

IROS Awards 2012

IROS Steering Committee, Awards Chair

Shigeki Sugano (Waseda University)

IROS₂₀₁₂ Awards Committee

Shigeki Sugano (Chair), Martin Buss, Lynne Parker

IROS Awards

- IROS Harashima Award for Innovative Technologies
- NTF Award for Entertainment Robots and Systems
- JTCF Novel Technology Paper Award for Amusement Culture
- RoboCup Best Paper Award
- IROS CoTeSys Cognitive Robotics Best Paper Award
- IROS ICROS Best Application Paper Award
- IROS 2012 Best Video Award
- IROS 2012 Best Jubilee Video Award
- IROS 2012 Best Student Paper Award
- IROS 2012 Best Paper Award

IROS Harashima Award for Innovative Technologies

IROS Harashima Award

Purpose:

To honor Professor Fumio Harashima, the Honorary Founding Chair of the IROS conferences, by recognizing outstanding contributions of an individual of the IROS community who has pioneered activities in robotics and intelligent systems.

IROS Harashima Award

Procedure in 2012:

Nomination Committee:

Chair: Shigeki Sugano

Ren Luo, Eddie Grant, Roland Siegwart

Selection Committee:

Chair: George Lee

Three members

IROS Harashima Award for Innovative Technologies

IROS Harashima Award 2012 Winner

Dr. Christian Laugier

Research Director, INRIA

Citation:

"for his contributions to Embedded Perception and Driving Decision for Intelligent Vehicles, and his leadership in IROS conferences"

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Conference Award Selection Process

- 1. IROS2012 Program Committee selects candidates for each award during the IROS2012 PC meeting.**
- 2. A selection committee for each award is formed by each sponsoring organization.**
- 3. The selection committee selects finalists.**
- 4. The selection committee attends the presentations by the finalists.**
- 5. Before the Award Ceremony, the selection Committee reviewed some presentations that were originally assigned on Thursday afternoon.**
- 6. The selection committee selects the winner.**

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NTF Award for Entertainment Robots and Systems

- Started in 2007, this award is to encourage research and development of “entertainment robots and systems”, and new technologies for future entertainment.
- Sponsor: New Technology Foundation
Prize: US\$ 1,000 and a Certificate
Presented by **Shin'ichi Yuta**
Prof. Shibaura Institute of Technology
Mr. Hirofumi Tashiro, IROS Fellow
New Technology Foundation

NTF Award for Entertainment Robots and Systems Finalists (1/2)

- **Learning a Projective Mapping to Locate Animals in Video Using RFID**

Pipei Huang, Rahul Sawhney, Daniel Walker, Kim Wallen,
Aaron Bobick, Shiyin Qin, Tucker Balch

- **Integration of Sound Source Localization and Separation to Improve Dialogue Management on a Robot**

Maxime Frechette, Dominic Létourneau, Jean Marc Valin,
Francois Michaud

NTF Award for Entertainment Robots and Systems Finalists (2/2)

- **Towards Learning of Safety Knowledge from Human Demonstrations**
Philipp Ertle, Michel Tokic, Holger Voos, Dirk Söffker
- **Psychological Experiments on Avoidance Action Characteristics for Estimating Avoidability of Harm to Eyes from Robots**
Takamasa Hattori, Yoji Yamada, Shuji Mori, Shogo Okamoto, Susumu Hara

NTF Award for Entertainment Robots and Systems Winner

**Integration of Sound Source Localization
and Separation to Improve Dialogue
Management on a Robot**

**Maxime Frechette, Dominic Létourneau,
Jean Marc Valin, Francois Michaud**

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JTCF Novel Technology Paper Award for Amusement Culture

- This award recognizes practical technology contributing to Toys, Toy Models and Amusement Culture.
- Sponsor: Japan Toy Culture Foundation
Prize: JPY100,000 and a Certificate
- Selection Committee:
 - Shigeki Sugano (Chair)
 - Toshio Fukuda
 - Yasushi Nakauchi
 - Kimitaka Watanabe (Tomy Coop.)

Presented by: **Prof. Shigeki Sugano**
Trustee of JTCF
Waseda University

JTCF Novel Technology Paper Award for Amusement Culture, Finalists

- Listen to Body's Message: Quadruped Robot That Fully Exploits Physical Interaction between Legs
Dai Owaki, Leona Morikawa, Akio Ishiguro
- Synergy-based Optimal Design of Hand Pose Sensing
Matteo Bianchi, Paolo Salaris, Antonio Bicchi
- Armrest Joystick -Mechanism Design and Basic Experiments
Hiroaki Ishida, Tetsuo Hagiwara, Koji Ueda, Shigeo Hirose

**JTCF Novel Technology Paper Award
for Amusement Culture
Winner**

**Synergy-based Optimal Design
of Hand Pose Sensing**

**Matteo Bianchi, Paolo Salaris,
Antonio Bicchi**

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RoboCup Best Paper Award

- **Sponsor:** The RoboCup Federation
- Prize:** US\$500 and a Certificate

Presented by
Prof. Minoru Asada
Osaka University

RoboCup Best Paper Award Report

- The IROS2012 PC nominated eight papers for the RoboCup Best Paper Award.
- The Selection Committee members reviewed all the nominated papers, and decided that they had not selected any papers for the finalist.

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- IROS 2012 Best Jubilee Video Award
- IROS 2012 Best Student Paper Award
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CoTeSys Cognitive Robotics Best Paper Award

- Started in 2010, this award is to promote interdisciplinary research on cognition for technical systems (CoTeSys) and advancements of cognitive robotics in industry, home applications, and daily life.
- Sponsor: German Cluster of Excellence
CoTeSys
- Prize: US\$ 1,000
and a Plaque (Certificate)

Presented by **Prof. Henrik Christensen**
Georgia Institute of Technology

CoTeSys Cognitive Robotics Best Paper Award Finalists

(1/2)

- **DART: A Particle-based Method for Generating Easy-to-Follow Directions**
Robert Goeddel, Edwin Olson
- **Fuzzy Optimisation Based Symbolic Grounding for Service Robots**
Beisheng Liu, Dayou Li, Renxi Qiu, Shuang Gu
- **Global Structure Histogram**
Marianna Madry, Carl Henrik Ek, Renaud Detry, Kaiyu Hang, Danica Kragic

CoTeSys Cognitive Robotics Best Paper Award Finalists

(2/2)

- Iteratively Learning to Classify Objects by Touch with Online Spatio-Temporal Experts

Harold Soh, Yanyu Su, Yiannis Demiris

- I'll Keep You in Sight: Finding a Good Position to Observe a Person

Jens Kessler, Daniel Iser, Horst-Michael Gross

- Learning Concurrent Motor Skills in Versatile Solution Spaces

Christian Daniel, Gerhard Neumann, Jan Peters

**CoTeSys Cognitive Robotics
Best Paper Award Winner**

**Learning Concurrent Motor Skills
in Versatile Solution Spaces**

**Christian Daniel, Gerhard Neumann,
Jan Peters**

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- IROS 2012 Best Paper Award

IROS ICROS Best Application Paper Award

- **Sponsor: ICROS**
(Institute of Control, Robotics and Systems)

Award: US\$ 1,000 and a Certificate

Selection Committee:

Byung-Ju Yi

Fulvio Mastrogiovanni

Jumpei Arata

Se-gon Roh

Mathieu Miroir

Presented by Prof. Byung-Ju Yi
Hanyang University

ICROS Best Application Paper Award Finalists (1/2)

- **Robust Acoustic Source Localization of Emergency Signals from Micro Air Vehicles**

Meysam Basiri, Felix Schill, Pedro Lima, Dario Floreano

- **Design of TELESAR V for Transferring Bodily Consciousness in Telexistence**

Charith Lasantha Fernando, Masahiro Furukawa, Tadatoshi Kurogi, Sho Kamuro, Katsunari Sato, Kouta Minamizawa, Susumu Tachi

- **"Open Sesame!" Adaptive Force/Velocity Control for Opening Unknown Doors**

Yiannis Karayiannidis, Claes Christian Smith, Francisco Vina, Petter Ogren, Danica Kragic

ICROS Best Application Paper Award Finalists (2/2)

- **Experiments in Quasi-Static Manipulation of a Planar Elastic Rod**

Dennis Matthews, Timothy Bretl

- **6D Workspace Constraints for Physical Human-Robot Interaction using Invariance Control with Chattering Reduction**

Melanie Kimmel, Martin Lawitzky, Sandra Hirche

ICROS Best Application Paper Award Winner

Robust Acoustic Source Localization of Emergency Signals from Micro Air Vehicles

Meysam Basiri, Felix Schill, Pedro Lima,
Dario Floreano

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- IROS ICROS Best Application Paper Award
- **IROS 2012 Best Video Award (Special Award)**
- IROS 2012 Best Jubilee Video Award
- IROS 2012 Best Student Paper Award
- IROS 2012 Best Paper Award

IROS 2012 Best Video Award

Purpose:

To recognize the most outstanding IROS 2012 Video, based on technical merit, evidence of impact on the field of the reported achievements, practical significance of the applications, quality and clarity of the video and of the narration and quality of the presentation at the IROS 2012 conference.

IROS 2012 Best Video Award

- Special award for this 2012 IROS edition
- Sponsor: IROS 2012 Organizing Committee
- Prize: US\$ 500 and a Certificate

Presented by **Anibal T. de Almeida**
Urbano Nunes
General Co-Chairs of IROS2012

IROS 2012 Best Video Award

Procedure in 2012:

60 submissions, 39 accepted

Nomination Committee:

IROS 2012 Executive Program Committee

Chair: Eugenio Guglielmelli

Selection Committee:

Chair: Paul Oh

Members: Satoshi Tadokoro

Stefano Stramigioli

IROS Best Video Award Finalists

- **SFly: Swarm of Micro Flying Robots**
Markus W. Achtelik, et al.
- **Spatially Targeted Communication and Self-Assembly**
Nithin Mathews, et al.
- **Intrinsically Elastic Robots: The Key to Human Like Performance**
Sami Haddadin, et al.

IROS Best Video Award Winner

**Intrinsically Elastic Robots:
The Key to Human Like
Performance**

Sami Haddadin, et al.

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- IROS 2012 Best Video Award
- **IROS 2012 Best Jubilee Video Award**
- IROS 2012 Best Student Paper Award
- IROS 2012 Best Paper Award

IROS Best Jubilee Video Award

Purpose:

To recognize the most outstanding IROS Jubilee Video, based on technical merit, completeness of the historical overview on the specific milestone/contribution, quality and clarity of the video and of the narration and quality of the presentation at the IROS 2012 conference.

IROS Best Jubilee Video Award

- Special award for this 2012 IROS edition
- Sponsor: IROS 2012 Conference
- Prize: US\$ 1750, a Certificate and 1 free IROS 2012 registration

Presented by **Eugenio Guglielmelli,**
IROS 2012 Program Chair

IROS Best Jubilee Video Award

Procedure in 2012:

13 submissions, 11 accepted

Nomination Committee:

IROS 2012 Executive Program Committee

Chair: Eugenio Guglielmelli

Selection Committee:

Chair: Hong Zhang

Members: Toshio Fukuda

Ning Xi

IROS Best Jubilee Video Award

Best Jubilee Video Finalists

- Ultra High-Speed Robot Based on 1kHz Vision System,
M. Ishikawa et al.
- The Power of Prediction: Robots That Read Intentions,
E. Bicho et al.
- Video: RoboCup Robot Soccer History 1997 -2011
P. Stone et al.
- Development of Robotic Hands: The UB Hand Evolution
G.Palli, et al.
- 10 Years in the Cooperation of Unmanned Aerial Systems
A.Ollero et al.
- Variable Impedance Actuators: Moving the Robots of Tomorrow,
B. Vanderborght et al.

IROS Best Jubilee Video Award

Best Jubilee Video WINNERS (ex-aequo)

- **Ultra High-Speed Robot Based on 1kHz Vision System, M. Ishikawa et al.**
- **Variable Impedance Actuators: Moving the Robots of Tomorrow, B. Vanderborght et al.**

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IROS 2012 Best Student Paper Award

- **Description:**

To recognize the most outstanding paper authored primarily by a student at the annual IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS).

- **Administration:**

To be administered by the Conference Awards Committee of each IROS Conference. The Conference Awards Committee will appoint a Selection Committee for this award.

- **Eligibility:**

Authors of student-authored papers published in the proceedings and presented at the IEEE/RSJ International Conference on Intelligent Robots and Systems. Authors must be members of IEEE, or RSJ, or SICE organization.

IROS 2012 Best Student Paper Award

- **Prize Items:**

A US\$ 1,000 prize and a Certificate.

- **Funds:**

Funded by the IEEE/RSJ International Conference on Intelligent Robots and Systems.

- **Nominee Solicitation:**

A call for the award nomination will be announced in the IROS conference website.

121 self-nominations => 18 nominated by PC

- **Basis for Judging:**

Factors to be considered are: Technical merit, originality, potential impact on the field, practical significance of the applications, clarity of the written paper in the proceedings, and quality of the oral presentation at the IROS conference.

IROS 2012 Best Student Paper Award

- **Sponsor:** IROS2012
- **Award:** US\$ 1,000 and a Certificate
- **Selection Committee:**
 - Shigeki Sugano (Chair)
 - Martin Buss
 - Lynne Parker
 - Fumihito Arai
 - Stefano Carpin
 - Jianwei Zhang

Presented by: **Anibal T. de Almeida**
Urbano Nunes
General Co-Chairs of IROS2012

IROS 2012 Best Student Paper Award Finalists (1/3)

- Robust Acoustic Source Localization of Emergency Signals from Micro Air Vehicles

Meysam Basiri

- Online Learning of Concepts and Words Using Multimodal LDA and Hierarchical Pitman-Yor Language Model

Takaya Araki

- Design of TELESAR V for Transferring Bodily Consciousness in Telexistence

Charith Lasantha Fernando

IROS 2012 Best Student Paper Award Finalists (2/3)

- **6D Workspace Constraints for Physical Human-Robot Interaction Using Invariance Control with Chattering Reduction**

Melanie Kimmel

- **Learning Concurrent Motor Skills in Versatile Solution Spaces**

Christian Daniel

- **Movement of Artificial Bacterial Flagella in Heterogeneous Viscous Environments at the Microscale**

Kathrin Eva Peyer

IROS 2012 Best Student Paper Award Finalists (3/3)

- **A New Kinect-Based Guidance Mode for Upper Limb Robot-Aided Neurorehabilitation**

Claudio Loconsole

- **Biologically Inspired Reactive Climbing Behavior of Hexapod Robots**

Dennis Goldschmidt

IROS Best Student Paper Award Winner

**Movement of Artificial Bacterial
Flagella in Heterogeneous Viscous
Environments at the Microscale**

Kathrin Eva Peyer

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- IROS 2012 Best Video Award
- IROS 2012 Best Jubilee Video Award
- IROS 2012 Best Student Paper Award
- **IROS 2012 Best Paper Award**

IROS 2012 Best Paper Award

- Sponsors: RSJ and SICE
Prize: US\$2,000 and a Certificate

Presented by

Sadanori Kawamura

President of RSJ

Professor, Ritsumeikan University

Toshiaki Shirai

President of SICE

Yokogawa Electric Corporation

Vice President

IROS 2012 Best Paper Award

- **IROS 2012 Best Paper Award Selection Committee**

Shigeki Sugano (Chair)

Martin Buss

Lynne Parker

Fumihito Arai

Stefano Carpin

Jianwei Zhang

IROS 2012 Best Paper Award Finalists (1/4)

- **Bio-Inspired TauPilot for Automated Aerial Docking and Landing of Unmanned Aircraft Systems**

Farid Kendoul, Bilal Ahmed Arain

- **Vision-Based Autonomous Mapping and Exploration Using a Quadrotor MAV**

Friedrich Fraundorfer, Lionel Heng, Dominik Honegger, Gim Hee Lee, Lorenz Meier, Petri Tanskanen, Marc Pollefeys

IROS 2012 Best Paper Award Finalists (2/4)

- **Learning Concurrent Motor Skills in Versatile Solution Spaces**

Christian Daniel, Gerhard Neumann, Jan Peters

- **Biologically Inspired Reactive Climbing Behavior of Hexapod Robots**

Dennis Goldschmidt, Frank Hesse, Florentin Wörgötter, Poramate Manoonpong

- **Classification with Probabilistic Targets**

Asher Bender, Stefan Bernard Williams, Oscar Pizarro

IROS 2012 Best Paper Award Finalists (3/4)

- **Human-Humanoid Haptic Joint Object Transportation Case Study**

Antoine Bussy, Abderrahmane Kheddar, André Crosnier, François Keith

- **A High-Accuracy Visual Marker Based on a Microlens Array**

Hideyuki Tanaka, Yasushi Sumi, Yoshio Matsumoto

IROS 2012 Best Paper Award Finalists (4/4)

- **A Resonant Electrostatic Induction Motor with Piezoelectric Elements as Inductors Connected to its Slider Electrodes**

Ryosuke Saito, Takuya Hosobata, Akio Yamamoto,
Toshiro Higuchi

- **Exploiting and modeling local 3D structure for predicting object locations**

Alper Aydemir, Patric Jensfelt

IROS Best Paper Award Winner

A High-Accuracy Visual Marker Based on a Microlens Array

Hideyuki Tanaka

Yasushi Sumi

Yoshio Matsumoto

**Congratulations
to all the Winners
and the Finalists !**

Thank you.