami (*National Institute of Advanced Industrial Science & Technology*)
Yoko Sasaki (*Tokyo University of Science*)
Simon Thompson (*National Institute of Advanced Industrial Science & Technology*)
Tomoaki Fujihara (*Tokyo University of Science*)
Tadashi Enomoto (*Kansai Electric Power Company, Inc.*)
Hiroshi Mizoguchi (*Tokyo University of Science*)

Multi-Thresholded Approach to Demonstration Selection for Interactive Robot Learning (Page 225)

Sonia Chernova, Manuela Veloso (*Carnegie Mellon University*)

Object Schemas for Responsive Robotic Language Use (Page 233)

Kai-yuh Hsiao, Soroush Vosoughi, Stefanie Tellex, Rony Kubat, Deb Roy (*MIT Media Lab*)

A Point-and-Click Interface for the Real World: Laser Designation of Objects for Mobile Manipulation (Page 241)

Charles C. Kemp, Cressel D. Anderson, Hai Nguyen, Alexander J. Trevor, Zhe Xu (*Georgia Institute of Technology*)

Reasoning for a Multi-Modal Service Robot Considering Uncertainty in Human-Robot Interaction (Page 249)

Sven R. Schmidt-Rohr, Steffen Knoop, Martin Lösch, Rüdiger Dillmann (*University of*

Kolja Kühnlenz, Dirk Wollherr, Quirin Mühlbauer, Martin Buss (*Technische Universität München*)



Brown Robotics: Game-Based Learning

Daniel Byers, Micah Lapping-Carr, Julie Kumar, Theadora Hinkle, Daniel Grollman, Odest Chadwicke Jenkins (*Brown University*)



GlowBots — A Love Story

Mattias Jacobsson (*Viktoria Institute*)



Hands-free Human-Robot Interaction

Daniel Byers, Odest Chadwicke Jenkins (*Brown University*)

Nathan Koenig (*iRobot Corporation*)

Matthew Loper (*Brown University*)

Sonia Chernova, Chris Jones (*iRobot Corporation*)



How Does a Disturbance Affect People in HRI?

Yukie Nagai, Claudia Muhl (*Bielefeld University*)



iCat as Personal Assistant for Diabetic Children

Vincent de Lange (*vCreativo*)

Mark Neerinx (*Delft University of Technology & TNO Defense and Security*)

Rosemarijn Looije (*TNO Defense and Security*)

Jack37.p1: Demonstration of a mechanical vocal tract for speech interaction research

Michael Brady (*Indiana University*)



Keep on Dancing to Spoon's "Don't You Evah"

Hideki Kozima (*National Institute of Information & Communications Technology*)

Marek Michalowski (*Carnegie Mellon University*)

Jeff Nichols (*Director/Independent*)

Melanie Cornwell (*WIRED Magazine (Producer)*)



Vision of Safe and Human-Aware Robots within SMERobot™

Corinna Noltenius, Matthias Hans (*GPS GmbH, SMERobot consortium*)



Robots on Stage: HRI Research with Actors

Chris Wilson (*Independent*)

Fritz Heckel, William Smart (*Washington University in St. Louis*)